

# TIPSCON 2018

8<sup>th</sup> NATIONAL CONFERENCE

ON

*'People, Planet & Profit' (Triple 'P')*

*In Sustainable Development*

&

*Contribution of IT, Media and Management*

7<sup>th</sup> April 2018



Edited by

**Prof. H.P. Garg**

**Dr. Vikas Rao Vadi**

**TRINITY INSTITUTE OF PROFESSIONAL STUDIES**

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## **PREFACE**

The overwhelming response of seventh national conference held on 25th March, 2017 on the theme of “Demonetisation to e-Monetisation: The Road Ahead and Contribution of IT, Media & Management” prompted us to move forward in a diverse direction to hold eighth national conference on title, “People, Planet & Profit' (Triple 'P') in Sustainable Development and Contribution of IT, Media & Management” on 07th April, 2018.

"People, Planet, and Profit" is the phrase where “People” - the social equity bottom line, Planet- the environmental bottom line, Profit- the economic bottom line are the triple bottom line for sustainable development. The people concept for example can be viewed in three dimensions – organisational needs, individual needs, and community or society issues. Planet can be seen as a combination of different sub divisions with environment at the focus. However, reduce, reuse and recycle is a succinct way of steering through these divisions. Profit is a function of both a healthy business environment and ROI, which needs a high focus on profit with societal development. Stakeholders like employees, customers, suppliers, local residents, government agencies, and creditors contribute for sustainability of development in any organisation or the country as whole.

This is, therefore, an opportune moment to pause and rethink about a transformational change, and to consider as well as evaluate the multi-dimensionality of communication for social innovation and its full array of potential contributors, whether by discipline, methodology, ideology, or sector and stakeholders. 'TIPSCON-2018' is a conference which is cross- disciplinary in nature involving Information Technology, Media and Management domains, has brought together participants from the academic, government, non-profit, entrepreneurial, and corporate sectors, to deliberate on the criticality of interdisciplinary and synergistic work in the field of sustainable development to address the issues the world is facing. It has particularly focused on Triple 'P' (People, Planet & Profit) in Sustainable Development and explore the contributions that Media communication studies, Information Technologies, Commerce and Management can make.

This eighth National Conference is destined to be a successful venture with the participation of researchers, academicians and professionals from all walks of life. The Conference is divided into two Technical Sessions dedicated to issues related to this broad theme of phenomenal sustainable development in the area of Information Technology, Media and Management. We are grateful to them for their benign presence in this National Conference. The members of Organizing Committee guided by their respective heads deserve immense appreciation for their whole hearted support in providing this forum for the participants.

We are highly grateful to our Chief Patron Dr. R. K. Tandon, the Chairman of this Institute and Patron Mrs. Reema Tandon, the Vice-Chairperson for their able guidance and support in bringing out this proceeding a grand success.

**New Delhi, 07<sup>th</sup> April, 2018**

**Dr. Vikas Rao Vadi**  
**Director, TIPS**

## **ABOUT THE CONFERENCE**

In this Modern Era of Development, We are all linked together in a world that is facing unprecedented crises. As evident in the United Nations (UN) announced Sustainable Development Goals. The inequalities persist in society despite the global economic developments, and a vast majority of the world population still living under unacceptable levels of deprivation and living standards and also suffering many diseases. At the same time, people particularly Millennials and youths around the world are raising questions on conventional and rigid notions of social responsibility, participation, upliftment and empowerment. In this emergent viewpoint, personal goal fulfillment and contribution towards social well being are no longer contradictory, and the traditional cultures in combination with consumer cultures, and new technologies to catalyse change. This is, therefore, an opportune moment to pause and rethink about a transformational change, and to consider as well as evaluate the multi-dimensionality of communication for social innovation and its full array of potential contributors, whether by discipline, methodology, ideology, or sector and stakeholders. 'TIPSCON-2018' a conference of cross-disciplinary in nature involving Information Technology, Media and Management domains will thus bring together participants from the academic, government, non-profit, entrepreneurial, and corporate sectors, to deliberate on the criticality of interdisciplinary and synergistic work in the field of sustainable development to address the issues the world is facing. It will particularly focus on Tripple 'P' (People, Planet & Profit) in sustainable Development and explore the contributions that Media communication studies, Information Technologies, Commerce and Management can make. The conference will also deliberate on the role of IT, Media & Management in shaping and supporting innovative leaders.

### **People, Planet & Profit (Triple 'P') in Sustainable Development**

"People, Planet, and Profit" is the phrase where "People" - the social equity bottom line, Planet- the environmental bottom line, Profit- the economic bottom line are the triple bottom line for sustainable development. The *people* concept for example can be viewed in three dimensions – organisational needs, individual needs, and community or Society issues. And *planet* can be seen as combination of different sub divisions with environment at the focus, however, reduce, reuse and recycle is a succinct way of steering through these division and *profit* is a function of both a healthy business environment and ROI, which needs a high focus on customer service, coupled with the adoption of a strategy to serve the customers and to acquire new customers. Stakeholders like employees, customers, suppliers, local residents, government agencies, and creditors contribute for sustainability of development in any organization or the country as whole. Information Technology is a growth enabler in present age of development and the contribution towards sustainable development is the prime goal for any organization. The cloud computing, ubiquitous computing and artificial intelligence are the major breakthrough innovations contribute towards technological advancement in the world. The contribution of media towards raising the voice against exploitation of nature and saving the environment is always praiseworthy. The deliberation of the 'People, Planet & Profit' theme will definitely help the stakeholders of the society for planning and executing the sustainable development Strategies.



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Vice Chancellor



GGSIU/VCO/2018

20<sup>th</sup> March, 2018

### MESSAGE

It is heartening to learn that Trinity Institute of Professional Studies is organizing its 8<sup>th</sup> National Conference on the theme "**People, Planet & Profit**" (Triple 'P') in **Sustainable Development and Contribution of IT, media & Management**" on 7<sup>th</sup> April, 2018.

I convey my best wishes to the organizers of the Conference and hope that the Conference will be useful in bringing greater awareness of the subject amongst academicians, consultants, practicing managers and research scholars pertaining to sustainable development those who are attending and may come out with ideas to mitigate some of the challenges.

I wish the organizers a great success in their endeavour.

(Prof. Anil K. Tyagi)

## **MESSAGE FROM CHAIRMAN'S DESK**

Sustainable development, a very familiar term, according to the general notion, was meant for environmentalists and people associated with the field. But, with global awareness and the United Nation's emphasis and take on standing for this quintessential cause, the countries across the globe adopted a set of goals known as the Sustainable Development Goals in the year 2015. Sustainable development means a decent standard of living for everyone today without compromising the needs of the future generations. To achieve these goals, participation of governments, social organisations, corporate sector, society and each and every individual is required.

The National Conference on 'People, Planet & Profit- in Sustainable Development and Contribution of IT, Media & Management' on April 7, 2018 organised by Trinity Institute of Professional Studies (TIPS) focuses on the ways in which different sectors can contribute towards achieving the set goals of sustainable development. Sustainability is not only a goal but it should be seen as a responsibility of each individual towards the environment and nature. Information Technology can bring about massive transformation and aid in achieving the targets of sustainability. Management and Media too have immense potential in making sustainability a reality by achieving the various goals set by the United Nations. The chosen topic and themes are meant to give boost to the stakeholders and every individual of the society to think of ways and steps to contribute for the achievement of sustainability goals as it concerns the planet as a whole and not just a single organisation, community or country.

'The greatest threat to our planet is the belief that someone else will save it.' This quote by Robert Swan holds true as everyone feels that someone else will take a step and work for the betterment. But, it is often forgotten that it is the duty of every individual and it cannot be delegated to someone else. But in spite of all this, India needs a new energy model with a clear vision with action which can not only change India but the World.

I believe that this initiative of TIPS shall prove to be a great force enlightening the people about the cause and also integrating them in the journey towards sustainability. I wish Trinitians all the luck to move ahead with conviction and achieve heights of success in their present and future endeavours.



**Dr. R.K. Tandon**  
**(Chairman, Trinity Group of Institutions)**

## **MESSAGE FROM DIRECTOR GENERAL**

Sustainable development refers to the scenario where resources are used in such a manner that they are able to satisfy the needs of not only the present generations but future generations too. This should be the way of life for all so as to achieve the goals in the near future. Across the globe, efforts are being directed towards attaining sustainability through well defined goals, which have been recognised and set by the United Nations for all the countries. Apart from keeping an eye on high Human Development Index (HDI), we have to see ways and means of lowering ecological footprint.

Sustainable Development Goals set by the United Nations require sustained efforts of people, governments and organisations across the globe, so that these are achieved in the expected time. For the goals to be achieved, it is crucial that people have knowledge about the goals, global challenges, means to overcome the challenges and steps to be taken to attain sustainability. In the Indian context, the Sustainable Development challenges are enhanced growth rate keeping goals of economic development and prosperity, eliminate poverty and reduce the impact of climate change. The global challenges for sustainable development are to provide sufficient clean water, population growth and resources to be brought into balance, growing energy demand, improving human conditions, developing advanced technologies for power generation, waste disposal, food and housing to all.

The conference topic encompasses people, planet and profit in sustainable development and how IT, media & management can contribute in achieving the goals of sustainable development. This calls for efforts and inputs from all fields in achieving the global objective of sustainable development, thereby aiding in saving the planet and natural resources for generations to come.

Media as one of the estates of the country is seen as a responsible body and its contribution in reaching the goal of sustainability can be immense. The topic offers opportunities to explore the potential of media, social networking sites and internet in stimulating efforts towards sustainability. I offer my wishes to all those, who are a part of this conference to contribute to this topic holding global significance.

**Prof. H.P. Garg**  
**Director General**  
**Trinity Group of Institutions**



## ADVISORS



### **Dr. R.K. Tandon (Chairman)**

Dr. R.K. Tandon (Ph.D. Jamia Millia Islamia) is an award Winner in Excellence in Education, Peace and Tolerance. Awarded With Avantika Rajiv Gandhi Excellence in Education Award and honoured by World Environment Congress and Global Assembly with Peace, Tolerance & Mercy Award.

### **Ms. Reema Tandon (Vice Chairperson)**

Ms. Reema Tandon (M.Sc. IIT Delhi) has achieved British Council International School Award for Kamal Public School (2016 - 2019). She has also been awarded with Avantika Kala Vibhushan Samman, Dr. Rajendera Prasad and Dr. S. Radhakrishnan National Teacher Award for her excellent contribution in field of literature, education, environment and art.



## EDITORS



### **Prof. H.P. Garg (Director General)**

Prof. H.P. Garg is the former Professor & Head, CES, IIT Delhi, former Professor and Fellow of Stromstad Academy, Sweden and former Principal Secretary, Department of Science & Technology, Govt. of Madhya Pradesh. He is the pioneer in Renewable Energy Research and Higher & Technical Education in India and has experience for more than 50 years in this field.

### **Dr. Vikas Rao Vadi (Director & Convenor)**

Dr. Vikas Rao Vadi is Ph.D. in IT; Former faculty at Saudi Electronic University in Dammam, Kingdom of Saudi Arabia, Former Principal at Comm-IT, Dean Academics at Satya College of Engineering & Technology. He is Sr. Life Member of ISTE and Sr. Life Member of Computer Society of India.



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Dr. Shaily Saxena is Associate Professor in Department of Management & Commerce. She is having experience of more than 12 years in research and teaching.

### **Dr. P.K. Nayak (Co - Convener)**

Dr. P.K. Nayak is Associate Professor in Department of Management & Commerce. He is having experience of more than 28 years in teaching, research and industry.

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## **CONFERENCE SCHEDULE: SATURDAY, APRIL 07, 2018**

<b>09:00 am - 10:00 am</b>	<b>REGISTRATION</b>
<b>10:00 am – 11:00am</b>	<b>INAUGURAL SESSION</b>  Lighting of Lamp Felicitation of Chief Guest Felicitation of Guest of Honors Message of Vice Chancellor, GGSIPU, New Delhi Welcome Address by Chairman / Vice Chairperson, TIPS Address by Guest of Honors - <b>Address by Ms. Simi Anderson, MD &amp; CEO, Anderson Group</b> <b>Address by Prof. I.M. Kapahy, Member UGC</b> Address by Chief Guest - <b>Address by Prof. M.P. Poonia (Vice Chairman, AICTE)</b> <b>Trinity Times Foundation Award Ceremony by Prof. H.P. Garg</b> Release of Conference Proceedings Inaugural Conclusion & Vote of Thanks by Director General, Prof. H.P.Garg
<b>11:00am - 01:00 pm</b>	<b>TECHNICAL SESSION –I</b>  <b>Address by Dr. Subodh Kesarwani, IGNOU</b>  Paper Presentations
<b>01:00 pm - 02:00 pm</b>	<b>LUNCH</b>
<b>02:00 pm – 04:35 pm</b>	<b>TECHNICAL SESSION – II</b>  <b>Address by Prof. (Dr.) Amit Prakash, University School of Information and Communication Technology, GGSIP University.</b>  Paper Presentations  Vote of Thanks by Director, TIPS
<b>04:35 pm – 05:00 pm</b>	<b>HIGH TEA</b>



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## Attitude of Employees towards E-training

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### ABSTRACT

Workforce is one of the vital assets of an organization. Skills, Knowledge and abilities are the main requisites in building competitive advantage for companies. Apart from various challenges one of the common challenges for an organization is its aging workforce and their resistance towards adapting technology changes. This paper discuss attitude of aged workers towards e-training practices opted by organization for enhancing the skills of employees. The data is collected from a sample of 180 employees working in different organizations using structured questionnaire. The findings indicate that age factor for the workers is not a hindrance, old age employees participates in training module and appreciate the use of e-training methodology for delivering trainings.

**Keywords:** Employees, E-training

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### INTRODUCTION

E-trainings are widely used by the organization as the mode of imparting trainings to its employees. Employers find the use of e-trainings more beneficial for imparting trainings as it is more flexible in terms of its delivery as compared to classroom trainings. But adapting e-trainings as the mode of training delivery seems more challenging for organizations with older age workforce (Becker, K., Fleming, J., and Keijsers, W. 2012). Although older employees have to be valued for the depth of experience, knowledge and expertise they acquire (Walter, L. 2011) but normally resist the use of ICT training processes (Themistocleous, M. et al, 2010).

#### Employees

The study comprises of different age group of employees. Different organizations define the age of workers in different manner, according to The Age Discrimination in Employment Act of 1967, an older employee is defined as a person with 40 years of age and above. US department of Labour considers someone who is at the age of 55 and above as older workers, whereas International Labour Organization (ILO) defines age of 60 and above as older workers (Reddy, A.B, 2014). Older workers can thus be defined in a broad spectrum ranging from 40s to 65 years (National Healthy Worksite, CDC, 2012).

ILO, NSSO, 2010, as per the International comparison on Participation Rate of Labour Market, India is found top on the list. This also indicates the inadequate provision of social security for old age people in India. Because of which elderly in India prefers to keep working for earning their livelihood and maintaining the status of living.

#### E-Training

E-training is defined as a mode of training that focuses on developing specific skills of the employees using the online environment (Bridge). Online environment comprises of web based trainings, audio and video material, recorded session and much more. It encompasses the use of LAN, WAN for creating, disseminating, storing and managing information (Sharma, S et al, 2016). E-learning can be similar to E-trainings in many ways, especially in terms of method of delivery and use of technology (Ramayah, T. et al, 2012)

### LITERATURE REVIEW

Employees being the vital resource of an organization, employer sometimes tend to distinguish between young workers and old age workers, various past studies have demonstrated the distinction my by employers on age bases. CDC, 2012 indicates workplace barriers faced by older age workers such as decreased training

participation and opportunities. According to this paper it states that as compared to young employees, old age employees are given less training opportunities by the employer as it is believed that the prolonged tenure tends to decrease interest and argue for knowledge. Zwick, T. 2011 paper indicates that training older employees are less effective as older employees follow less ambitious goals for their training participation. Maletis, D. 2014 explores the adjustment patterns to make older employees comfortable in using computer based trainings for making learning effective. The article recommends human resource managers to integrate instructional designs for managing different cognitive learning styles for training old age workers (Van Rooij, S. 2012).

Although past studies suggest an employer's notion about old age workers that they lack interest and thus make not be fruitful for undergoing a training opportunities but emerging innovation in technology has facilitated old age workers to adapt the technology savvy environment and overcome skill limitations (Thompson, L. F. et al 2012). The technology has provided older workers with adaptive instructional designs, but it is important for the researcher to study the perception of these aged employees towards these technology based trainings. Various studies indicate the attitude of employee towards these electronic training delivery modes. Neves, B.B. Et al, 2012 examined the usage and perception of elderly employees in Lisbon towards ICT and found that majority of elderly people lacks functional literacy in ICT which was the main reason for not using computers. Batalla, J.B., Bernal, C.P. 2013 examined the attitude of workers towards e-learning, the results indicate that workers find e-learning to be flexible and up to date training methodology, in addition to this face-to-face training methodology is still considered to be a motivating methodology compared to virtual or e-learning mode of training. The above mentioned literatures show that age plays an important role in determining the use of e-training methodology.

**Access to E-Training and Satisfaction**

Employee’s attitude towards e-trainings can be associated with the access to technology (e-training methodology) such as their willingness to use the said methodology, ICT infrastructure provided by the organization, the ease of use. Rhema, A., & Miliszewska, I. 2014, the paper indicates the positive relation between student’s attitude and access to technology and satisfaction. Agyei, D.D et al, 2011, indicates ease of using the technology tends to affect learner’s and instructor’s attitude and competencies. It show a positive relationship with the level of technology use. Ellis, P.F. et al, 2014 determines positive relationships between job productivity, satisfaction and overall performance. Ozturan, M. 2010 examined satisfaction level of employees in companies where e-learning was used as a corporate training tool. The paper demonstrated a significant relationship between age, work experience, educational level, job level and e-learning interactivity level of employees. It indicated a positive satisfaction values for e-learners.

**METHODOLOGY**

The data are collected through survey design using questionnaires. The sample of 180 participants (employees) is selected from different organization using simple random sampling. The research tries to extract attitude of old age workers towards e-trainings.

The respondents mainly consist of both middle level employees and lower level employees. The age categories range from less than 35 years (<35 years) as young employees, 35 to 55 years are middle age employees and above 55 (>55 years) are old age employees. The study measures attitude of old age employees by using two factors Access to e-training mode of delivery and Satisfaction with e-trainings.

**INSTRUMENTATION**

The study collected data through survey method and analyzed it using SPSS (Statistical Package for Social Sciences). The data are collected on an interval scale. Descriptive statistics were used to summarize the data collected from the participating samples. In addition, Pearson Product Moment correlation is used to examine the relationship between the variables. Table 1 describes age characteristics of participating respondents.

**Table 1. Age Characteristics of Respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid <35 years	42	23.3	23.3	23.3
35-55 years	43	23.9	23.9	47.2
>55 years	95	52.8	52.8	100.0
Total	180	100.0	100.0	

## SURVEY METHODOLOGY

The survey is designed using closed quantitative questions (statements) based on previous studies conducted to measure the attitude towards technology (Rhema, A., & Miliszewska, I. 2014). Participants were asked to give a rating on five point Likert scale, where rating "1" was designated as 'strongly disagree' and "5" was designated as 'strongly agree' to indicate old age worker's attitude towards e-training mode of learning.

The study adopted an instrument developed by Kennedy et al. 2008. The survey section "Access to e-training mode of delivery" consisted of seven items and respondents were asked to indicate the level of access in their organization, ease in using e-training mode. To measure the participant's satisfaction level in using e-training mode, seven items were asked which indicated the desire of respondents to use the mode of training in future.

The Reliability of the data is tested by using cronbach's alpha as presented in Table 2. Indicates positive value for cronbach's alpha which is 0.702 (equal to it's threshold value).

**Table 2. Reliability Statistics**

Cronbach's Alpha	Standardized Items (Cronbach's Alpha)	N of Items
.680	.702	3

## STUDY RESULTS

Employee's attitude towards an e-training methodology was observed using descriptive statistics, value of mean and standard deviation for access to e-training mode of delivery indicates positive attitude values as shown in Table 3. Table 4 indicates mean and standard deviation values for employee satisfaction level using e-training methodology. The values depict positive satisfaction level towards these training methodologies.

**Table 3. Mean and Standard Deviation for Access to E-training mode of Delivery**

	N	Mean	Std. Deviation
1. Organization deliver training using e-learning/online aids	180	2.09	1.107
2. E-learning environment is easier than traditional methods of training.	180	2.39	1.054
3. Have an access to computers individually at work	180	1.59	1.128
4. Have an access to internet at work	180	1.67	1.168
5. Organization has provided well structured e-training infrastructure	180	1.91	.844
6. Access to e-training mode is easy and user friendly	180	2.09	.837
7. Such training methodology can provide access anywhere, anytime and at any place	180	1.67	1.168
Valid N (list wise)	180		

**Table 4. Mean and Standard Deviation for Satisfaction with E-training**

	N	Mean	Std. Deviation
1. Training modules through e-learning enables me to better understand the concept.	180	2.01	.849
2. Training module through e-learning saves time that can be used for some other important tasks	180	1.91	.844
3. E-learning training session improves my productivity.	180	2.02	.818
4. It gives greater control over my job.	180	2.16	.749
5. It enhances my effectiveness on job.	180	1.99	.740
6. Like to participate in such training sessions.	180	2.01	.842
7. Prefer e-learning mode of training in future.	180	1.97	.877
Valid N (list wise)	180		

The old age worker's attitude is checked by overall level of access to the e-training mode of delivery and satisfaction with e-training. Table 5 represents the linear relationship between age and access to e-training and satisfaction with e-training. Two tailed Pearson correlation coefficients were used to measure the relationships between the variables. The correlation coefficient for access to e-training indicates a positive relationship ( $r=0.169$ ,  $p<0.05$ ) between old age worker's attitude towards an e-training mode of delivery and access to e-training methodology. The correlation coefficient value of satisfaction with e-training also depicts positive relationship ( $r=0.293$ ,  $p<0.01$ ) between old age worker's attitude towards e-training and satisfaction level with e-training methods.

**Table 5. Correlations**

		Age	Access to e-training mode of delivery	Satisfaction
Age	Pearson Correlation	1	.169*	.293**
	Sig. (2-tailed)		.024	.000
	N	180	180	180
Access to e-training mode of delivery	Pearson Correlation	.169*	1	.859**
	Sig. (2-tailed)	.024		.000
	N	180	180	180
Satisfaction	Pearson Correlation	.293**	.859**	1
	Sig. (2-tailed)	.000	.000	
	N	180	180	180

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

## CONCLUSION

The paper presents the findings that indicate the attitude of different age group of employees towards e-training methodology. The analysis indicated, all age group of employees bears a positive attitude and their willingness to use the e-training mode of training delivery. This also depicts the great potential in e-training methodology to enhance the skills and knowledge of workers without physically attending the fixed schedule of trainings. The employees at all age groups appreciated the fact that such trainings are flexible and adaptive in nature.

The study demonstrated that there is a significant correlation between age, access to e-training methodology and satisfaction with e-trainings.

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## Sustainable Consumption in India: Role of Major Stakeholders

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### ABSTRACT

*Two-third of the world's resources has already been 'used up'; we can no longer take for granted the ability of Earth to sustain future generations. By providing consumers with a choice of products reflecting their new environmental values, the market will self-regulate its way towards a more sustainable future. Over the last few decades, the exploitation of our planet and degradation of our environment have gone up at an alarming rate, as our actions have been not in favour of protecting this planet. The unforeseen result of economic, social and environmental growth which uses ecological resources makes consideration of sustainability important. The main way this is achieved is by doing more and better with less. In other words, we can find ways to meet our needs and desires without depleting our planet's finite natural resources, and this can be achieved by Sustainable Consumption. **Sustainable consumption** is the consumption of goods and services that have minimal impact upon the environment are socially equitable and economically viable whilst meeting the basic needs of humans, worldwide. Sustainable Consumption arises from the initiatives and complementarity of different social actors (stakeholders). The Paper highlights the Challenges of Sustainable Consumption and Efforts taken towards achieving it. Efforts are required by all the sectors, be it Government, Business Organizations, Society, Educational Institutes, Consumers etc. The paper focuses on the role of various stakeholders and Initiatives taken in India towards Sustainable Consumption.*

**Keywords:** Sustainable Consumption, Sustainable Development, Stakeholder's Initiative, Natural Resources, Green Practices, Reduce-Reuse-Recycle.

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### INTRODUCTION

Our Mother Earth is currently facing lot of environmental concerns. The environmental problems like global warming, acid rain, pollution, urban sprawl, waste disposal, ozone layer depletion, climate change and many more affect every human, animal and nation on this planet. Over the last few decades, the exploitation of our planet and degradation of our environment has gone up at an alarming rate. The resources of the planet are becoming scarce and the consumption pattern of the resources is the frightening. It is clear that lifestyles will have to change if there is to be any chance of averting the long-term consequences of resource depletion. The key to use the resources appropriately and save it for future generations is Sustainable Consumption of the resources. It is up to human beings, how they utilize resources in a way to sustain the resources. Human beings divided into various groups form a section of the population which as a whole can be termed as the stakeholders. Different **stakeholders** play different **roles** to trigger the Consumption. Stakeholders can play both a leading and an enabling **role**. *To proceed with the initiatives, it is necessary to focus on the meaning of Sustainable Consumption.*

**Sustainable consumption** is the use of products and services that have a minimal impact on the environment so future generations can meet their needs. When sustainable consumption is practiced, resources are used wisely and waste products and pollution are minimized.

**Sustainable consumption** according to *Oslo Roundtable on Sustainable Production and Consumption* is an umbrella term that brings together a number of key issues, such as meeting needs, enhancing the quality of life, improving resource efficiency, increasing the use of renewable energy sources, minimizing waste, taking a life cycle perspective and taking into account the equity dimension.

Sustainable consumption as part of sustainable development is a prerequisite in the world-wide struggle against sustainability challenges such as climate change, famines or environmental pollution.

### OBJECTIVES

- To highlight the role and initiatives of the stakeholders towards Sustainable Consumption.
- To study the examples of Sustainable Consumption being done by stakeholders.
- To study the concept of sustainable consumption with reference to depleting resources.
- To study the Challenges of Sustainable Consumption.
- To review various literature available on the topic.

### REVIEW OF LITERATURE

(Geiger, Fischer, & Schrader, 2018) refer to sustainable consumption behavior as individual acts of satisfying needs in different areas of life by acquiring, using and disposing goods and services that do not compromise the ecological and socio-economic conditions of all people (currently living or in the future) to satisfy their own needs.

According to (Weber, Mansour, Satta, & Kouvelis, 2017) Sustainable Consumption and Production is achieved through the combined implementation of diverse actions, involving policy makers, businesses, retailers, academia, civil society and consumers in order to redesign the way in which goods and services are produced and consumed and to drive the revitalization of industrial and socio-economic development towards non-pollutant, no-waste, low-carbon, resource efficient, socially inclusive, green and circular economies.

In an article (Henam & Sambyal, 2017) threw light on The Kerala Government's model that minimizes the creation of waste. They said that, it was first practiced at an international workshop on zero waste in Kovalam in 2000. Called the Green Protocol, the new age waste management system has today been replicated and implemented all across Kerala and has now become a movement. Many institutions have adopted this initiative, including the state legislative assembly complex in Thiruvananthapuram. In an era of disposable culture dictating our waste management paradigm, the Green Protocol has not only proved that it is an environmentally sustainable model, but it is also an economical prudent one.

(Grabs, Langen, Maschkowski, & Sch€apke, 2016) in their study said, In order to achieve sustainable societies, we need models of behavior that go beyond individuals equating wellbeing and material consumption levels. Lowering individual footprints might be more acceptable once we include social relations, adopting responsibilities for other human and non-human life as well as civic engagement as complementary sources of wellbeing.

(Bachnik, 2016) states that, The idea that one does not need to own a product in order to satisfy one's need creates room for more sustainable consumption that is guided by resource sharing. Sustainability may be achieved here by the fact that people limit their actual purchases, do not have to worry about divestment options, are more selective when comparing various options, find cheaper solutions also attractive from the environmental or the social stand (they may value a solution more just because it reduces negative impact on environment or because it additionally offers socializing opportunities).

(Gadepalli, Waste Management and Sustainable Consumption - Reflections on consumer waste, 2015) said that, Advances in technology have led to mass production and an ever-increasing apprehension over the disposal of industrial waste. Misgivings in this respect have attracted the attention of technologists and economists leading to debates on pollution prevention and end-of-pipe solutions. There have also been numerous programs incentivizing "reduce, reuse, recycle," especially in the developed economies, but the effectiveness of these incentives is yet to be truly felt as evidenced by the ever-increasing volume of waste.

(Wakasa & Konomi, 2015) "Green networking" is an approach to support the production of combined effects of the functions of green resources by creating the networks of connected green locations and areas. Green networking can facilitate sustainable community development as a countermeasure for heat-island phenomena, and a generator of quality townscapes and experiences.

(Łazorko, 2015) The idea of sustainable development requires some efforts from its followers but it is necessary when our planet functioning in present form is to be preserved for the next generations. The idea of

sustainable consumption is recognized by Polish customers but its holistic character is not known so well. People often follow some parts of it by using environment friendly products for example, but they do not see the wider context of the idea of sustainability.

(J.M.M., Pienaar, & Erasmus, 2014) Consumers do not consciously consider society and/or the natural environment when purchasing, consuming and disposing of fresh produce. Although consumers do not seem status conscious, certain aspects of their fresh produce purchasing and consumption practices are typical of status consciousness, which are conducive to unsustainable behaviour.

Alison Singer (Singer, 2013) said that sustainable consumption fails to address the root problem: that unfettered economic growth—no matter how ecologically-minded—is still unsustainable. Describing today’s environmental problems and solutions as individual issues also has a disempowering effect, leaving people to feel that their greatest power lies in perfecting their daily choices.”

## **CHALLENGES**

The main challenges faced by consumers in India in embracing sustainable consumption practices:

- Limited access to green products and services
- Lack of transparency and credibility
- Low consumer awareness on low impact product use
- Lack of appropriate waste infrastructure
- Few take-back mechanisms.
- No after-sales support.
- Current unsustainable consumption patterns are destroying the environment.
- The consumption habits are depleting stocks of natural resources.
- Distributing resources in an inequitable manner, so that a part of population is deprived of it,
- It is contributing to social problems such as poverty; and hampering sustainable development efforts.

The challenges that the world faces such as financial crises, climate change, resource shortages, and poverty, will only be solved with the full participation of educated and motivated citizens towards using the resources in a manner that it does not get wasted and is environment friendly. Sustainable Consumption governance is highly necessary. Without sustainable consumption there cannot be sustainable development.

### **How Consumption can be done sustainably?**

The key role in achieving sustainable consumption, under this view, would seem to lie with individual consumers. Their values and attitudes, translated into behaviors such as demand for sustainable goods and services produced, distributed, and disposed of by sustainable processes, would drive corresponding behaviors by marketers, who would either respond to this demand by delivering more sustainable products and processes or, eventually, be driven out of business. A role for public policy would lie in educating consumers about environmental issues and in the removal of the above mentioned barriers to individual green behavior.

### **Initiatives towards Sustainable Consumption in India**

Consumption in India has been growing rapidly for three decades, putting enormous pressure on local environments as well as becoming one of the major contributors to global greenhouse emissions. India’s growing middle class increasingly consumes a broad range of commodities that range from cosmetic products to cars and household appliances.

### **Initiatives by Government and Law:**

There is full participation of all ministerial departments of Indian Government in decision making process for the sustainable development and consumption.

- **Laws:** Legislation has been formulated to enforce sustainable practices at sub-regional, regional and international level. These are : the Environment (Protection) Act, 1986, The Water (Prevention and Control of Pollution) Act 1977, Re-cycled Plastics Manufacture and Usage Rules 1999 and Bio-Medical Waste (Management and Handling) Rules 1998, etc.
- **Program:** Various programs for sustainable development are functioning in India which has been financed by multilateral agencies across the world like Global Environment Facility through the World Bank, Capacity 21 Initiative Project, LIFE and Sustainable Development Network Programme (*SDNP*) of United Nations Development Programme, New York etc.
- Realizing the importance of sustainable development and consumption, Indian Government has formulated an Environmental Information System (*ENVIS*) as a plan programme in 1982. This

program provides the information to the policy and decision makers and researchers across the country to design the system for sustainable development by the formulation of sustained development strategies.

- Government of India has taken many capacity building initiatives in the various diversified sectors for the environmental and sustainable growth. Various NGOs are involved for organizing orientation training courses for the teachers to promote sustainable consumption.
- Centre for Sustainable Production and Consumption (C-SPAC) has been established at Calcutta, India, which has a mission to achieve the citizens rights by protecting them from unsafe products, services and environment and this centre works to promote practices of sustainable production and consumption.
- **Steps:** Union Science and Technology Minister Harsh Vardhan announced the recent development in the year 2017 is the **Biometric Solar ATM** being designed by a team of scientists led by Professor S.P. Gon Chaudhuri from Kolkata.

#### Initiatives by Society: Back to the Vedas

- **Practices; Ancient to Modern:** In ancient times people used to use *Tree Leaves* as utensils to have their meals, the use of *Khadau* as slippers and the *Wooden Utensils* were
- **Medicinal Use of Plants:** The Vedas and the ancient times reveal that plants were used for treating various ailments. The *Neem, Clove*, etc. were used to brush the teeth, gradually modernization replaced them with the dental cream or tooth paste made of chemicals, but moving back to the ancient time, now companies are claiming the use of *Neem, Cloves, Lemon*, etc. in their products to cater to the need of society.
- **Best out of wastes:** The house walls are being made out of *Plastic Bottles*, reuse of bottles for further purposes as. Old practice of offering water to birds and animals in broken *Matka*.
- **Betterment of society:** There is big role that Society plays in bringing change to the world. The values and beliefs of people can turn up the thoughts into practices. The major movements like *Swachha Bharat and Namami Gange* are some of the big steps towards Environmental Conservation.

#### Initiatives by Businesses:

- **Brand's Role:** Indian consumers of middle and high income class groups are very much brand conscious ,therefore, brand vendors play a significant role in both educating the consumers and in changing the consumption practices.
- **Corporate Social Responsibility:** Business experts believe that there should be coordination between sustainable consumption practices and **CSR** and these should be deeply implanted into the strategies of corporate sectors. **Himalaya** is continuously doing CSR by its Green Campaign... Himalaya has planted more than 7 lakh trees in the western ghats of Maharashtra. **Max India Foundation** is working towards a sustainable and eco friendly environment, it has adopted a village in Uttarakhand on health, Sanitation and waste management. **Indian Oil** with a green conscience is championing the cause of nature too. Bio-Fuels, Wind-power projects, Green Belts, Waste management System, Off-grid solar PV projects are its steps towards becoming green Champion. **AAI (Airport Authority of India)** runs a green drive with Energy Conservation Initiatives. **The Banking Industry** is also not behind in saving the planet, its appeal for not printing ATM receipts and saving trees, and establishing Solar ATMs for conserving energy are its recent major steps towards the concern for environment.
- **Eco-friendly Products:** A sense of social entrepreneurship should be promoted to achieve the significant prospects exist in the expansion of emerging sustainable markets like for the renewable energy based goods, eco friendly products and the use of public transport facilities. **Navneet** produces papers with 'save trees' concept. **Nokia** uses devices made entirely from recycled materials, take back and recycling is a notable feature of environmental management at Nokia.

#### Initiatives by Educational Institutes:

- **Course Curriculum:** Various institutes have started including Sustainable Development and Consumption in their course curriculum. An example of such practice is **XLRI**, Xavier school of management is running an academic programme on Sustainable Practices for students.
- **Institute:** Institute of Sustainability and Bio-Diversity in Imphal, Manipur, is a Government Institute working towards the betterment of Environment.

- **Step towards Sustainability:** Vidhyabhawan Educational society Udaipur, and Geetanjali Institute of Technical Studies Udaipur have formed Eco-clubs.
- **Conferences & Training Program:** The Centre for Science and Environment (CSE) New Delhi, conducted a five day training programme on “Understanding Environmental Laws for better Compliance” during 18-22 September 2017.

#### Initiatives by Consumers:

- **Buying Habits:** The buying habits of the consumers should be focused on eco-friendly products. People should avoid the usage of plastic bags and the use and through products.
- **Consumption Patterns:** There is a rapid increase in income status of Indian households. Consumers must change their pattern of consumption, such that the resources can be sustained for future generations. Use of *one-side printed paper* can be reused again for working at the other unused side. Useless plastic bottles can be used as *vase* for developing roots of small plants.
- **Consumer Awareness:** Indian consumers are much aware but they do not understand the sustainable consumption concept. A large segment of Indian consumers like to purchase small, unpackaged products at low cost from the family owned and small shops.
- **Reduce-Reuse-Recycle:** The three R's – *reduce, reuse* and *recycle* – all help to cut down on the amount of waste we throw away. They conserve natural resources, landfill space and energy. Plus, the three R's save land and money communities must use to dispose of waste in landfills.

#### CONCLUSION

As the issue of depletion of resources is alarming day by day, the need of Sustainable Consumption has increased. Sustainable Consumption can only be achieved when combined efforts of all the stakeholders of the Environment are put. India has witnessed many initiatives being taken up by different sectors in recent years, which a green signal towards sustainable practices and green practices. The steps taken up in this context can serve as a motivation to move forward with the intention of consuming sustainably. India is still on its way to achieve sustainability and this can be seen as the beginning. The Role of stakeholders is hence can be said as vital in field of sustainable development. It can be said that individual efforts are not alone enough but many efforts put together can make a huge difference.

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## Investigation of Demographic Characteristics of Young Consumers of Odisha in the Context of Family Annual Income & Frequency of Shopping

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### ABSTRACT

*In the study of consumer decision making Consumers' demographic characteristics analysis plays a vital role for better understanding of consumer behavior especially when the consumers' income and purchase frequency is emphasized. This paper aims at dissecting the demographic characteristics of the young consumers of Odisha in the context of the Family annual income and the frequency of shopping which further leads to getting an insight about the association between family income and frequency of shopping. It has been observed in the study through non-parametric test using the sample drawn from urban and semi-urban regions of Odisha comprising of young college & university students that there exists an association between the family annual income and frequency of shopping of the young consumers. The demographic characteristics study may help the marketer for better planning of marketing of products and services in Odisha.*

**Keywords:** *Income, Frequency of Shopping, Young Consumer.*

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### INTRODUCTION

In the present scenario of changing dynamics of consumer behavior, the study of consumer behavior is always associated with the understanding of the demographic characteristics of the consumers. As demographic characteristics are the indicators of socio-economic parameters of the consumers, it is pertinent to know about the income pattern and expenditure through shopping and sometimes the frequency of shopping also important. The young consumers' frequency of shopping w.r.t their family income gives an insight in to the study of shopping characteristics of young consumers especially students. Students mostly depend upon their family income for their own expense. Increasing usage of social media and mobile phone has also affected the young consumers and they are now a days spending more time on social media and communication. This study primarily tries to study whether there exist any association between family annual income and frequency of shopping of young consumers of Odisha. Odisha is a state of emerging opportunities and Bhubaneswar, the capital of Odisha is declared as the best smart city in making in coming years, the young consumers of Odisha will be in the focal point of the marketer intending to target the business development. So, it is pertinent to study the young consumers' frequency of shopping and their family annual income for understanding the behavior and better design of marketing strategy and products for them. The major goal/objective of the study is to analyse the demographic characteristics of the young consumers and to examine whether there exists association between the family annual income and shopping frequency of the young consumers, which may give a better insight into the understanding of shopping characteristics of the young consumers.

### LITERATURE REVIEW

To conceptualize and operationalize the consumer demographic study which is the basic requirement of any consumer behavior study, literatures pertaining to demographic characteristics and association among the demographic characteristics are studied. There is a shift in the shopping pattern among the consumers as highlighted in the study of Nayak Y & Sahoo (2016) that most of the customers prefer shopping malls except a few customers who still prefer the traditional market. In their study they also highlighted 'Consumer dynamics

in India is changing and the retailers need to take note of this and formulate their strategies and tactics to deliver value to the consumers'. The income also plays a major role in choice of shopping place, as the annual family income increased the choice also shifts from traditional market place to modern marketplace. The socio cultural dimension of consumer behaviour on retail shopping study by Dash & Sarangi (2008) mentioned that 'due to consumers' different economic situations, personal tastes and environment, each consumer develops a unique shopping style'. Shopping an unpleasant activity and undesirable as being considered by male shoppers (Dholakia, 1990 cited on Bakewell & Mitchell (2006)), however in the study by (Dholakia, 1999 cited on Bakewell & Mitchell (2006) highlights young male are more involved in shopping. Male consumer decision-making traits were different from female consumers. Male shoppers are having traits of 'Time-Energy Conserving', 'Confused Time restricted', 'Store loyal/low price seeking' & 'Store Promiscuous' where as Female shoppers are having traits of 'Bargain seeking', 'Imperfectionism' and 'Store Loyal' Bakewell & Mitchell (2006). Gupta & Sethi (2016) in their study of "Factors Affecting Customers' Choice of Shopping" highlighted that 'there were increasing demand of online shopping because the variety of options for the consumers to choose and that to at a reasonable price and sometime even less price than the market'. This may be understood that the frequency of shopping in traditional market and online market may differ. It is interesting to note that not many studies have been carried out on family annual income and frequency of shopping associated with young consumers in Indian context. India being a bifurcated society and there is a sharp contrast in wealth distribution between rural and urban sectors and the purchase of product and frequency of shopping varies according to the psychology of the consumers. In the context of demographic characteristic family annual income and shopping characteristic frequency of shopping a study has been carried out for better understanding of the association of family annual income and frequency of shopping for better marketing strategy formulation.

### **OBJECTIVE OF THE STUDY**

The objective of this study is to examine the various demographic characteristics of young consumers of Odisha in the context of their family annual income and frequency of shopping.

### **RESEARCH METHODOLOGY**

#### **Research Design**

A descriptive approach has been adopted in the research design. This has led to get the desired result by using cross-sectional study. The cross-sectional study among the university/college students has been done to understand the demographic characteristic and association between income and shopping frequency. It has been helpful on fulfillment of the objective of the research.

#### **Research method**

The research method is 'Quantitative' in nature and has the survey method through a structured questionnaire to get the input from the young consumers about their demographic characteristics family income, own expenses and the frequency of shopping etc.

#### **Development of Instrument**

The questionnaire has been developed by using the questions to find out the demographic characteristics, shopping characteristics related to family income, own expense, frequency of shopping, The questions for demographic details and shopping characteristics are meant to be answered by selecting one option out of the options provided.

#### **Sample and Source of Data**

The scope of the study is restricted to the university/college students and a purposive sampling has been undertaken. The university/college students have been selected as per their gender, educational qualification, course, and age group.

#### **Sampling Design**

It has been observed from the literature review that the studies across the world have taken the sample of undergraduate and post graduate students in the studies of young consumers. So, the purposive sampling design consists of a sampling frame which defines the list of students of Universities and colleges in Odisha in the age group of 17-25 years. Both boys and girls students are included in the sampling process. The questionnaire was administered to 500 students in different parts of Odisha. However, after the scrutiny of the feedback data only 432 questionnaires were found relevant.

### Formats of Data

As the study is empirical in nature, the primary data has been collected from the respondents by using survey method through administering the structured questionnaire to the respondents.

### Tools for Data Analysis

The data analysis has been carried out with descriptive statistics as well as techniques like cross tabulation and Chi-square test to find out the association of family income with the frequency of shopping. Software spss-19 has been used for data analysis.

### DATA ANALYSIS

The data has been analysed by using appropriate statistical methods and tools as applicable to meet the Objectives.

**Descriptive statistics Analysis:** The descriptive statistics has given an insight in to the demographic and shopping characteristics of young male and female consumers.

**Demographic characteristics analysis:** Firstly, to meet the objective the analysis of demographic of the respondents has been done, In the demographic characteristic analysis, the demographic characteristics of the respondents such as Gender, Age, Educational qualification ( Details of the course the respondents are studying), frequency of shopping, region they belongs to whether urban or semi-urban have been taken into consideration for the analysis. Response from total sample size of 432 respondents are analysed and the major outcome is that ; Out of 432 Respondents, 183 respondents are Male and constitutes 42.4% of total sample and 249 respondents were Female and constitutes 57.6 % of total sample; 246 respondents are in the age group of 17-20 years and constitutes 56.9% of total sample and 186 respondents were in the age group of 21-25 years and constitutes 43.1 % of total sample; 229 respondents are studying in Universities and constitutes 53.0% of total sample and 203 respondents are studying in colleges and constitutes 47.0% of total sample. Out of 432 Respondents, 278 respondents are studying in Undergraduate course and constitutes 64.4% of total sample and 154 respondents are studying in Post-Graduate course and constitutes 35.6% of total sample.

**Association of Family income and Frequency of shopping Analysis:** The Shopping characteristics such as frequency of shopping of the students, with the family annual income analysed and the outcome is:

Majority of the respondent out of 432 respondents i.e. 191 respondents are having annual family income of 3.1-5 Lakh out of total sample and 89 respondents are having annual family income of 5.1-10 Lakh whereas 131 respondents are having annual family income of 1-3 Lakh family annual income and only 21 respondents are having the annual family income of more than 10 lakh..

Out of 432 Respondents, 183 respondents do not go for shopping very frequently and constitutes 42.4% of total sample, 99 respondents go for shopping once in a month and constitutes 22.9% of total sample, 84 respondents go for shopping two times a month and constitutes 19.1% of total sample, 29 respondents go very frequently for shopping and constitutes 6.7% of total sample, and 22 respondents go for shopping three times a month and constitutes 5.1% of total sample and 15 respondents go for shopping more than 3 times a months and constitutes 3.5% of the total sample. Hence, majority of the respondents are shopping once or twice a month.

### Family Annual Income and Frequency of Shopping of Young Consumers:

In the study when the demographic characteristics has been analysed w.r.t. students' family annual income and frequency of shopping the outcome is mentioned in the following tables (Table-1 to 2)

### Association of Family Annual Income Vs. Frequency of Shopping of Young Consumers

**Table-1: Family Annual Income Vs. frequency of shopping**

Family Annual Income Vs. Frequency of shopping Cross tabulation									
			Frequency of Shopping					Total	
			Once in a Month	2 times a month	3 times a month	more than 3 times a month	very frequently		Not frequently
1 lakh-	Count	32	17	11	4	6	61	131	

<b>Family Annual Income</b>	3 lakh	% within Family Annual Income	24.4%	13.0%	8.4%	3.1%	4.6%	46.6%	100.0%
	3.1 lakh-5 lakh	Count	38	42	6	4	13	88	191
		% within Family Annual income	19.9%	22.0%	3.1%	2.1%	6.8%	46.1%	100.0%
	5.1 lakh-10 lakh	Count	25	22	5	6	5	26	89
		% within Family Annual Income	28.1%	24.7%	5.6%	6.7%	5.6%	29.2%	100.0%
	more than 10 lakh	Count	4	3	0	1	5	8	21
		% within Family Annual Income	19.0%	14.3%	.0%	4.8%	23.8%	38.1%	100.0%
	Total	Count	99	84	22	15	29	183	432
		% within Family Annual Income	22.9%	19.4%	5.1%	3.5%	6.7%	42.4%	100.0%

To examine the association of Family annual income with frequency of shopping the following hypothesis has been formulated:

**H0 :** There exists no significant association between Family annual income and Frequency of shopping of the young consumers.

**H1:** There exists a significant association between Family annual income and Frequency of shopping of the young consumers.

To test the hypothesis chi-square test has been conducted and the result is mentioned in Table-2.

**Table-2: Chi-square test result for association of Family Annual Income with Frequency of Shopping**

**Chi-Square Tests**

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	31.471 <sup>a</sup>	15	.008
Likelihood Ratio	28.997	15	.016
Linear-by-Linear Association	1.641	1	.200
N of Valid Cases	432		

a. 8 cells (33.3%) have expected count less than 5. The minimum expected count is .73.

**Interpretation:** It has been observed from the chi-square result in Table-2 that the Pearson Chi-square p-value is .008 and which is less than 0.05, so the null hypothesis is rejected and there exists an association between Family annual income and frequency of shopping of the young consumers.

**CONCLUSION**

The consumer behavior study is seems to be more useful when there is more understanding the demographic characteristics of the consumer. Sometimes the socio-economic conditions of the consumers play very

important role especially the family annual income and shopping frequency and preferred place of shopping etc. This study firstly, emphasizes on describing the family annual income and the frequency of shopping by using cross tabulation where the family annual group has been divided into four categories viz. 1-3 Lakh, 3.1-5 lakh, 5.1-10 lakh and more than 10 lakh and it has been observed that Majority of the young consumers are having annual family income of 3.1-5 Lakh . and after that the second majority of consumers are having Family annual income of 1-3 lakhs, which indicates the socio-economic status of the young consumers is not so high. Secondly, while describing the Shopping characteristics such as frequency of shopping of young consumers in a month it has been observed that majority of the young consumers are not frequent shoppers and also there are equal percentage of one time or two times shoppers combines and only 15% of the young consumer falls in the category of 3 times and more than 3 times shopper in a month. When the association of family annual income with frequency of shopping of young consumers is tested using Chi-square method it has been observed that there exists an association of family annual income and frequency of shopping. So, the marketing strategy for young consumers can be formulated by keeping in mind the income and frequency of shopping aspect among them. This study has been carried out with a limited size of sample comprising of the young university & college students. However, a study on other sample with different demography may yield different results.

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## Economic and Financial Sustainability through Regional Integration and FDI: Role of India-Japan CEPA

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### ABSTRACT

*A thriving developing country like India is in need of higher investment to support its infrastructure and promote economic growth and sustainability. In order to accomplish this goal, the country needs to identify distinct sources of income, and relying on foreign debt hampers its objective of debt-free, long-term growth. FDI in this case, not only serves as a debt-free source of investment, but also brings long-term sustainability through capital formation, and technical and managerial spill-overs. Keeping the proliferation of Regional Trade Agreements (RTAs) in view, especially as significant sources of investment, this paper reviews the contribution of RTAs in financial sustainability in India. The Agreement studied is one of the new age Comprehensive Trade Agreements (India-Japan CEPA) India is a member of. A systematic theoretical investigation is done to identify the areas that have benefitted under the FDI and other provisions under the Agreement, as well as the areas where the scope of improvement lies.*

**Keywords:** *Regional Trade Agreements, Foreign Direct Investment, sustainable development.*

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### INTRODUCTION

The world is not a novice to the concept of Sustainable Development anymore. Both developed and developing economies require sustainability and an awareness to identify sources that contribute to sustainability, owing to the complexity in their structure and preferences. Amid the need of economic and financial sustainability and continuous proliferation of Regional Trading Agreements, economists worldwide are recognising the latter as potential contributors to long-term economic growth. For Asia-Pacific region in particular, which is home to 61 percent of the world's population, with three of its most populous and fast-paced economies (China, India, and Indonesia) becoming trade and investment hub for numerous western countries, eyeing regional economic integration with a view to promote sustainability can transform the lives of many. Moreover, boosting regional integration in the Asia-Pacific has the potential to both create economic dynamism, and facilitate shared prosperity through promoting greater market integration, seamless connectivity, financial cooperation and stability, and improved living conditions (Akhtar, 2017). The concept addressed in this article is that Regional Integration can help foster higher FDI in India, which in turn can lead to economic and financial sustainability. Among many regional integration initiatives taken by India, there are new-age comprehensive agreements having wider scope and provisions; four such agreements are in force namely India-Japan Comprehensive Economic Partnership Agreement (CEPA), India-Korea CEPA, India-Malaysia Comprehensive Economic Cooperation Agreement (CECA), and India-Singapore CECA. This article theoretically evaluates the objectives, performance and drawbacks of India-Japan CEPA, highlighting how the agreement has made progress in India's long-term economic goals.

### AN OVERVIEW ON ECONOMIC RELATIONS

India and Japan have shared cordial political relations post the former's independence. The idea of materializing the countries' economic relations into CEPA was proposed in a Joint Study Group in 2004. The meetings by the group continued to be held till 2006. Finally, the negotiations regarding CEPA's implementation began in 2007, and by mid-2010, 14 rounds of negotiations had taken place. In October 2010, the negotiations came to an end

and in August 2011 the agreement was concluded as operational. The agreement had a wide coverage of provisions, which included: Trade in goods, Trade in services, Movement of people, Investment, Intellectual Property, Government Procurement, Competition, Improved business environment, and Cooperation. A vital motivation for entering into CEPA for India was to have access to a country with \$5 trillion GDP, and for Japan to avail a smoother access to business opportunities in India (*Japan, 2011*). On an average, nearly 94 percent of tariffs were planned to be eliminated in 10 years from the date of being implemented, out of which 97 percent to be eliminated by Japan, and 90 percent by India.

## TRADE SCENARIO

The trade details between India and Japan from 2005 to 2015 are shown below in Table I below. Since the year 2005, the share of Japan's exports to India has been less as compared to India's exports to Japan; the difference has been fluctuating. The last couple of years show steep decline in both exports and imports. The causes for India's decline in exports are deep, one of them being lesser price elasticity in India's export basket. Also, India-Japan CEPA have not led to any improvement in India's Pharmaceutical exports as dealing with Japan's drug regulator is still cumbersome. The utilization of India's trade agreements to promote export remains ineffective. As a result, the country is unable to fully avail the benefit of Japan's duty free import facility of apparels to India, given the raw materials are either of Japanese or Indian origin.

**Table I : India-Japan Trade**

Year	Imports (Thousands of US dollars)	Year on year % Change	Exports (Thousands Of US dollars)	Year on year % Change
2005	3215846	23.2	35,39,405	16.4
2006	40,57,600	26.2	44,56,653	25.9
2007	41,53,493	2.36	61,51,515	38.03
2008	52,15,450	25.57	7850451	27.62
2009	37,32,851	-28.4	63,35,638	-19.3
2010	56,58,288	51.6	90,19,750	42.4
2011	67,89,259	20	1,10,45,255	22.5
2012	70,11,136	3.3	1,06,23,338	-3.8
2013	71,37,354	1.8	86,66,756	-18.4
2014	70,20,176	-1.6	81,63,473	-5.8
2015	4870117	-30.6	8107310	-0.7

Source: Japan External Trade Organisation- Japan Trade and Investment Statistics.

<https://www.jetro.go.jp/en/reports/statistics/>

The main exports to Japan have been in the form of raw material, minerals, including raw iron ore, marine products, agricultural products, imitation jewellery, and semi-precious stones. On the other hand, the main imports from Japan have been in the sectors of iron and steel, heavy machinery, mineral oils and fuels, organic chemicals, surgical equipment, rubber, plastic, etc.

## INVESTMENT SCENARIO

In general, Japanese firms have reacted proactively and flexibly in response to India's policy shifts and institutional changes. The investors' comfort level already exists to an extent that Japanese big business names like Sony, Honda and Toyota have become household names in India. Japanese companies are now keen to explore investment opportunities in India's energy sector. Since the last 5 years, post the implementation of CEPA in 2011, Japan's investment in India has doubled, and more than \$800 billion has been invested, which has generated employment, and have led to technology transfer. However, the numbers for Indo-Japan trade is not as high; India's share is merely 0.9 percent of Japan's total trade. The goods that have been included in the existing list of goods for better trade opportunities include Industrial products and agricultural products. In terms of services, Japan has opened up in the areas related to mining, scientific and technical consulting services, tourism services, and environmental services.

In order to promote trade and investment, a mechanism is created by a Joint committee which works with the concerned government authorities of both countries. Also, provisions for cooperation are provided under areas of trade and investment promotion, infrastructure, environment, entertainment, Small and medium enterprises, tourism, textiles, energy, metallurgy, and science and technology. To ensure the mechanism works peacefully, a noninterfering, non-discriminatory competitive environment is facilitated by both countries to each other. Conglomerates like Softbank and a number of other investors are keen on the infrastructure front, internet companies and solar energy.

As per a survey conducted by the Japan Bank for International Cooperation (JBIC) of Japanese manufacturing companies, India has been staged as the most preferable investment harbour. Japanese FDI in India has increased in recent years but it still remains small compare to Japan's total outward FDI. In terms of cumulative FDI inflows into India, Japan is India's fourth largest source of FDI (*Saiawi, 2015*). Japan has always been labour and resource starved, but a capital-enriched country, and has purposely invested its vast capital in India to utilize the latter's abundant labour and untapped resources. India would also remain a significant importer of arms from Japan, as the country are natural allies where India's need for military modernization is supported under Shinzo Abe's plan to 'revive Japanese economy with arms exports'. India thus, remains a prospective market for defence exports from Japanese. The figures for exports from Japan are substantially higher as compared to India's exports to Japan due to political and security reasons as well. While large investments from China would always raise the concern of compromising national security for India, owing to India's socialist history, grant of concessions to the United States and Europe would be called exploitation. Such apprehensions are non-existent with Japan, with whom India shares the least political resistance (*Mewati, 2015*). Japan's economic aid to India in the form of more investment has also been a part of Japan's Official Development Assistance (ODA), which is a government aid aimed at promoting welfare and development in developing countries (*OECD, 2017*).

Tables II and III summarize the FDI flows between India and Japan in fifteen years.

**Table II: FDI inflows in India from Japan**

Year	FDI inflows from Japan to India (in \$US Million)	India's total FDI inflows (in \$US Million)	% Share of inflows from Japan
2001	150	3585	4.18
2002	146	5472	2.67
2003	124	5627	2.2
2004	139	4323	3.22
2005	266	5771	4.61
2006	512	7606	6.73
2007	1506	25001	6.02
2008	5551	47139	11.78
2009	3664	35657	10.28
2010	2864	27417	10.45
2011	2326	36190	6.43
2012	2786	24196	11.51
2013	1718	28199	6.09
2014	2084	34582	6.03
2015	2614	44208	5.91

Source: Japanese External trade Organization. <https://www.jetro.go.jp/en/reports/statistics.html>

**Table III: FDI outflows from India to Japan**

Year	FDI outflows from India to Japan (in \$US Million)	India's total FDI outflows (in \$US Million)	% Share of outflows to Japan
2001	0	5472	0
2002	-1	5627	-0.02
2003	0	4323	0
2004	0	5771	0
2005	1	7606	0.01
2006	-1	19622	-0.01
2007	3	17234	0.02
2008	1	21147	0
2009	14	16031	0.09
2010	4	15947	0.03
2011	9	12456	0.07
2012	19	8486	0.22
2013	18	1679	1.07
2014	-2	11783	-0.02
2015	23	7501	0.31

Source: Japanese External trade Organization <https://www.jetro.go.jp/en/reports/statistics.html>

In the first 8 years since 2000, Japan's FDI in India crossed \$3,000 million. Post 2008, many sectors in India started attracting FDI from Japan. As the investments became more diverse, there was a temporary decline in the inflows, but the nature of investments remained inclusive. The sectors include automobiles, transportation, telecommunications, fuel, and chemicals, pharmaceuticals, etc. Japan is also among the first five highest contributors in terms of technology transfer in India. The increase in FDI flows from Japan lately, can also be attributed to the directional change in Japan's outward FDI policy towards Asia, Oceania, and Central and South America (*Dr. Mathew Joseph*). In terms of outflows, even though Indian companies are exploring investment opportunities in Japan presently, and Offices of nearly 70 Indian IT companies have already been set up in Japan, but the first eight years since 2000 witnessed insignificant investment outflows from India. India's outbound FDI increased at the same time when Japan's inward FDI outlook shifted towards the US and Asia. From the period 2000-2014, India has seen tremendous FDI flows from Japan; below is the sectoral distribution of FDI received from Japan.

**Table IV: Japanese FDI in India from years 2000-2014 (In \$US million)**

Sectors with share in total FDI	Percentage share	Major companies investing	Amount (in \$US million)
Drugs & pharmaceuticals	28	Daiichi sankyo co. Ltd, otsuka pharmaceutical factory	4400.97
Automobile industry	16	Maruti suzuki, honda, nissan motor company ltd.	2526.21
Services sector	15	Sumito mitsui banking corporation	2447.31

Metallurgical industries	9	Jfe steel corporation	1397.16
Electrical equipment	4	Matsushita electric works ltd, panasonic electric works co ltd, honda motor co ltd	686.51

Source: Department of Industrial Policy and Promotion. <http://dipp.nic.in>

Table IV above presents a summary of the FDI receiving sectors in India from Japan. The main factors that have attracted Japanese FDI to India has been India’s low cost advantage, the growing consumerism in Indian market, a promising feasibility study done by Japan regarding India’s proximity to highways, ports and labour, and the physical location of India which is connected to the East and the West. But the main sectors that have seen significant investment are the Pharmaceuticals, Automobile, Electronics, and Healthcare discussed in detail below. Manufacturing of Transport and electrical equipment and chemicals are the areas where technology transfer has taken place; Japanese FDI has been partial towards technology-intensive sectors.

**Automobile:** Most of Japanese FDI in the Indian Automobile sector has been in the form of Joint Ventures, the most prominent of which is Maruti Suzuki, which has made substantial investments in improving the research and development Centres in Haryana, with the purpose of leading design and development projects for Suzuki. Future investment will be more in manpower, rather than infrastructure, since it is in the right place.

**Electronics:** Matsushita Electric Works Ltd, Motherson Sumi System, Nidec, HMC MM, Mitsubishi, Asti, Panasonic, Sony, Sansui, Canon, Nikon, and Olympus are the important Japanese firms operating and investing in the Electronics industry of India (*Nadiger, 2016*).

**Healthcare:** Fetching an initial capital of 200 million rupees, Japanese companies started a Joint Venture in India, to introduce Japanese technology for creation and distribution of medical consumable products. Columbia Asia, which operates a chain of eleven hospitals in India, shared that it has raised more than 100 million dollars from Japan’s Mitsui & Co. Ltd. (*Rai, 2016*). Japanese partners Secom Medical Systems and Toyota Tsusho Corporation have purchased Sakra Hospital, with the motive to upgrade technology and provide better healthcare to the middle-class (*Kamath, 2016*).

**Pharmaceuticals:** The prime factor explaining the presence of Japanese Pharmaceuticals in India is Ranbaxy’s stake sale to Daiichi Sankyo, among other major pharma players in Japan (*Jain, 2016*). Other contributors are Nipro Corporation, Otsuka Pharmaceutical, and Rohto Pharmaceutical. Specific Pharmaceutical items have also benefitted from Article 54 under CEPA, which deals with cooperation in generic medicines between India and Japan and also facilitates National Treatment with respect to registration and other approvals necessary for completion within a reasonable time period.

### India-Japan CEPA objectives and performance

The objectives of India-Japan CEPA are stated below:

- (a) Liberalise and facilitate trade in goods and services between the Parties;
- (b) Increase investment opportunities and strengthen protection for investments and investment activities in the Parties;
- (c) Ensure protection of intellectual property and promote cooperation in the field thereof;
- (d) Promote cooperation for the effective enforcement of competition laws in each Party;
- (e) Improve business environment in each Party;
- (f) Establish a framework to enhance closer cooperation in the fields agreed in this Agreement;
- (g) Create effective procedures for the implementation and application of this Agreement and for the resolution of disputes.

### Gains under India-Japan CEPA

1. The provision for liberalized trade was facilitated under the agreement when India lowered tariffs on 18.37 per cent of all tariff lines at eight digit level (Indian Tariff Code number), to zero on 1 August 2011. Tariffs on 4.51 percent of all tariff lines were lowered to zero in 2016 in a phased manner. Commitments were also made to lower 63.45 percent to zero by 2021. Only 13.62 percent of the total

tariff lines would remain to be excluded from tariff liberalization. On the other hand, Japan committed to liberalize tariff lines at nine digit levels of HS Classification, in addition to four and six digit levels included at later stages. On the whole, India liberalized 11289 tariff lines, whereas Japan liberalized 9041 tariff lines.

2. The utilisation rate, which measures the percentage of the total liberalised goods utilised in production, has also increased for India for three consecutive years. The rates were 19 percent (US\$ 1,042), 20 percent (US\$ 1,367), and 21 percent (US\$ 1,565) in the years 2012, 2013, and 2014 respectively. Only about 5 percent of India's exports could not avail CEPA duty concessions, as they fell under the exclusion list. At sectoral level, live animals had the largest utilization rate in India's total CEPA concessional exports to Japan. Other sectors where CEPA proved to be beneficial for India were seafood, Garments, leather, dyes and pigments, and Diamonds and jewellery.
3. Certain items such as Steel, Copper wires, Nickel, Plastics, and certain chemicals are those where tariff reductions under CEPA have enabled Japan to gain a better market access in India.
4. The role of CEPA cannot be overlooked in India's exports as in the absence of the agreement, the performance of items like seafood, garments, leather, etc. may not have been as commendable. This is because most of competing ASEAN countries also have Free Trade Agreements with Japan, having tariff concessions on many of these items.
5. The provisions of the agreement facilitate a secure and stable investment environment, providing national treatment to all the investors. In terms of direct investments received post CEPA, the number of Japanese companies investing in India rose from 812 at the time of commencement of the agreement in 2011, to 1209 by 2014. Approximately US\$ Million 11,528 FDI has been received by India from Japan till 2015, post implementation of CEPA in 2011. This indicates that formation of CEPA has had a positive impact on India's FDI.
6. Under movement of people, Japan has opened up about its norms on the entry and stay of Indian instructors specializing in Yoga, classical music and dance, Indian cuisine and English language.
7. This long-term strategic and alliance was meant to benefit both countries, and to an extent, has tackled certain global issues together such as freedom of navigation and security of sea lanes of communication.

### **Crunches under India-Japan CEPA**

1. The overall trade and economic engagement of the countries has not reached its full potential. For instance, the merchandise trade has not managed to expand into new market shares. Both India and Japan have a low imports share in each other, at 0.80 percent and 2.3 percent respectively.
2. The agreement has not led to any improvement in India's Pharmaceutical exports as dealing with Japan's drug regulator is cumbersome.
3. One of India's primary motives behind entering into the agreement was to harness Japan's technical prowess and gain expertise in handling high-end technologies like civil nuclear technology, technology related to US-2 amphibious aircrafts and Soryu class submarines. India has had little success in this regard since Japan attaches too much political susceptibility to these technologies and sustained efforts and collaborations are required on the Indian front to surpass this standstill and gain access to the technologies.

Japan's general attitude towards importing agricultural commodities from the outside world is prohibitive. As a result, India's agro and marine exports to Japan have fallen since the implementation of CEPA. This implies that the tariff lines under the agro and marine product category still need revision (Japan-India CEPA: Review of India's Agro & Marine exports performance, 2013).

4. Indicating the general level of CEPA's success, India's Foreign Trade Policy Statement for 2015-2020 has observed that the achievements envisaged from CEPA with Japan have not been realized to the desired extent. Keeping up to the high quality standards, language barrier, and coping with high costs of meeting regulations are some of the prominent problems faced by Indian business entities in Japan.

### **Way Forward**

1. Enhancing regulatory cooperation on pharmaceuticals can be a facilitating factor between India and Japan.

2. Scope for cooperation also prevails in Japan's outlook towards allowing India access to its technical expertise. A common platform can be set which allows Japan to protect its technology of political importance, while sharing the expertise with India. This can be made possible by focusing on the abundant raw-materials and minerals in India that have the potential to be nurtured by Japan's excellence and knowledge in technology, which can contribute greatly in manufacturing goods by utilizing India's resources.
3. To cope with the problems of language barrier and high costs of meeting regulations, extensive attempts should be made among the members to generate better understanding of CEPA, and its provisions to the stakeholders. Awareness can also be spread concerning various cultural factors, regulatory expectations, and business factors that may be unique to the countries.
4. To ensure versatility and expansion in future investments, Japanese investors need to identify the emerging areas of investment such as more manufacturing options, Pharmaceuticals, food processing, IT software and textiles (Nataraj, 2010). Due to an aggressive entry of Korean brands in the Indian market, Japanese firms have been overshadowed by their presence lately. To take advantage of an economically resurgent country like India, Japan needs to become proactive in accepting the variety of investment opportunities India has to offer. Some prominent areas of future collaborations could be biotechnology, Nano-technology, IT, aerospace, Textiles, leather and the like. Energy efficient and environment peaceful industries are also progressive options. Investments can further be catapulted if the Japanese industrial townships and corridors which are under implementation can begin their operations in India.

## CONCLUSION

Assessing the CEPA's contribution towards India's economic and financial sustainability, it is found that the share of Japan's FDI inflows in India was around 6 percent until the terms of CEPA were materialized, and in a year, its share of FDI flows to India increased to 11.51 percent. Maruti and Honda, which are placed in high esteem in to Automotive sector, have fetched tremendous investment to the country. The benefits also include freer movement of professionals among the countries, handling of global issues together such as freedom of navigation and security of sea lanes of communication, etc. This clearly indicates that the agreement has contributed to the overall growth in India, in accordance with the provisions set by the countries. However, there is a huge scope of improvement in the trade of pharmaceuticals, permission of India's access to Japan's technical prowess, and Japan's protectionist attitude towards India's agricultural products.

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# A Secure and Timestamp-based Communication Scheme for Cloud Environment

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## ABSTRACT

Cloud computing provides the capability to use computing and storage resources on a rented basis and reduce the investments in an organization's computing infrastructure. With all its benefits, cloud computing also brings with it concerns about the security and privacy of information extant on the cloud as a result of its size, structure, and geographical dispersion. Secure communication in cloud environment is necessary to access remote resources in a controlled and efficient way. For validation and authentication digital signatures using public key cryptography is extensively used in cloud computing. Further to keep confidentiality, digital envelope which is the combination of the encrypted message and signature with the encrypted symmetric key is also used. In this paper we propose a timestamp-based authentication scheme for cloud client with a modified digital envelope. As hyperelliptic curve cryptosystem (HECC) is known for its small key size and high security, we have taken HECC encryption technique.

**Keywords:** Cloud Computing, Hyperelliptic Curve Cryptosystem, Digital Envelope, Digital Signature, Public Key, Private Key.

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## INTRODUCTION

There are various types of computing available in current digital world which are effective for various purposes but all they have their different features for different aspects like parallel computing, cluster computing, grid computing, utility computing and cloud computing. Cloud computing is a recent development in information technology that moves computing and data away from desktop and portable PCs into large data centre. It refers to applications delivered as services over the internet as well as to the actual cloud infrastructure namely, the hardware and systems software in data centers that provide these services. In general, clouds provide services at three different levels namely infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS).

- IaaS serves the computational resources that may include high end servers, storage systems, networking technology and staffing expertise. Amazon, Verizon, Rackspace are some of the key players in IaaS [1-3].
- PaaS serves availability of application development platform through the cloud infrastructure. By using PaaS, the application developer can develop and deploy new applications without any investment in infrastructure. During the time of development, PaaS manages the software development life cycle like

planning, designing, developing, testing and maintenance. Microsoft Azure, Google AppEngine, Force.com, AppJet, Etelos, and Qrimp are the key players in PaaS.

- SaaS serves the application software like customer relationship management, enterprise resource planning, and accounting software. Salesforce.com, Google Apps, Microsoft Business Productivity Online Suit and facebook are the big names in SaaS.

**The Three major cloud deployment models are as follow,**

- (A) In the public cloud model, the resources are dynamically provisioned on a fine-grained, self-service basis over the internet, via web services. The customers can quickly access these resources, and only pay for the operating resources. As multiple customers are sharing the resources so major dangers to public cloud are of security, regulatory compliance and quality of service (QoS) [4-7].
- (B) In the private cloud model, computing resources are used and controlled by a private organization. In private cloud, resource access is limited to the customers that belong to the same organization that owns the cloud [5, 8, 9].
- (C) A third model can be hybrid cloud that is typical combination of public and private cloud. Through this model an organization can provide and manage different resources in-house and have others provided through external resources [11].

The cloud computing model is not without concerns, as others have noted [6, 8]. The following are the primary concerns,

- **Economics of failure:** The uptime of cloud computing-based solutions is an advantage, when compared to businesses running their own infrastructure, but often overlooked is the co-occurrence of downtime in vendor-driven monocultures. This was illustrated by the Amazon (S3) cloud outage [8], which took with it several other dependent businesses.
- **Convenience vs. control:** The growing popularity of cloud computing comes from its convenience, but also brings vendor control, an issue of ever-increasing concern [12, 13].
- **Environmental impact:** The other major concern is the ever-increasing carbon footprint from the exponential growth [6] of the data centers required for cloud computing.

We need to have some identification and authentication process to verifying and validating individual cloud users based upon their credentials before accessing any data over the cloud. That is why identification and authentication is mandatory security requirement in all three cloud models.

To enhance the security in cloud models, we have proposed an authentication scheme uses timestamp-based digital envelope for secure communications between cloud clients and cloud servers. As the signature is encrypted with the secret key (which is calculated independently for cloud servers and cloud clients and are not transmitted), it would not be possible to forge a digital signature either by constructing a new message for an existing digital signature or constructing a fraudulent digital signature for a given message. It also provides non-repudiation and resists replay attack in cloud environment.

The remainder of this paper is organized as follows. Section 2 explains the proposed methodology; Section 3 describes the implementation followed by conclusion and references.

**PROPOSED METHODOLOGY**

The proposed secure and timestamp-based authentication scheme uses timestamp-based digital envelope which is useful for both wired as well wireless communications in cloud environment. The following assumption and notations are used in this paper,

$PR_{CLIENT}$	private key of cloud client
$PU_{CLIENT}$	public key of cloud client
$PR_{SERVER}$	private key of cloud server
$PU_{SERVER}$	public key of cloud server
$ID_{CLIENT}$	identity of cloud client
$ID_{SERVER}$	identity of cloud server
$SID$	session ID
$M$	input message.

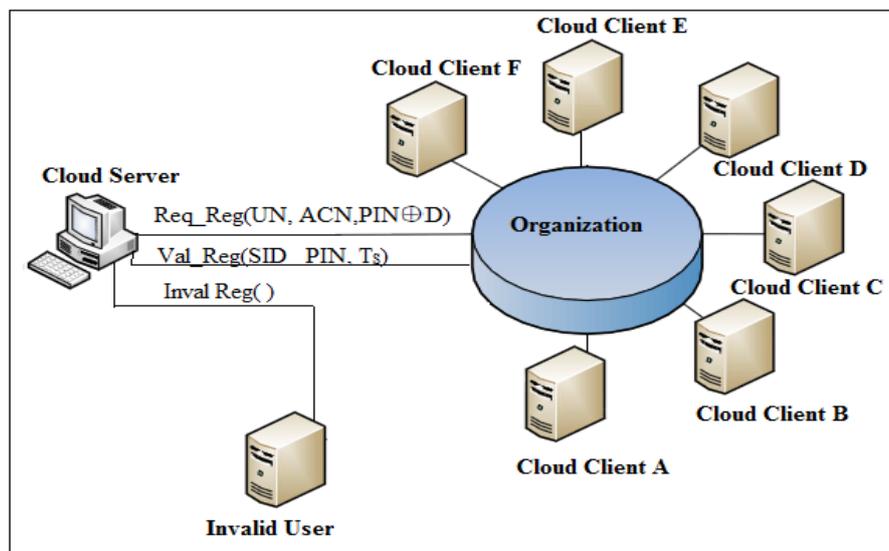
**Signature pair**

- H ( )            one-way hash function with fixed length output
- K                common secret key
- E<sub>K</sub> ( )        symmetric encryption algorithm with key k
- D<sub>K</sub> ( )        symmetric decryption algorithm with key k
- T<sub>1</sub>             timestamp of cloud client
- T<sub>2</sub>             timestamp of cloud server
- T<sub>S</sub>             valid session time
- ΔT              expected transmission delay
- ENC            encrypted message + encrypted signature
- DEC            decrypted message + decrypted signature
- ENV            digital envelope
- ⊕                logic exclusive OR (XOR) operation
- ||                a bitwise concatenation operation.

It is important to mention here that the proposed registration scheme depends on parameters like, Client Name, Account number, and operated value of password with client Identity. In this section we will discuss registration phase in details.

Before registration phase a cloud client account is created with the details of each client identity (CID), client name (CN), six digits password (PIN), six digits account no (ACN) by the cloud authentication server (AS). Further, AS maintains a list of records of different cloud client. During registration [Figure 1], a client sends its registration request by sending Req\_Reg( ) message to the authentication server (AS) that contains CN, CAN and PIN ⊕ CID. AS again perform ⊕ operation using CID of the particular client to recover PIN. After checking the validity of the client information, a session ID (SID) is assigned to each valid client by the AS after their registration. AS then sends a message Val\_Reg( ) contains SID ⊕ PIN to a valid client and it get the SID by doing similar operation. SID is valid for a valid session time T<sub>S</sub>. Now only valid client can access the particular Cloud Server using this SID.

**Figure 1 Cloud clients registration process**



**Authentication phase**

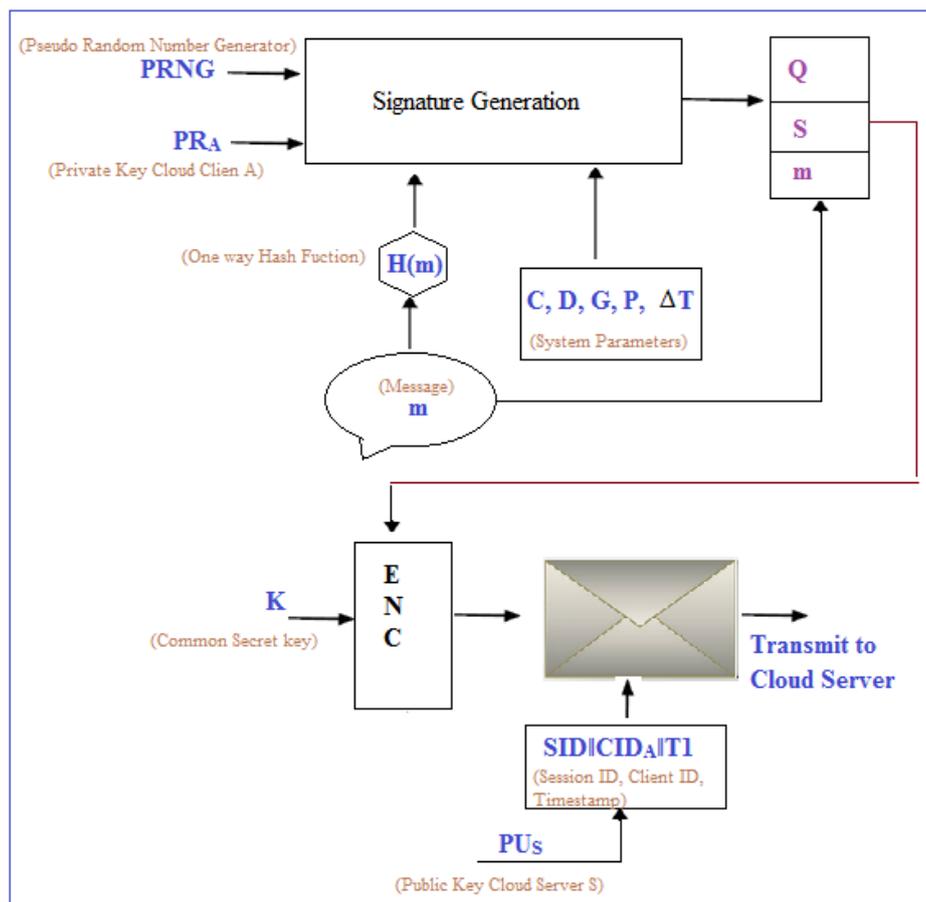
Now, a cloud client A is accessing a cloud server S. During the authentication process cloud client A and cloud server S will generate their private keys (PRA, PRS) and public keys (PUA, PUS). RSA is well known public key crypto system. Its security relies on the fact that factoring a large integer known to be the product of two primes of similar size is supposed to be computationally problem. Elliptic curves, however, is another good choice for building public key crypto system. Elliptic curve crypto system relies on the problem of computing logarithms in the group of points of an elliptic curve. Since this is supposed to be hard for relatively small parameters, they offer high-grade security even for small keys and are therefore the optimal choice for smart

cards and other environments that provide only a limited storage space. Hyperelliptic curves are generalisations of elliptic curves, i.e., they are of a higher genus (elliptic curves have a genus equal to one). In 1989, Koblitz (1989) proposed hyperelliptic curve cryptosystem

(HECC). In this proposed work we have taken HECC for encryption and decryption purposes. During generating key pairs, the public parameters hyperelliptic curve  $C$ , prime  $P$ , divisor  $D$ , element  $R$  of group  $G$  of order  $N$  are exchanged. Here the key exchange process is based on Diffie-Hellman key agreement protocol where cloud client  $A$  and cloud server  $S$  wish to agree on a common secret key ( $K$ ) for encryption and decryption process. For Signature generation and verification process, cloud client  $A$  first takes message  $m$ . The message  $m$  is input to a hash function that produces a secure hash code of fixed length. The hash code is provided as input to a signature function along with a random number  $k$  generated by pseudo random number generator (PRNG) for this particular signature. The function also depends on PRA and system parameters (hyperelliptic curve  $C$ , prime  $P$ , divisor  $D$ , group  $G$  and expected transmission delay  $\Delta T$ ) which are generated by cloud server  $S$  and transmitted to cloud client  $A$  through a secure channel.

The result is a signature consisting of two components, labelled  $Q$  and  $S$ . Now the original message is encrypted using hyperelliptic encryption process and the digital signature are then encrypted by the sender using a secret key  $K$ . These two are combined in the block  $ENC$ . The  $SID \parallel CID_A \parallel T_1$  of cloud client  $A$  itself is encrypted using the recipient's public key (i.e., cloud server  $S$ ). The combination of encrypted message and signature, together with the encrypted ID, form the digital envelope  $ENV$  containing the signed message and send it to the cloud server  $S$ . As shown in Figure 2.

Figure 2 Proposed authentication phase at client level

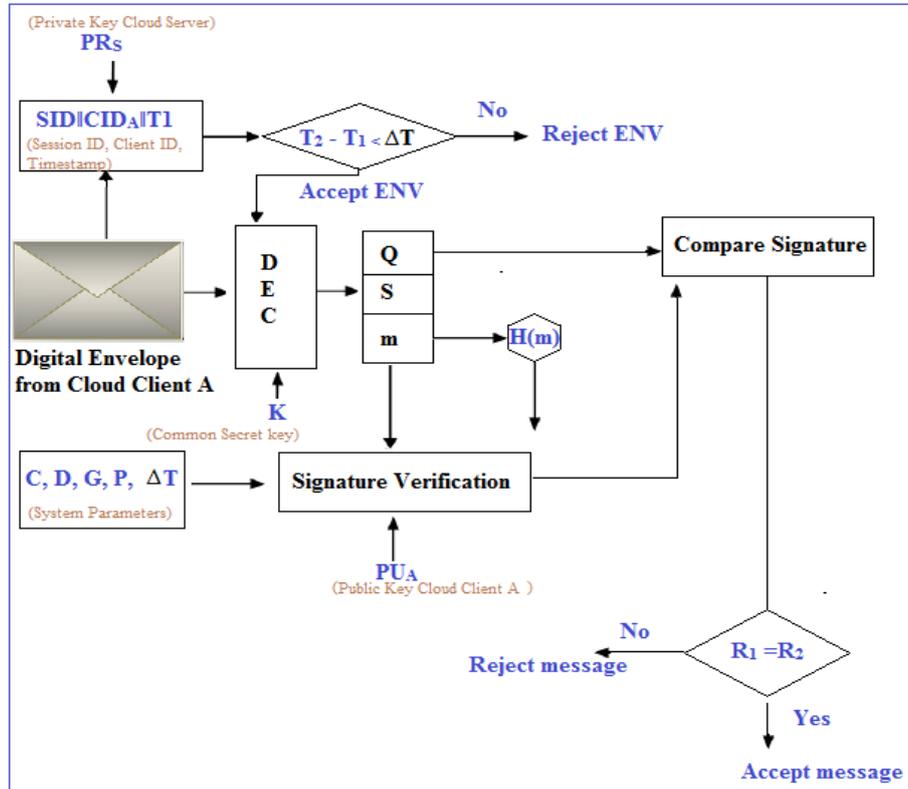


At the receiving end, cloud server  $S$  recovers the  $SID \parallel CID_A \parallel T_1$  using its private key. This is then used to compare with the present timestamp  $T_2$  and if  $T_2 - T_1 \leq \Delta T$ , then cloud server  $S$  accepts the  $ENV$ , otherwise rejects the  $ENV$ . To recover the original message and the digital signature from the block  $DEC$ , it uses secret key  $K$  and hyperelliptic decryption process.

Now the hash code of incoming message is generated. This hashed value and the signature pair is the input to a signature verification function that is shown in Figure 3. The verification function also depends on the public key cloud client  $A$  ( $PU_A$ ), system parameters (i.e.,  $C, D, G, P$ , and  $\Delta T$ ). The output of the verification function

is a value that is compared with the signature component. If the condition is satisfied, then the signature is considered as a valid signature and the message is accepted otherwise the message is rejected. In the below sections, we describe in details the key exchange, signature generation/verification and encryption/decryption of the proposed scheme.

**Figure 3 Proposed authentication phase at server level**



### Key exchange

In the proposed scheme, we have taken Diffie-Hellman key agreement protocol, where cloud client A and cloud server S wish to agree on a common secret by communicating over a public channel. The following steps are explaining the key exchange protocol,

- Firstly, cloud client A and cloud server S agree on two large prime numbers, say  $n$  and  $g$ . These two integers need not be kept secret. Cloud client A and cloud server S can use any channel to agree on them. Here, it is important to mention that during the cloud services agreement with customers (which is the prime step of cloud computing) this number can be discussed.
- Now, cloud client A chooses another large random number  $x$ , and calculate  $M$  such that:  $M = g^x \text{ mod } n$  (1)
- Cloud server S independently chooses another large random integer  $y$  and calculates  $O$  such that:  $O = g^y \text{ mod } n$  (2)
- Cloud server S sends the number  $O$  to cloud client A.
- Cloud client A computes the secret key  $K$  as follows,  $K = O^x \text{ mod } n$  (3)
- Cloud server S now computes the secret key  $K$   $K = M^y \text{ mod } n$  (4)

Here,  $K$  is secret key which is common for cloud client A and cloud server S both.

### Digital signature generation

In this section, we are discussing different steps involved in digital signature generation. For our proposed system, ElGamal may be one of the most suitable digital signature algorithms. Computing discrete logarithms in a finite field is a prime concept associated with ElGamal algorithm. Let  $(G, \oplus)$  be a cyclic group of prime

order  $l$  and  $P$  be a generator of  $G$ . We use hash functions to elements of the group  $G$ . Here, we assume that these are represented via a bit-string and thus write  $h(Q)$  for  $Q \in G$ .  $A$  generates a random prime no.  $k \in \mathbb{R}^N$  and produce

$$Q = k[P]$$

$$S = (k^{-1}(h(m) - PR_A h(Q) \text{ mod } l))$$

Where  $l = N/c$ .

Now for authentication purpose the signature  $Q$  and  $S$  bind with the message  $M$ . In the next step, cloud client  $A$  encrypts the digital signature by the above determined secret key  $K$ . Even though so many encryption techniques are available here we prefer AES encryption and decryption algorithm for the above mentioned purpose.

In the other side, cloud server  $S$  performs verification work.  $S$  generates  $R_1$  and  $R_2$  by the following ways,

$$R_1 = [h(Q)] P_{U_A} \oplus [S] Q \tag{5}$$

$$R_2 = [h(m)] P \tag{6}$$

After getting both  $R_1$  and  $R_2$  we match it, if  $R_1$  and  $R_2$  are equal the signature is valid and otherwise signature is rejected.

**IMPLEMENTATION**

The proposed scheme can be implemented both on Microsoft .Net and Java platform. In the Java platform, java .security package which is comes in Java development kit (JDK) introduced the Java cryptography architecture (JCA). This JCA allows the users for the generation of digital signature and message digests. In addition to the JCA, Java cryptography extension (JCE) provides implementation for key generation, key agreement, and message encryption/decryption algorithm.

Microsoft platform may be the other option for the implementation of the proposed scheme. Microsoft .NET Framework provides many secured cryptographic algorithms. These algorithms are easy to use and have the safest possible default properties. Different classes in the System.Security.Cryptography namespace provide many functions for the encryption/decryption, key generation, key agreement, digital signature, hashing function, etc.

In the standard PC with Intel Pentium Core to Duo processor, 3.07 GHz, Window XP

Operating System, 1 GB RAM, .NET Framework 4.5, the time required for the HECC implementations are given in Table 1.

**Table 1 Timeframe for cloud client and cloud server**

Time required for operation in ms	Cloud client A	Cloud server S
HECC encryption of 512 bit message with fixed key size	589	617
HECC decryption of 512 bit encrypted message with fixed key size	602	638
Secret key generation	12	11
Digital Signature generation	58	62

It can be observed that the higher PC configuration may increase the efficiency of the algorithm and may reduce the required time for operations. Additionally, the proposed implementation is suitable for distributed environment as it requires less bandwidth and has low storage requirement for user side.

**CONCLUSION**

We have proposed a timestamp-based modified digital envelope scheme to provide a secure communication in cloud computing environment. The proposed scheme is useful in both wired and wireless communication. The computational performance of our proposed scheme shows the usefulness and adequacy. The proposed scheme can resist different attacks including replay attack which is most common in wireless network.

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# Impact of Transformational Leadership on Employee Engagement

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## ABSTRACT

*Transformational leadership has incredible knack for getting the followers engaged with organization and going beyond their call of duty to surprise all the stakeholders with endeavours which are otherwise not possible in a routine scenario. This paper is a modest attempt at understanding the nuances of transformational leadership which has such a profound impact on the followers. Based on a comprehensive literature review, the paper unravels various aspects of transformational leadership and how exactly they interplay with follower engagement in an organizational context. The paper may act as a trigger for future empirical researches on the theme as very few studies are available on the subject.*

**Keywords:** Transformational Leadership, Employee Engagement, Organizational Excellence

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## INTRODUCTION

In less than fifty years, transformational leadership has assumed significant standing vis-à-vis organizational excellence. Transformational leadership theory emerged in 1970s and identified four aspects of effective leadership viz. charisma, inspiration, intellectual stimulation and consideration (Encyclopaedia of Management, 2009). It has five features (Bogler, Caspi and Roccas (2013) :

- Idealized influence (attribute): socialized charisma of the leader;
- Idealized influence (behaviour): actual actions taken by a leader to bring people follow his/her vision;
- Individual consideration: paying personal attention (to the followers);
- Inspirational motivational: energising the followers by viewing the future with optimism and stressing ambitious goals;
- Intellectual stimulation: motivating people to think of innovative and extra-ordinary solutions to problems.

Transformational leadership is viewed as the “process of influencing major changes in the attitudes and assumptions of organization members (organization culture) and building commitment for major changes in the organization’s objectives and strategies (Yukl & Van Fleet, 1992). Transformational leaders are considered to have an enduring impact on the follower’s intrinsic motivation (Bass, 1997). People who are empowered (by transformational leaders) feel confident in their work, have a sense of purpose and autonomy, and believe that they have influence over strategic, administrative, or operating outcomes at work (Spreitzer, 1995).

Inspirational and transcendental manners of the transformational leaders often convert the followers into passionately engaged employees who are ready to go extra miles to realize the vision and mission of the organization out of their own volition. Thus employee engagement is a natural corollary to transformational leadership. Macey and Schneider (2008) have suggested three basic facets employee engagement:

- A psychological state: employee feels committed to and energized by his/her work (positive emotions related to work/sense of purpose/meaningfulness)
- Demonstrated behaviour: employee is proactive and goes above and beyond what is expected (organizational citizenship behaviour)
- A set of common traits: employee is conscientious, positive and proactive

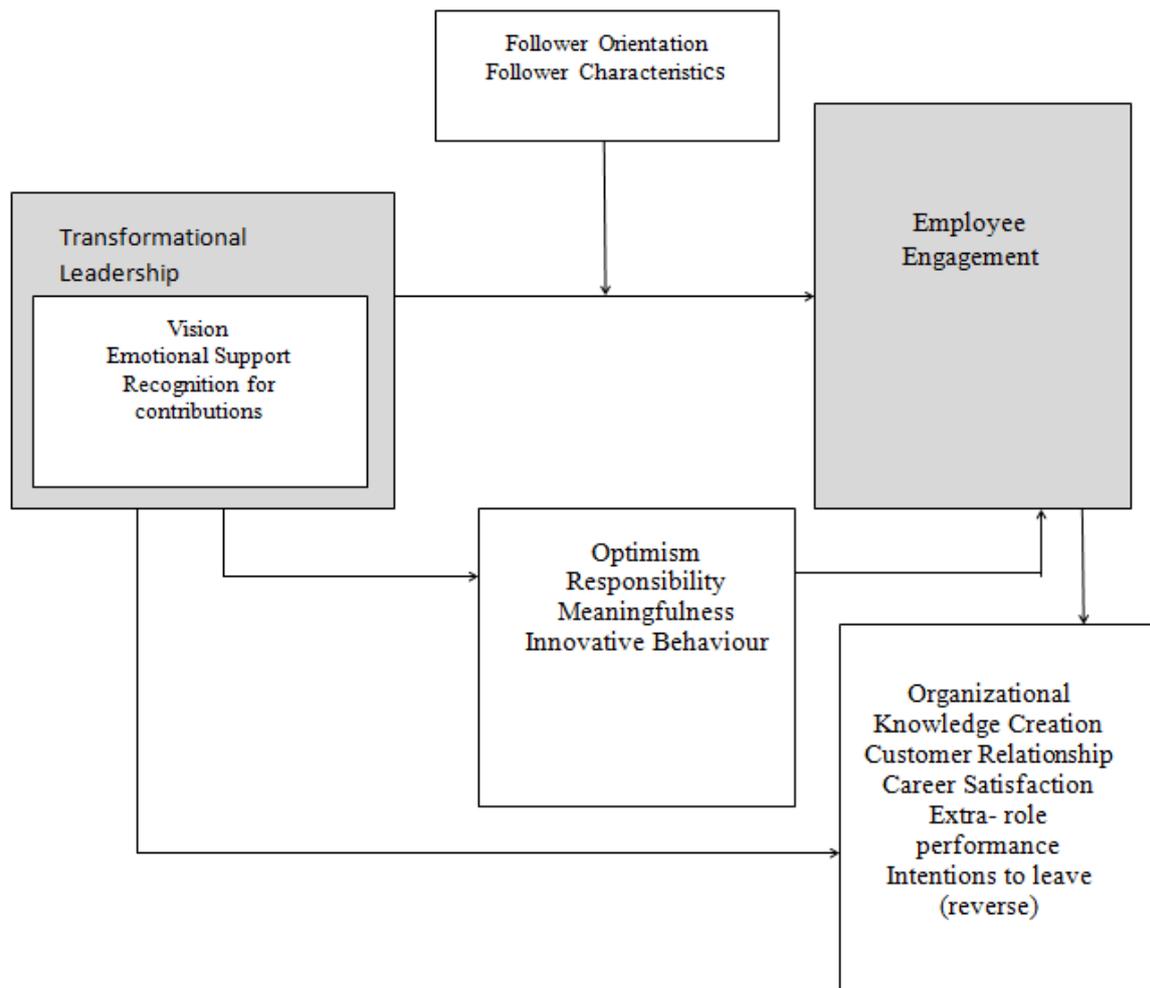
Employee engagement denotes ‘an individual employee’s cognitive, emotional, and behavioural state directed toward desired organizational outcomes (Shuck and Wolard, 2010). Further, Schaufeli et al. (2002) have explained employee engagement in terms of a positive, fulfilling and work-related state of mind characterized by vigour (high levels of energy and mental resilience while working, willingness to invest effort in one’s work

and persistence even in the face of difficulties), dedication (a sense of significance, enthusiasm, inspiration, pride and challenge), and absorption (being fully concentrated and deeply engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work).

**Perspectives**

Leaders have an opportunity to establish a work environment in which employees feel energised and involved by designing meaningful and motivating work; supporting and coaching employees; enhancing employees' personal resources and facilitating rewarding and supportive co-worker relations (Serrano and Reichard, (2011). Transformational leaders leverage such an opportunity in a natural manner as they are 'ideally influential, inspirationally motivational, intellectually stimulating and considerate of individuals in leading followers' (Shuck and Herd, 2012). Further, Shuck and Herd (2012) observe that transformational leadership is an appropriate theory to conceptualize behavioural engagement in a leadership context.

Several studies have conformed a positive relationship between transformational leadership and employee engagement at individual level (Carasco-Saul et al., 2015). A comprehensive framework of transformational leadership and employee engagement developed by Carasco-Saul et al. (2015) suggests that transformational leaders (through vision, emotional support and recognition for contribution) augment optimism, sense of responsibility, meaningfulness and innovative behaviour among followers resulting in employee engagement with such outcomes as organizational knowledge creation, better customer relationship, career satisfaction and extra role performance follower orientations and follower characteristics may play mediating role. Figure 1 below provides an illustration of the relationship associated with transformational leadership and employee engagement.



**Figure 1: Transformational Leadership and Employee Engagement Framework (Carasco-Saul et al., 2015)**

Some of the studies relating transformational leadership and employee engagement are summarised in Table 1 below:

**Table 1: Summary of select studies relating transformational leadership and employee engagement adapted from Carasco-Saul et al. (2015)**

Authors	Key Findings
Moss, 2008	Positive association between vision (of the leader) and vigour (of the employees)
Zhu, et al., 2009	Follower characteristics significantly predict the transformational leadership-follower engagement
Salanova, et al. 2011	Influence of transformational leadership on extra role performance fully mediated by work engagement
Song, et al. 2012	Transformational leadership a significant predictor of organizational knowledge creation with engagement as partial mediator
Vincent-Hoper, et al. 2012	A partial mediating effect of work engagement between transformational leadership and employee’s occupational success
Yuan, et al., 2012	Perceptions of transformational leadership significantly associated with increases in work engagement

**CONCLUSION**

Transformational leadership creates and nurtures an ecosystem for employee engagement in a subtle manner within an organizational context. However, there is a flipside of transformational leadership-employee engagement connect. It has been observed that transformational leaders temporarily affect the employees in a positive way but the opposite occurs in the long run due to their continued challenging expectations (Vincent-Hoper et al., 2012). Hence it is important that other factors that contribute to employee engagement should be given due consideration. For example, work itself is a critical mechanism through which transformational leaders enact positive change (Piccolo and Colquitt, 2006).

It is true that transformational leadership builds a staunch army of followers who carry out organization’s strategic objectives and leave no stone unturned in realising its vision and mission even at the cost of their personal discomfort. Transformational leaders accomplish this feat by developing a roadmap before disruption takes hold, communicating powerful narrative about the future and culture change to drive engagement (Anthony and Schwartz, 2017). Transformational leadership is not a tactics, but a trait. Probably this is why followers are selflessly aligned to such leaders and identify themselves as such.

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## Evolutionary Economic Theories of Sustainable Development in India

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### ABSTRACT

*Sustainable development has become the dominant concept in the study of interactions between the economy and the biophysical environment, as well as a generally accepted goal of environmental policy. So far, economists have predominantly applied standard or neo-classical theory to environmental economic problems. In this article it will be argued that to fully understand a transformation of the economic system towards sustainability, standard environmental economics needs to be complemented by an evolutionary approach that focuses the attention on irreversible, path-dependent change and long-run mutual selection of environmental and economic processes and systems in India. The article provides an overview of the main existing evolutionary contributions to environmental economics. Furthermore, a number of research directions of an evolutionary approach in environmental economics are discussed. It is suggested that such an approach should go beyond evolutionary theories of technical change, which dominate evolutionary economics so far, by including co-evolution of economy and environment, sustainable consumption, endogenous preference change, and climate change modeling.*

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### INTRODUCTION

The last decades have shown an increasing and world-wide interest in the T goal of sustainable development. This can be interpreted as economic development that is consistent with long-term stable environmental quality and resource availability. The attention devoted by economists to the interaction between the economy and the biophysical environment can be traced back to the 18<sup>th</sup> century. In focusing on the availability of agricultural products and agricultural land, Thomas Malthus and David Ricardo formulated for the first time a concept of 'limits to growth'. In line with this, John Stuart Mill introduced the concept of a 'stationary state economy', referring to an economic development without (physical) growth. In post-classical economics the biophysical world moved to the background, although it did not disappear completely. The natural environment was analyzed from the perspective of optimal depletion of natural resource stocks (Hotelling 1931) and optimal policy in the context of externalities caused by urban pollution (Pigou 1920).

A growing awareness of the extent and potential implications of environmental pollution and degradation during the sixties stimulated the development of new areas of research, including environmental science and environmental economics. The classic article 'The Economics of the Coming Spaceship Earth' by Kenneth Boulding (1966) was one of the first manifestations of such awareness in economics. The report 'Limits to Growth' to the Club of Rome (Meadows et al. 1972), in which the echo of Malthus could be heard, acted as a catalyst for environmental awareness in society as a whole and the scientific community in particular. Since it was launched by the World Commission on Environment and Development (1987) sustainable development has over a quite short period of time become the dominant concept in the study of interactions between the economy and the biophysical environment, as well as a generally accepted goal of environmental policy. Although there has been, and still is, debate on the precise definition of the concept of sustainable development (see van den Bergh and Hofkes 1998) a broad consensus exists that it means that economic activities should be consistent with: sustainable use of renewable natural resources, protection of ecosystem features and functions, preservation of biological diversity, a level of harmful emissions remaining below critical (assimilative) thresholds, and avoidance of irreversible damage to the environment and nature (see Daly 1990). Non-renewable resources pose some difficulties in the context of sustainable development. One can choose to reduce their use as much as possible, oriented towards a long-run goal of being completely independent of them. This can be based on investments in renewable alternatives (depending on the potential uses, e.g., supplying energy or materials) and technological progress in general (materials and energy efficiency increases in production and

consumption). It has been argued that a transformation of the present economic system towards a sustainable economic system structure involve uncertain and irreversible changes, selection of existing alternatives, learning, errors in decision-making, and a persistent economic disequilibrium. So far, economists have predominantly applied standard or neoclassical theory to environmental economic problems. This includes externality or welfare theory, with an emphasis on optimal choice of policy instruments (Baumol and Oates 1988), and (exogenous or endogenous) growth theory, with an emphasis on deterministic dynamic optimization models with reversible processes and continuous equilibrium (e.g. Hartwick 1977; Pezzey 1989; Gradus and Smulders 1993; Toman et al. 1995).

### **Growth and Change: 2001**

In this article it will be argued that to understand fully a transformation of the economic system towards sustainability, standard environmental economics needs to be complemented by an evolutionary approach that focuses the attention on irreversible, path-dependent change, and long-run mutual selection of environmental and economic processes and systems. Understanding of the latter is essential to study sustainable (and unsustainable) development. It requires that the time horizon of the analyses is extended beyond decades and even centuries. It will be suggested that such an approach should go beyond evolutionary theories of technical change, which dominate evolutionary economics so far. The attention should be broadened to include, among others, management of environmental systems that are subject to (natural) selection and evolution, co-evolution of economic and environmental systems, changing economic structure and self-organization, and endogenous change of preferences. Only then is it possible to address real dynamic features of long-run sustainable development.

### **Neo-classical Environmental Economics and Sustainable Development**

In mainstream environmental economic analysis the emphasis is on relative scarcity, allocation of scarce resources, and optimal welfare. The neo-classical interpretation of environmental degradation as an allocation problem has dominated environmental economics for over two decades now. It is reflected in an emphasis on optimal welfare and externalities, optimal (intertemporal) allocation of natural resources, and optimal growth as a mix of intertemporal resource allocation and investment in capital. This means that environmental problems are mainly studied in the context of externalities<sup>1</sup> and market equilibrium. Much attention is devoted to the question how a social optimum can be realized in a market economy with externalities. Neo-classical (environmental) economics, however, seems to be not always the most well equipped approach to address the study of development paths towards a sustainable economy. The main reason is that it focuses the attention on comparing different equilibria, usually in a comparative static framework. Neoclassical equilibrium analysis is generally weak in providing significant information about transition paths, i.e. feasible changes from one equilibrium to another. But such transition paths are essential to the study of sustainable development, given that the present economy is far from a sustainable state. It should also be noted that a focus on optimal externalities in environmental economics is not necessarily in agreement with sustainable development. This depends especially on whether externalities include also impacts of present decisions on future generations.

Much effort has been put in the study of instruments for environmental policy. Also here the comparative static approach has dominated. The main distinction is between command-and-control measures on the one hand and market-based instruments on the other hand (Baumol and Oates 1988; Opschoor et al. 1994; Sterner 1994). The first refers to a direct intervention by the government into the economic process, for example, through the implementation of (uniform) standards on technology, emissions, or inputs, or via quota on outputs. Market-based instruments include policy approaches in which the costs and benefits of individual agents are directly influenced, such as via charges, taxes, subsidies, or tradable permits. The use of market-based instruments like charges and taxes requires information about the monetary value of externalities in order to provide a rough measure of environmental charge and tax levels. Ideally, the optimal levels are calculated from the hypothetical optimal equilibrium. This requires (partial or general) equilibrium analysis. Monetary valuation is one of the cornerstones of environmental economics. It includes two main approaches (Freeman 1993; Hanley and Spash 1993). The first is based on the notion of revealed preferences. Here the value of an environmental good or service (e.g. air quality) is derived from the impact it has on the prices of goods that are traded on markets (e.g. houses). The other approach is based on stated preferences, and uses questionnaires to elicit individual willingness to pay (or accept compensation) for certain environmental changes. Contingent valuation is a well-known example of the latter approach. Although it has both received extensive criticism it has given rise to many applications of economic valuation. Since its early development, environmental economics has paid a great deal of attention to the environment-growth debate (van den Bergh and de Mooij 1999). Although this

debate is still unresolved, the concept of sustainable development seems to have eased the frictions between growth optimists and pessimists. In neo-classical growth theory sustainable development has quickly been equated to 'sustainable growth'. A central feature of the (long-run) growth models that are used to identify sustainable growth paths is the possibility of substitution between natural and human capital. Already in the seventies growth theory was applied to resource and pollution issues (Kamien and Schwarz 1982). In addition to 'old' growth theory, a recent wave of 'new' or endogenous growth theory has occurred (after Lucas 1988; Romer 1986, 1990) in which the innovation and diffusion of technological change is explicitly modeled as a driving force for economic growth. With respect to sustainable development, endogenous growth theory focuses on the contribution of technological innovation to the conditions under which economic growth can be sustained by resources and the environment (see e.g. Aghion and Howitt 1998:Ch5; Smulders 1995). A dominant insight about sustainable growth goes back to Hartwick (1977) who showed that under certain conditions investment of the net proceeds of resource extraction in economic capital can result in a constant level of consumption over time (see also Solow 1986). Such a scenario can be realized by taxing the profits of resource extraction and using the tax revenues for investment purposes. This depends on a strong belief in substitutability of natural by economic capital, which is often referred to as "weak sustainability". This is opposed to "strong sustainability," under which natural capital cannot be substituted but has to be maintained independently.

Neo-classical growth theory has recently been 'applied' in the economic analysis of climate change. This is part of a broader field that is known as 'integrated assessment,' where integration of different sciences and models is a central issue of research (Bruce et al. 1996; Parry and Carter 1998; Rotmans and Dowlatabadi 1998). The emphasis in integrated environmental assessment studies lies on scenario-building and modeling exercises. The purist's economic view within integrated assessment is based on neo-classical economics, in particular growth theory (Nordhaus 1994). The basic idea is to include both costs and benefits from climate change into an intertemporal social utility function. Much attention is devoted to analyzing optimal policy paths to reduce the emission of greenhouse gases (Nordhaus 1991; Tol 1998; Wigley et al. 1996). Among the main features of these models are constant returns to scale, the relatively minor attention devoted to irreversibility in climate change and exogenously determined development of population size and technology.

### **The Relevance of an Evolutionary Approach for Environmental Economics**

The reason for adopting an evolutionary approach in environmental economics stems basically from some key elements of the concept "sustainable development." It is generally agreed upon that sustainable development is a process of change that includes not only quantitative but also qualitative aspects of change, a long-term horizon, and a mutual dependence of environmental quality and resource availability on the one hand and economic development on the other hand. Furthermore, it is evident that technological development and institutional aspects play a major role in the process of transforming the economic system towards sustainability (see World Commission on Economics and Development 1987). These are exactly the elements that can be considered as the building blocks of evolutionary economics (Dosi et al. 1988; Hodgson 1993; Nelson and Winter 1982; Nelson 1995).

The conceptual affinity between evolutionary and environmental economics (see also Erdmann 1993) comes forward in the most elementary definition of evolution as 'change' (Faber and Proops 1990), resulting in the elementary definition of evolutionary economics as a theory of economic change (Nelson and Winter 1982). If ecological sustainability in the long run is taken as a criterion for equilibrium (steady state) in the relationship between the environment and the economic system (Ayres 1994), environmental economics ideally should be characterized by studying the disequilibrium process of transition to such a steady state. At a more fundamental level it can be argued that, compared with neo-classical economics, the evolutionary paradigm pays more attention to long run economic developments (Faber and Proops 1990).

Moreover, evolutionary economists pretend to include explicitly qualitative aspects of change in the analysis (Hodgson 1993: 23), whereas in the neoclassical tradition the emphasis is on quantitative (marginal) changes. Concerning the mutual dependence of the economic system and the environment, it can be argued that whereas in mainstream economics the economic system traditionally is depicted as a closed system ('circular flow'), in the evolutionary tradition the economic system is considered as an open system, relying upon trade of matter and energy with the rest of the (economic and natural) world (Georgescu-Roegen 1971), and changing via a process of co-evolution with the environment (Norgaard 1984). Intuitively, this provides a better starting point for studying the mutual dependence between economic and ecological processes oriented towards long-run sustainable development than the (static or dynamic) neo-classical equilibrium framework. In addition,

institutional aspects of economic processes and economic aspects of technological change can be studied in the context of sustainable development using insights from the evolutionary economic tradition (see Nelson 1995).

To be more specific, integrating sustainable development into environmental economics requires that the latter has to address 'irreversibility', 'uncertainty', and (non-linear) 'dynamic feedback processes', because these are key characteristics of the interaction between economic and ecological processes. It will be argued below that this asks for integrating insights from evolutionary and self-organization theory into environmental economics. Obviously, irreversibility is at the heart of environmental economics: economic activities have caused irreversible environmental damage like the world-wide depletion of natural resources and the loss of biodiversity. It can be argued that a mechanical ('Newtonian') methodology, designed to analyze reversible mechanisms, runs up to its limits when applied to these issues (Georgescu-Roegen 1971, Faber and Proops 1990). An evolutionary framework in which history matters is needed to deal with certain aspects of sustainable development.

There exists, in general, no such thing as perfect foresight about the future relationship between the economy and the environment. Uncertainty prevails especially with regard to the existence and size of future generations, changing preferences, technological change, and environmental processes. Uncertain or unforeseeable changes include: the impact of economic activities on (global) environmental change; the ecological impacts of environmental changes (climate change, biodiversity loss); the impact of (global) environmental change on economic activities, societies, and human health; and ways and means of people and societies to mitigate and adapt to (global) environmental change. These various uncertainties invite a broader approach than the neo-classical one to study sustainable development. By defining environmental damage in terms of externalities, traditional welfare theory needs a marginal value of environmental 'assets'. However, uncertainty prevents us from adequately measuring the marginal value of many environmental components. For instance, the value of a species is a tricky concept, as the effect of removing a species on the ecosystem and the economic system depends, among others, on the (cyclical) state of both systems and unique conditions at the particular time of extinction (Gowdy 1997, van den Bergh and Gowdy 1998). Often there is no complete or right information available about these states or conditions. For example, a unique condition may refer to the existence of a critical or threshold level of environmental quality ('carrying capacity'). Below such a level the ecosystem 'runs down'. Marginal changes, say harvesting another species, can therefore have non-marginal effects when exceeding the critical level (Bishop 1978). This makes theoretically correct marginal valuation impossible. In general it can be argued that the neoclassical externality approach tends to underestimate the marginal value of environmental stock by not taking into account unknown threshold effects and losses (costs) due to decreasing evolutionary potential (biological diversity) and (unforeseen) changes of complex ecosystem dynamics. Some authors have for this reason stated that proper pricing of the environment is an illusion and a poor way to move society towards sustainability (Ayres 1991; Gustafsson 1998; McDaniel and Gowdy 1998).

The vast uncertainties and the consequent controversies surrounding the impact of the enhanced greenhouse effect (see e.g. Nordhaus 1994; Wigley et al. 1996) illustrate the importance of coming to grips with uncertainty. Important questions that can be raised here from an evolutionary perspective refer to the very possibility of defining optimal policy paths and whether uncertainty can be reduced to stochastic variability (as in Kolstad 1994, 1996)<sup>2</sup>. An evolutionary framework which attempts to deal with uncertainty, not only in terms of stochastic variability, but also in terms of non-linearity, self-organization, emerging novelty, and bounded rationality, can thus provide a valuable contribution to the economic analysis of sustainable development. The complex character of environmental change (Holling 1987) calls attention to the importance of understanding the dynamic feedback processes between the economic system and its biophysical environment. Integrating sustainable development in economics requires that economic and ecosystems are studied neither in isolation nor solely in terms of equilibrium. Although economic development has long been studied as independent of the biophysical environment—resulting in depicting the economic system as a 'circular flow' the mutual dependence between economic and ecological processes is broadly recognized in neo-classical economics (van den Bergh and Nijkamp 1994; Hofkes 1996). Nevertheless, the dependence is mainly interpreted and modeled in a linear, deterministic, and reversible setting. Recently it has been noted that the interaction between environmental and economic systems can also give rise to historical, irreversible patterns of change (Gowdy 1994). Furthermore, the interaction between economic and ecological processes often can be better characterized by non-linear processes (Allen 1998; Bennett and Chorley 1978). Within the evolutionary tradition the concept of co-evolution can serve as a framework to study the interaction between economic and ecological processes, because of its emphasis on the dynamic feature of the mutual dependence between economic and ecological processes. Co-evolution has been introduced into biology as an evolutionary process

based on reciprocal responses between two closely interacting species (Ehrlich and Raven 1964; Baker and Hurd 1968). As a result, co-evolutionary theories paved the way for a closer connection between two separate research fields of biology, namely evolutionary biology and ecology (the study of the relationship between living organisms and their biotic and abiotic environment). Evolutionary biology in turn became one source of inspiration for evolutionary economics. Within economics, co-evolution has been introduced in the sustainability debate by Norgaard (1984, 1985, 1989, 1994).

It should be noted that co-evolution has mainly received attention so far by economists working within the emerging field of Ecological Economics. Ecological Economics can be described as the research field that aims to address the relationship between ecosystems and economic systems, based on a mix of economic and ecological theories and models (Costanza 1989; Costanza et al. 1997a,b; van den Bergh 1996). "In ecological economics, development is viewed as an evolutionary process with continuous feedbacks between a changing economy and the environment" (Klaassen and Opschoor 1991). Furthermore, Ecological Economics can be characterized by the attention paid to (non-linear) ecological-economic systems and its emphasis on the irreversible nature of environmental transformation and degradation, in particular through the existence of threshold effects and the relevance of the entropy-law to environment-economy interaction. Moreover, Ecological Economics seems open to bounded rationality models of individual behavior (van den Bergh et al. 2000). All these features suggest that a stronger link between evolutionary economics and environmental economics can successfully be established within the context of Ecological Economics, although, of course, evolutionary economics bears relevance for the whole field of environmental economics.

By way of summary a schematic illustration of the main interactions between biology, economics, physics, and their respectively sub-fields. It should be noted that the interactions involve not just use of analogies but also transferring of methodologies applying a concept in a different scientific discipline than it originally comes from can be inspiring, it can generate new insights and it can help to structure scientific results or ideas in a fruitful way (see Hodgson 1993). Of course, a justified use of analogy-driven concepts is not a matter of just copying but requires that they meet the particular character of the discipline to which they are applied. This can be referred to as qualified recapturing. Of course, the idea of linking evolutionary concepts to environmental problems is not entirely new. In the next section an overview is given of existing evolutionary approaches within environmental economics, and their significance for the study of sustainable development.

### **Evolutionary Approaches in Environmental Economics: A Survey**

**Introduction.** The basic idea of an evolutionary approach in environmental economics is to study economy-environment interactions based on the view that both economic development and environmental change should be seen as evolutionary processes (Ayres 1991, 1994; Clark et al. 1995; Faber and Proops 1990; Gowdy 1994; Norgaard 1994). As has been mentioned, this implies that irreversibility, uncertainty, learning, selection, bounded rationality, errors in decision-making, and complex system dynamics will be taken into account. Below some light is cast on the way this has been done so far by providing an overview of the main existing evolutionary contributions to environmental economics. These contributions will be discussed along the lines of a classification reflecting the main fields to which evolutionary approaches have been applied so far. The distinguished fields overlap somewhat. For this reason some contributions will be mentioned under different fields.

**Integrating the physical environment.** The economic system is not isolated from the physical environment, but is subject to a physical flow or 'throughput' (Daly 1992) of materials and energy: from extraction (natural resources) to restitution (waste). It is here that thermodynamics obviously has some relevance to environmental economics: the first law of thermodynamics, approximated by the mass balance concept, can be seen as the theoretical foundation for studying the physical components involved with economic processes. Originally, mass balance was studied in the context of a general equilibrium framework (Ayres and Kneese 1969). Recently the concepts 'Industrial Metabolism' (Ayres and Simonis 1994) and 'Industrial Ecology' (Graedel and Allenby 1995; Socolow et al. 1994) have gained attention as useful frameworks to operationalize mass balance in applied studies of economic processes. Although the latter concepts, derived in analogy with ecology, may be regarded as weakly related to an evolutionary approach (Allen 1994), thermodynamics did invoke a fundamental evolutionary view on economic processes through the second law of thermodynamics. The second or entropy law, which roughly states that physical processes are characterized by an irreversible loss of useful or concentrated energy, has been introduced in economic science by Georgescu-Roegen (1966, 1971) and is put to use by economists in two ways. In the first, primarily identified with the work of Georgescu-Roegen and Daly, the entropy law exemplifies environmental degradation. From this point of view environmental

degradation is basically an increase of the stock of high entropy energy and materials resulting from economically motivated transformations of low entropy materials energy into high entropy materials and energy. In the second way, the entropy law is taken to understand the behavior of thermodynamic structures or systems, which are open to their environment in terms of matter and energy. One can argue that the economic system is such an open ('dissipative') thermodynamic system. Fundamental insights that have been raised from studying these open structures or systems is that they are to be found in a situation far from thermodynamic equilibrium and that they are capable of generating and maintaining a certain degree of internal order. Therefore, this can be referred to as the theory of self-organization (Nicolis and Prigogine 1977; Prigogine and Stengers 1984).

The relevance of the second law for environmental economics has been discussed in, among others, Ayres (1991, 1994, 1998b); Binswanger (1993); Faber and Proops (1990); Ruth (1995, 1996); and O'Connor (1991). From this body of literature it can be concluded that the relevance of the entropy law for economics in general and environmental economics in particular is methodologically intertwined with evolutionary and self-organization theory because the entropy law is a fundamental evolutionary law (Georgescu-Roegen 1966: 67). Furthermore, the entropy law has, mainly through the work of Georgescu-Roegen and Daly, been applied to the environment-growth debate. The debate focused on the question whether or not the entropy law defines absolute limits to economic growth (for an overview of the central issues in the debate see Ecological Economics 1997).

Another application of thermodynamics in the field of environmental economics is given by O'Connor (1993). He provides a production function model based on the irreversibility implication of the entropy law. Based on an input-output approach, rather similar to that of Perrings (1987), he models economy-environment interdependencies focusing on the link between the material basis of production processes and technological change. The most concrete contribution to environmental economics based on the above mentioned issues derived from evolutionary and self-organization theory is presented in Ayres and Martinas (1995) and Ayres (1998b). They have developed an exergy-indicator to measure and compare resource inputs and outputs, including wastes and losses. Exergy is, in fact, the 'useful' part of energy or, to be more precise, the amount of available low-entropy energy. In other words it is what most people mean when they use the word energy somewhat carelessly. An exergy indicator calculates the amount of 'useful' energy involved with economic processes and may thus be seen as a physical indicator for the degree of sustainability of economic activities and even as a factor of production like labor and capital.

**Co-evolution of economy and environment.** Economic evolution has been mostly considered as independent of the natural environment, as an autonomous process. However, recently it has been noted that the interaction between evolving environmental and economic systems can also give rise to historical, irreversible patterns of change. This has been coined "co-evolution" (Norgaard 1994; Gowdy 1994). Co-evolution may take the form of economies responding to resource scarcity, environmental degradation, and environmental regulation. It emphasizes that technological innovations within the economic system can be stimulated by environmental and resource characteristics, in time and space. Even the industrial revolution has been explained from a co-evolutionary perspective (Wilkinson 1973). The concept of sustainable development can be immediately linked to this concept of co-evolution, as it describes long-run development of economies that are restricted in terms of land use, resource use, pollution, and other types of environmental disturbance. Co-evolution has become widely accepted in biology, and can be considered the result of merging (community and population) ecology and evolution. Interestingly from the perspective of environmental economics, resource scarcity limits and feedbacks are central elements of both population ecology and evolutionary biology. Ehrlich and Raven (1964) used the term first, referring to the evolution of butterflies and plants. In a way, all evolution can be considered as co-evolution whereby selection pressure does not only result from the abiotic environment but is also exerted by other living species.

Several authors have argued in favor of applying co-evolution to study economic systems and their relation to the environment, notably resource based activities like agriculture (Gowdy 1994; Norgaard 1994), rainforest use (Norgaard 1994) and fisheries. Co-evolution has also been proposed as a framework for understanding interaction between management of, and evolution in biological systems. Munro (1997) has developed an economic model on pest control in view of the spread of resistance as an unintended impact of human activity upon biological evolution that has economic implications as well. Finally, co-evolution can also involve the policy or regulatory reactions to environmental change (Hinterberger 1994; Norgaard, 1994). This calls into attention the relevance of different levels and types of co-evolution, in terms of management of semi-natural systems, sector developments in relation to natural environments, and structural and technological innovation in

the face of resource scarcity and environmental degradation. For example, Clark et al. (1995) have developed a spatial model based on interregional input-output analysis which takes into account a co-evolutionary relationship between regions, economic sectors, and the environment. This is done by modeling feedback mechanisms as a function of the relative attractiveness of different regions in terms of economic activities and environmental quality.

On the basis of the literature on co-evolutionary theory and history several policy lessons can be drawn: experimentation should be undertaken cautiously on a small scale with as much monitoring as possible; experiments with very long time commitments should be very carefully evaluated; diversity is good, without it co-evolution may stagnate; additional components to existing economic systems, such as technologies, institutions, or regulation, may when favorably selected, exert a large influence in the long run; time delays of effects of processes may be significant, illustrated by the impact of the industrial revolution on current CO<sub>2</sub> concentration in the atmosphere; and finally, highly complex networks of locked in interactive subsystems may gradually evolve over long periods of time, but when additional pressures or selection forces “unlock” such systems, evolution may be rapid (see Norgaard 1994).

**Technological change, resource use, and pollution.** Technological development plays an important role in the context of sustainable development: the way in which energy and material are transformed in the economic process (‘throughput’) depends mainly on the state of technological knowledge. This implies that technological innovation can change the composition of the material basis of economic processes Benhaim and Schembri (1996), Faber and Proops (1990), Faucheux (1997), Freeman (1996), Kemp and Soete (1992) and Kemp (1997) have argued that evolutionary and self-organization theories of technological change are beneficial to processes of environmental technological change. Their main argument is that in evolutionary and self-organization models technological and behavioral diversity, uncertainty, path-dependency, and irreversibility are elaborated in a more sophisticated and explicit way as is the case in neoclassical growth models. On the basis of neo-Austrian capital theory Faber and Proops (1990) have developed an economy-environment model which allows for endogenous innovation and technical progress. Driven by resource scarcity, technical change occurs by way of a so-called rolling myopic plan approach, that is a series of overlapping finite time-horizon plans. This approach is supposed to reflect limited knowledge about the future and bounded rationality.

Kemp (1997) and Faucheux (1997) have, among others, argued the policy relevance of developing an evolutionary framework for understanding change in complex environmental technology systems. Such a framework is thought to be in line with the literature on technological paradigms, technological regime (-shifts), technological trajectories or innovation avenues, lock-in and complex technological systems dynamics (see Arthur 1989; Dosi 1982; Dosi et al. 1988; Sahal 1985; Saviotti and Metcalfe 1993). It should be noted that these theoretical notions within the evolutionary tradition may need an additional interpretation, when applied to theorizing on environmental technological change. For example, it can be argued that the well-known notion of ‘lock-in’ needs an additional interpretation to the traditional one, when applied in the context of environmental economics. When talking about environmental technological change, often the challenge is faced of escaping technological lock-in to environmentally unsustainable practices and triggering a ‘lock-out’ away from unsustainable systems (see, e.g., Islas 1997; Cowan and Hulten 1996). In other words, the relevant competition processes refer not so much to (two) similar introduced technologies (as in the Arthur 1989 model) but more to the relation between an existing (dominant) polluting technology and an introduced clean technology.

In addition, in Kemp (1996, 1997) and Rip and Kemp (1998) it has been argued that an evolutionary theoretical framework for understanding environmental technological change should build upon the idea that ecological modernization, defined as the replacement of existing trajectories of consumption and production by more sustainable ones, goes beyond the control of particular pollutants and eco-efficiency. It requires the development of new technology systems (for example in transport, chemical industry, agriculture) offering substantial environmental improvements. This implies that fruitful theorizing includes, among others, the notion of technological niche development and management, sustainable technological regime-shifts, and the evolution of large technological systems and innovative networks (see Kemp et al. 1997). A non-linear model of technological change, based on some elements from the theory of self-organization, has been formulated in Edenhofer and Jaeger (1998). Their model is a modified version of the Goodwin-Silverberg model on growth cycles and ‘creative destruction’ (Silverberg 1984) and employs so-called replicator equations to derive a selection process in which techniques expand or contract due to their superior profitability. The basic idea of replicator equations<sup>3</sup> stems from biology where they have been introduced by Fisher (1930). They can be seen as a formalization of the evolutionary idea of fitness because they describe the evolution of a population (here: technique) in such a way that species (here: techniques) with above-average fitness (here: profitability) will

expand in relative importance, those with below-average fitness will decrease, while the average fitness changes with the relative population weights. As a result of this evolutionary process long-run fluctuations in prices, wages, and patterns of output are produced within the model, basically driven by sustainable technological innovations. These innovations are triggered by rising energy prices, due to environmental policies (taxes, energy cap). The model shows that these environmental policies are able to establish the conditions under which the new (energy efficient) technology is evolutionary superior.

**Economics of climate change.** In the economics of climate change evolutionary contributions are remarkably rare. An example of an approach to model climate change that is close to the evolutionary tradition is presented in Janssen (1998) and Janssen and de Vries (1998). These authors use a multi-agent modeling approach to address the issue of adaptive responses of agents to climate change in view of different perspectives among the agents on technological progress, climate sensitivity, the expected damage costs and the expected mitigation costs. Three such perspectives or worldviews are considered, namely an individualist, hierarchist, and egalitarian one. The first of these can be regarded as very optimistic about sustainable growth and the latter as the most pessimistic. A dynamic economy-energy-climate model is used to calculate the impacts of decisions by agents who are uniquely linked to their worldview. It is then possible to see what will happen under the condition that there is no learning when the worldview is in accordance with reality ("utopia") or not ("dystopia"). One step further, the impacts are assessed when there is (stochastic) adaptive behavior. This is modeled via a genetic algorithm that changes the distribution of perspectives among the population. Finally, the impact of surprises is also examined. It is argued that the results are useful to understand the role of ignorance, imperfect information, and social dynamics that determine perspectives on particular environmental policies.

**Preferences, consumption, life-styles, and the environment.** Changes in consumption that reduce environmental pressure have so far received relatively little attention within environmental economics in general and evolutionary environmental economics in particular. Only a few authors have taken up the issue of sustainable consumption from an evolutionary perspective. Whereas within the neo-classical tradition, preferences are in general treated as exogenous or given<sup>4</sup>—and as a result, shifts at the demand side are assumed to be solely determined by shifts in prices—Norton et al. (1998) criticize the implicit assumption of consumer sovereignty in the context of sustainable development. Since the latter needs a long-term perspective it makes no sense to talk about fixed and given tastes and preferences. Their contribution is a conceptual one, proposing to develop an evolutionary framework for explaining preference formation, including cultural, social, and psychological factors<sup>5</sup>. Stern (1997) puts forward the issue of changing preferences for sustainability in the context of substitution. He argues that complementary to the (limits of) substitution of production factors sustainable development requires the very possibility of substitutability in consumption. An important notion here is 'lexicographic preferences', which embody a degree of irreversibility as they reflect that a minimum endowment of environmental goods is necessary to realize a positive level of utility (Spash and Hanley 1995). It has to be noted that Stern draws a parallel with the production function literature, suggesting to endogenize preferences analogous to the endogenization of technology. Nevertheless, he does not extend this argument in favor of an evolutionary approach to changing preferences. A broader discussion on behavior and preferences in the context of environmental policy analysis is provided by van den Bergh et al. (2000).

### **Evolutionary Economics, Environmental Economics, and Sustainable Development: Research Directions**

There are a number of issues in the realm of environmental economics that can be elaborated with the help of theories and models in evolutionary economics. A few of these will be discussed here with a focus on sustainable development. The growth debate. Since the 1960s the relationship between economic growth and preservation of environmental quality is subject to much controversy. According to one view, economic growth is a requirement for preserving environmental quality. The opposite view argues that economic growth will increase the pressure on the environment and therefore, preserving environmental quality requires zero or even negative growth rates. The debate is concentrated on the following questions (van den Bergh and de Mooij 1999): Is economic growth desirable? Is economic growth possible? Can economic growth be controlled or stimulated? Evolutionary economics can contribute to further understanding of the positions in the growth debate. It needs no argument that a growing economy has to undergo structural changes if it wants to meet the conditions for sustainability. An evolutionary perspective may shed new light on the relationship between sectoral dynamics and environmental pressure. In line with evolutionary population models in which evolution is considered simultaneously in the short term (seasonal fluctuations) and in the long term (structural change) economic models may be developed that take into account a simultaneous consideration of short and long term development (evolution) in the production structure. In such an approach the question of which sectors or activities will 'survive' in view of the need for sustainability is a matter of long-term evolution.

An important argument supporting the view that economic growth does, in the long term, not conflict with preserving environmental quality, is the hypothesis that the relationship between economic growth and environmental pressure can be characterized in terms of ‘decoupling’ (or ‘delinking’). The argument stems from empirical research suggesting that environmental quality declines during early stages of economic development but improves in later stages (Selden and Song 1994; Shafik and Bandyopadhyay 1992; Panayatou 1993). In other words, the relationship between economic growth and environmental pressure follows an inverted-U pattern and is therefore called the Environmental Kuznets-curve (EKC) after the relationship Kuznets (1955) suggested to exist between income inequality and income per capita. Among the explanations offered for the existence of the EKC are the hypotheses that increasing welfare leads to increasing valuation of environmental quality as well as to increasing availability of environmental beneficial technologies. After the initial evidence supporting the EKC, recent studies have called the EKC into serious question (Arrow et al. 1995; de Bruyn and Opschoor 1997; de Bruyn 1999). The latter two studies even argue that the relationship between economic growth and environmental pressure is not so much characterized by a U-curve but follows a N-shape pattern, suggesting a ‘re-linking’ of economic growth and environmental pressure.

The EKC hypothesis motivates further research from an evolutionary perspective for at least two issues. The first one refers to the argument that technological development will facilitate a decoupling of economic growth from environmental pressure. This is the production side of the referred growth debate. The theoretical concepts from the evolutionary literature on (environmental) technological change, as discussed in the section on technological change, resource use, and pollution could be developed by conducting case studies and developing analytical or simulation models. The second issue refers to the hypothesis that increasing welfare will shift preferences in a more ecological sustainable direction, i.e. giving higher value to the preservation (or restoration) of environmental quality.

**Sustainable consumption.** Changing current consumption patterns into a more ecological sustainable direction is not only a matter of developing the right concepts, but also of asking the right questions. Important questions in view of the debate on growth versus environment, refer to future consumption patterns of commodities, food, water, energy, and so on. Will material consumption continue to grow with increasing levels of income? To answer this question we need to know more about the development of a ‘consumption culture’ in developing countries, the way in which additional income will be distributed among a variety of products and sectors and the existence of ‘rebound’ effects that might compensate for the gains obtained from increasing eco-efficiency. Furthermore, changing current consumption patterns asks for understanding the determinants of consumption. This requires going beyond economic instruments and technological solutions by taking into account social-cultural and psychological factors as well (Wilhite and Shove 1998). Attention should be given to the evolution of needs, preferences, and lifestyles when trying to understand the determinants of consumption behavior (Duchin and Lange 1994; National Resource Council 1997). Of course, this is an agenda for multidisciplinary research. However, it also motivates a potentially fruitful broadening of the existing economic theoretical framework. Pioneering steps in this direction have been taken by Georgescu-Roegen (1966), with his work on lexicographic preferences, and Scitovsky (1976). They have each made an attempt to integrate sociological and (cognitive and social) psychological concepts into economic theory. It is suggested that evolutionary economics should build on this work.

**Climate change modeling.** From an evolutionary point of view, the interaction between economic processes and climate change seems a perfectly suitable topic to be studied in terms of two (co-)evolving systems. Such an approach should be able to integrate uncertainty, irreversibility, and thus path-dependency into the analysis. These elements are overlooked by many traditional economic analyses of climate change policy although it has to be noted that recently attempts have been made to include uncertainty, irreversibility, and learning in integrated assessment models (Kolstad 1994, 1996; Lempert et al. 1996; Zapert et al. 1998). In short, it is expected that an evolutionary contribution to this field can be fruitful through modeling long-run non-linear feedback mechanisms between economic processes and climate change, uncertainty and lock-in phenomena. The latter implies the recognition of a possible divergence between rational optimizing behavior at the micro-level and sub-optimal outcomes at the macro-level. Policies for sustainable development. One of the most important insights of evolutionary thinking for policy is that current systems are not necessarily optimal from an efficiency perspective, even if prices are ‘correct’ from a neoclassical point of view (i.e. reflect externalities, are based on perfect competition, etc.). The reason is that systems can be locked-in, that is to say that they are the (unsustainable) result of unique, historical, path-dependent processes. From this perspective the problems faced by environmental policymaking are enormous. Historical developments have created a system that depends on fossil fuel use, transport over long distances, use of toxic materials, passenger transport dominated by private

car use, etc. Policy suggestions based on economic equilibrium analysis tend to focus on efficiency, and do not worry about how to move away ('lock-out') from a locked-in system. Evolutionary thinking may add to the understanding of this transition process. This is essential for environmental economics as the desired changes, in the face of potential climate change risks, are quite extreme.

A second insight of evolutionary thinking that is directly relevant for environmental policy-making follows from the non-marginal structure of desired changes, which makes equilibrium analysis miss out on certain effects of these changes. For instance, the potential double dividend of environmental tax revisions—shifting the tax burden from labor to material and energy resource inputs in production—can be systematically underestimated with equilibrium analysis. Present inefficient technologies may be locked-in as a result of network externalities and sunk costs. Well-known examples are systems which require a significant amount of private and public investment and network support such as transport and infrastructure, energy generation and provision, and traditional materials-product connections like metals-cars. Evolutionary thinking may shed more light on the potential size of the various benefits in terms of extra employment, less environmental pressure, and more tax revenues of environmentally motivated tax revisions (Ayres 1998a). This may lead to more support for such policies. A third issue that evolutionary economics may address is the long-run effectiveness and stability of environmental policies. The question here is which policies, including property rights, standards, taxes, tradable permits, and voluntary agreements, are least sensitive to various kinds of social, economic, and environmental change? Changes may cause instruments to become less effective, less efficient, to have unanticipated effects, etc. In this context a number of effects need to be considered, such as changing economic sector structure, changing technology, product innovation, and changing life-styles (see Ring 1997).

## CONCLUSIONS

Although the traditional neo-classical economics approach in environmental economics has generated many useful insights about environmental policy it does not offer a complete perspective on needed policy and strategies to realize a sustainable development. The most simple explanation is that the traditional insights are essentially static, in the sense that they focus on hypothetical optimal equilibrium without noting transition problems relating to barriers created by historical lock-in of present systems and technologies. Furthermore, the longterm impact of proposed "optimal policies" is incomplete as well, since selection of products, behavior, and production techniques is not addressed. Essentially, long-term projections are based on models that are usually deterministic, a-historical, and that lack variation of actors, products, technologies, etc. Consequently, these models can address neither uncertainty at various aggregation levels, nor path-dependence and lock-in of systems and technologies. It has been argued here that a serious interest in studying sustainable development from an economic perspective requires more than a neo-classical approach. Evolutionary and co-evolutionary processes at various levels need to be taken into account. There are only a few applications of evolutionary thinking and models in environmental economics. Moreover, there does not seem to be consistency among different applications. This paper has tried to create some framework for addressing crucial issues in environmental economics from an evolutionary perspective. Subsequently, both theoretical modeling and applied modeling are required.

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## Consumer Attitude towards Online Shopping – Analysis of Significant factors impacting online shopping

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### ABSTRACT

*The trend of e-commerce has increased rapidly due to easy accessibility of internet usage. Online shopping is used as a medium for communication and electronic commerce, and to increase or improve in value, quality and attractiveness of delivering customer benefits and better satisfaction, in a convenient way. Online shopping is a form of electronic commerce which allows consumers to directly purchase products or services from seller over the internet using web browser. Increasingly consumers are shopping online to purchase goods and services, gather product information or even browse for enjoyment. Not surprisingly, online shopping environments are therefore playing an increasing role in the overall relationship between marketers and their consumers. The E-retailers need to ensure that the online shopping process in their websites is designed to be as easy, simple and convenient as far as possible for online consumers to shop online. In addition, online retailers also need to ensure that they provide an efficient delivery service to their consumers. Consumer attitude towards online shopping refers to the customers' psychological state in terms of making purchase online. The objective of the research article is to know and analyze the factors that influence the Consumer's attitude and behavior towards online shopping. The research study focuses on how consumers i.e. engineering students learn and form favorable attitudes, towards online shopping vis-à-vis the factors that augments them for online shopping. It is expected that this study will not only help E-retailers to devise successful strategies for online shoppers but also provide a base for similar studies in the field of consumer attitudes towards online shopping.*

**Keywords:** *Anline shopping, E-retailers, Attitude, E-commerce.*

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### INTRODUCTION

The trend of e-commerce has increased rapidly due to easy accessibility of internet usage. Online shopping is used as a medium for communication and electronic commerce, and to increase or improve in value, quality and attractiveness of delivering customer benefits and better satisfaction, in a convenient way.

Online shopping is a form of electronic commerce which allows consumers to directly purchase products or services from seller over the internet using web browser. Growing numbers of consumers shop online to purchase goods and services, gather product information or even browse for enjoyment. Online shopping environments are therefore playing an increasing role in the overall relationship between marketers and their consumers.

Online shopping has cannibalized the in-store shopping as consumers are becoming more familiar with online shopping and in many cases are giving preference to online shopping. While the traditional “brick and mortar” stores have the drawbacks of limited time and space where the customers need to reach the product, the Internet has diminished the time and efforts consumer spend in shopping, by providing a concept of boundary-less stores where the product reaches the consumers. Further Internet makes an unlimited range of products and services available to the consumers and people can buy and sell anything, anywhere at any time. For this reason Internet is one of the most significant and perhaps the greatest marketing tools for the global marketing place.

The main theme of the study is to know the factors that influence the consumer’s attitudes and behaviors towards online shopping. Internet knowledge, income, and education level are especially powerful predictors of Internet purchases among university Students.

Pre-Purchase Behaviour	Post-Purchase Behaviour
<ul style="list-style-type: none"> <li>• Browsing experience and visual appeal</li> <li>• Search experience</li> <li>• Range and availability of products</li> <li>• Comprehensiveness of information</li> <li>• Comparison facility</li> <li>• Terms and conditions</li> <li>• Shopping cart</li> <li>• Payment process</li> <li>• Delivery</li> </ul>	<ul style="list-style-type: none"> <li>• Refund</li> <li>• Return/Replacement</li> <li>• Customer care</li> </ul> 

**Figure 1: Online Shopping, Pre & Post purchase Behaviour**

Online consumer behavior became a contemporary research area with an increasing number of researches. The research articles which are available in various journals and conference proceedings in the fields of management information system and marketing management identifies that researchers bring theories from classical consumer behaviour research, such as behavioral learning (Skinner, 1938), personality research (Folkes 1988), information processing (Bettman 1979), and attitude models (Fishbein 1967).

**Problem Definition:**

An increasing number and variety of firms and organizations are exploiting and creating business opportunities on the Internet. It indicates the rapid growth in the field of virtual shopping. With this emerging field of shopping the interest of marketers is also increasing in studying what actually motivates consumers to shop online. Fierce competitions among online sellers have forced them to gain the competitive edge in the field of virtual shopping. In order to gain competitive edge in the market, marketers need to know the consumer behavior in the field of online shopping. So it is important to analyze and identify the factors which influence consumers to shop online in order to capture the demands of consumers.

**Rationale for the Study:**

With online shopping grabbing the eyeballs of many, understanding variables that influence the intention to buy through online needs more attention. This will help companies in identifying variables that play a major role in influencing customer’s intention to buy there by helping them in crafting strategies which drives consumers to prefer online shopping.

**Research Question:**

The prime purpose of the research is to identify and analyze the factors influencing consumers to shop online. The findings of this research will not only help marketers to formulate their marketing strategies for online shoppers but will also increase the knowledge and research in field of online shopping.

- 1) What factors influence consumer’s attitude towards online shopping?
- 2) Contribution of each factor towards consumer’s attitude for online shopping
- 3) Analysis of Demographic details of the selected sample i.e. engineering students in Bhubaneswar.

**Limitations:**

One of the limitations in this study is time limit. At the same time cost is also another limitation of the study. In the beginning the plan was to study the Consumer Attitude towards online shopping as per the demographic details related to different Professions. But later on considering time and budget & easy availability, the attitude of engineering students were considered. Lastly the sample size is limited to 100.

**Questionnaire Design:**

The questionnaire is carefully designed to meet the requirements of the research. The questions are taken from previous literature on Consumer’s attitudes towards online shopping with a view to validate the research more and some of the questions are self structured to cover the diversity of research problems. The questionnaire is so designed so as to link it to the Model's that has been followed and referred to, in the research. The questionnaire consists of three main parts and one sub part, first part (PART A) is mainly focused on questions pertaining to factors that influence consumers to shop online. Second part (PART B) of the questionnaire will cover will cover any specific comments or suggestions that the respondent might give to highlight few important

characteristics regarding online shopping. These inputs may form the basis for further research as the world of online shopping is changing rapidly. The third part (PART C) captures the demographic details like:

1. Age
2. Gender
3. Income
4. Educational Qualification.

## **REVIEW OF LITERATURE**

### **Types of internet users: Shoppers and Browsers:**

As Forsythe and Shi (2003) mention internet users can be categorized into two Internet Shoppers and Internet Browsers, Internet shoppers are the people who shop online whereas internet browsers are the people who just browse the internet other than shopping purpose.

### **Factors influencing consumer to shop online**

Though there are several factors that influence consumers to shop online, but as mentioned above researchers have selected four factors after reading literature in the field on consumer attitudes towards online shopping and these factors are discussed below in the light of previous literature.

#### **Convenience**

Convenience has always been a prime factor for consumers to shop online. Online shoppers carry multiple benefits in terms of convenience, such as less time consuming, flexibility, and very less physical effort. Bhatnagar and Ghose (2004) claim for convenience as one of the most important advantage for online shopping. According to the Robinson, Riley, Rettie and Wilsons (2007) the major motivation for online purchasing is convince in terms of shop at any time and having bundles of items delivered at door step. Rohm and Swaminathan's (2004) findings about 'convenience and variety seeking' are major motivating factors of online shopping and this study is consistent with Morganosky and Cude's (2000) research findings. Webcheck's (1999) study shows that convenience factor is one of the biggest advantages of online shopping.

#### **Time saving**

According to Rohm and Swaminathan's (2004), one possible explanation that online shopping saves time during the purchasing of goods and it can eliminate the traveling time required to go to the traditional store. On the other side, some respondent think that it is also time taken for delivery of goods or services over online shopping. Unexpectedly time saving is not the motivating factor for the consumers to shop online (Corbett, 2001) because it takes time receiving goods or delivery. Morganosky and Cude (2000) have concluded that time saving factor was reported to be primary reason among those consumers who have already experienced the online grocery buying.

#### **Website design/features**

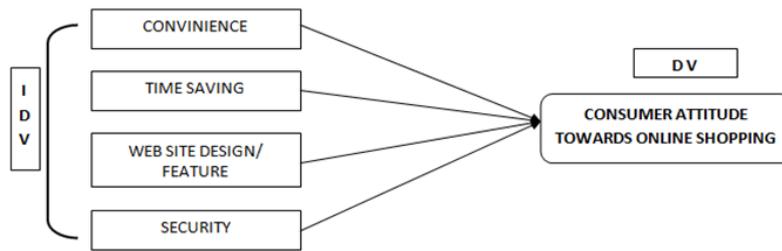
Website design and online shopping activity is one of the vital influencing factors of online shopping. Website design, website reliability/fulfillment, website customer service and website security/privacy are the most attractive features which influence the perception of the consumer of online buying. Shergill & Chen (2005). Kamariah and Salwani (2005) claims the higher website quality, the higher consumer intends to shop from internet. Web design quality has important impacts on consumer choice of electronic stores, stated by Liang and Lai (2000). Website design one of the important factor motivating consumers for online shopping.

#### **Security**

Security is another dominant factor which affects consumers to shop online. However many internet users avoid online shopping because of credit card fraud, privacy factors, non delivery risk, post purchase service and so on. According to Bhatnagar and Ghose (2004) Security is one of the attribute which limits buying on the web as they claim that there is a large segment of internet shoppers who don't like to buy online because of their thinking about the security of their sensitive information. Cuneyt and Gautam (2004) claims trust in the internet shopping with advanced technology, and frequent online shopping to the internet being secured as a trustworthy shopping channel.

#### **Explanation of Research Model:**

The research model shown in Figure 8 is constructed on the basis of number of researches done in the area of consumer attitudes towards online shopping specifically and broadly on online shopping behavior. The diagram shown in figure 1 depicts the factors influencing consumer to shop online.



**Figure 8: Derived Research Model**

The above model shows a relationship between dependent variable (DV) and independent variables (IDV). Consumer attitudes towards online shopping are perceived as dependent variable whereas convenience, time saving, website design/features and security are the independent variables that influence the consumers to shop online. The research model is developed as it will serve as a basis for this research and it will help in analyzing and interpreting the empirical results.

**DATA ANALYSIS**

**Demographic Details of the Sample**

FACTOR	CATEGORIES	FREQUENCY	COUNT	PERCENTAGE
GENDER	MALE	100	61	61%
	FEMALE		39	39%
AGE	15 - 19 YEARS	100	22	22%
	20 - 25 YEARS		78	78%
	26 - 30 YEARS		0	0%
	30 - 35 YEARS		0	0%
EDUCATION	HIGH SCHOOL	100	0	0%
	INTERMEDIATE		63	63%
	DIPLOMA		37	37%
	GRADUATE		0	0%
INCOME	< 10000	100	9	9%
	10000 – 20000		14	14%
	30000 – 40000		26	26%
	> 40000		51	51%

**Table 4: Demographic Analysis of the Sample**

**Demographic Analysis of the Sample:**

With reference to gender, 61% and 39% represent the Male and Female Engineering Students, respectively. With reference to AGE, 78% of the sample belongs to the age category of 20 – 25 Years, followed by 22% to the age category of 15 – 19 Years. In terms of Education 63% of the sample have completed Intermediate and 37% of the sample is diploma holders. In terms of Income, 26% of the sample have income ranging from Rs30,000 – Rs40,000 and 51% of the sample have income greater than 40,000. Here income refers to the salary of respondents parents.

**Data Analysis through SPSS**

Table 2 - KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		<b>.712</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	2035.664
	df.	105
	Sig.	.000

Prior to factor analysis, the adequacy of data for factor analysis should be examined. For this purpose, Kaiser-Meyer-Olkin (KMO) and Bartlett test were conducted. As a first result of the analysis, the KMO test has a value of 0.712 that is higher than the needed 0.5 and can be classified as admirable. This validates the factorial analysis model (Bartlett, 1954; Kaiser, 1970) and allows proceeding of the factor analysis extraction. Bartlett's test is another indication of the strength of the relationship among variables. It relates to the significance of the study and shows the validity and suitability of the response collected. For factor analysis to be recommended suitable the Bartlett's Test of Sphericity must be less than 0.05.

Descriptive Statistics			
	Mean	Std. Deviation	N
Attitude	3.9718	.38801	100
Convenience	4.2300	.45599	100
Website_design	4.1840	.45720	100
Time_Saving	3.7467	.83029	100
Security	3.7267	.66224	100

**Table 6: Mean Table**

The above Mean table describes the Mean & Standard Deviation of each independent variable i.e. Convenience, Website Design, Time Saving and Security with the Dependent Variable i.e. the Customer Attitude. The Grand Average is 3.9718 and Reliability of Mean is satisfactory as Standard Deviation is not too high.

**Correlation Matrix**

		Attitude	Convenience	Website_design	Time_Saving	Security
Pearson Correlation	Attitude	1.000	.337	<b>.685</b>	<b>.747</b>	<b>.702</b>
	Convenience	.337	1.000	.083	-.040	.093
	Website_design	.685	.083	1.000	.387	.372
	Time_Saving	.747	-.040	.387	1.000	.259
	Security	.702	.093	.372	.259	1.000

**Table 7: Correlation Matrix**

The table represents the co-relation between each of the independent variable with the dependent variable i.e. Attitude.

In relation to Attitude, Time Saving factor has a Co-relation of **.747** which represents a very very strong association between Attitude and Time Saving factor. Followed by Time Saving, Security has the second highest co-relation i.e. **.702**, in relation to Attitude, which represents a strong association between Attitude and Security factor. Website\_design has the third highest co-relation i.e. **.685**, in relation to Attitude, which represents a strong association between Attitude and Website\_design factor. Convenience has a co-relation of **.337**, which represents a weak association between Attitude and Convenience factor.

**Regression (With convenience)**

**Model Summary**  
**Table 8: Convenience**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.337 <sup>a</sup>	.113	.104	.36723

a. Predictors: (Constant), Convenience

**Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.760	.344		8.016	.000
	Convenience	.286	.081	.337	3.539	.001

**Table 9: Coefficients**

a. Dependent Variable: Attitude

The R value is 0.337, which indicates a fair degree of correlation and R-square value is 0.113 which specifies that the dependent variables, "Consumer Attitude", can be explained by the independent variable "Convenience"

**Regression (Website\_design)**

**Model Summary**

**Table 10: (Website\_design)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.685 <sup>a</sup>	.469	.463	.28422

a. Predictors: (Constant), Website\_design

**Coefficients<sup>a</sup>**

**Table 11: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.540	.263		5.858	.000
	Website_design	.581	.062	.685	9.301	.000

a. Dependent Variable: Attitude

The R value is 0.685, which indicates a high degree of correlation and R-square value is 0.469 which specifies that the dependent variables, "Consumer Attitude", can be significantly explained by the independent variable "Website Design".

**Regression (Time Saving)**

**Model Summary**

**Table 12: Time Saving**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.747 <sup>a</sup>	.559	.554	.25911

a. Predictors: (Constant), Time\_Saving

**Coefficients<sup>a</sup>**

**Table 13: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.663	.120		22.132	.000
	Time Saving	.349	.031	.747	11.135	.000

a. Dependent Variable: Attitude

The R value is 0.747, which indicates a high degree of correlation and R-square value is 0.559 which specifies that the dependent variables, "Consumer Attitude", can be significantly explained by the independent variable "Time Saving".

**Regression (Security)**

**Model Summary**  
**Table 14: (Security)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.702 <sup>a</sup>	.493	.488	.27770

a. Predictors: (Constant), Security

**Coefficients<sup>a</sup>**  
**Table 15: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.439	.159		15.291	.000
	Security	.411	.042	.702	9.761	.000

a. Dependent Variable: Attitude

The R value is 0.702, which indicates a high degree of correlation and R-square value is 0.493 which specifies that the dependent variables, "Consumer Attitude", can be significantly explained by the independent variable "Security".

**CONCLUSION**

Online shopping is rapidly changing the way people do business all over the world. In the business-to-consumer segment, sales through the web have been increasing dramatically over the last few years. Customers, not only those from well developed countries but also those from developing countries, are getting used to the new shopping channel. Understanding the factors that affect intention, adoption and repurchase are important for researchers and practitioners alike.

Online shopping is gaining popularity among people specially the younger generation but in today scenario to become equally popular among all age groups e-marketing will have to cover a longer distance. The attitude of consumers is changing with the time. From the conclusion that we got through literature review was in a country like India, online experiences are still looked up as complex and uncomfortable. People are tradition bound & have doubt in mindset as far as issue of online shopping/purchase of product is concerned but we found that Indian consumers are finding online shopping very comfortable because of many variables like cash on delivery, customization or personalization of the websites, home delivery etc.

I foresee that the findings will give a clear and wide picture to online retailers and will help them understand the specific factors that influence consumers (i.e. the engineering students) to shop online, so they can build up their strategies to cater online shoppers in India. The findings that we have gained in this research are as follows;

In relation to Attitude, Time Saving factor has a Co-relation of **.747** which represents a very very strong association between Attitude and Time Saving factor. Followed by Time Saving, Security has the second highest co-relation i.e. **.702**, in relation to Attitude, which represents a strong association between Attitude and Security factor. Website\_design has the third highest co-relation i.e. **.685**, in relation to Attitude, which represents a strong association between Attitude and Website\_design factor. Convenience has a co-relation of **.337**, which represents a weak association between Attitude and Convenience factor.

We can conclude for the given sample, Time Saving and Security are the major satisfying factors for which the consumers shop online. Website design also plays a significant part and has a strong co-relation in forming the Attitude regarding online shopping. Although Convenience may seem to be an equally important factor, but the co-relation is weak which represents a weak association with Attitude.

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## **BSE GREENEX: A comparative study of returns of GREENEX and SENSEX**

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### **ABSTRACT**

*Environment protection is a topic of global concern today. Investors and consumers are willing to invest in companies that are responsible towards environment, taking steps for environment protection and reducing their carbon emissions. To provide a benchmark for measuring these activities BSE launched BSE-GREENEX Index on 22<sup>nd</sup> Feb. 2012. It allows investors to invest based upon the carbon footprints of the companies and those institutions which are responsible towards Environment. It is an index of 25 Companies whose performance is measured in terms of Carbon Footprints. It takes into account Carbon Emission along with profitability with equal weightage to take care of Profits as well as Responsiveness towards Environment. This paper aims at measuring the performance of BSE-GREENEX Index over a period of five years and comparing it with BSE -SENSEX index and to find out which one is giving more returns to the investors. It will be a Quantitative Longitudinal study and data would be taken from BSE India website.*

**Keywords:** BSE-GREENEX, Green Securities, Returns from BSE-GREENEX, Environment Concerns.

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### **INTRODUCTION**

Earlier, the objective of business organisation was on profit maximization and reduction of cost. But that ideology had witnessed a change and objective was shifted to the shareholders' wealth maximization.

Owing to the condition of environment, climate change, global warming and fast depletion of natural resources, the need was felt to focus on environment protection along with growth and profitability. Brundlant Report in the year 1976 focused upon Sustainable Development. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs<sup>1</sup>. In line with it, business houses are realising that long run interest of business lies in the protection of environment. The companies are reviewing the activities that are degrading environment and posing a threat to the existence of humankind. Going green refers to activities, usually of corporate enterprises, involving activities with a deliberate aim to reduce emission of pollutants, produce goods which are environment friendly and resorting to technologies which promote environmental protection<sup>2</sup>. Going green can help an organisation in many ways such as building customer trust, cost reduction, reducing statutory compliance and management of risk etc. Even customers and investors today are highly progressive and want to invest in environment conscious firms. A green company is one which plans and execute the business activities in a way to minimize negative impact on environment<sup>3</sup>. To keep a track of such companies, BSE launched S&P BSE GREENEX index on 22<sup>nd</sup> Feb 2012.

BSE developed GREENEX index in collaboration with IIM – Ahmedabad and gTrade Carbon Ex Ratings Services Private Limited (gTrade). GREENEX when launched constituted 20 companies from the broader BSE 100 index. On 27<sup>th</sup> Dec. 2012 the constituents were increased to 25 companies. BSE-GREENEX measures the performance of the companies based on greenhouse gas number, free float market capitalisation and turnover. It provides the investors with a group of companies that are working for environment protection and are financially sound.

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<sup>1</sup> Brundlant Report

<sup>2</sup> Rajib Bhattacharya, Effect of Going Green on Stock Prices: A Study on BSE-GREENEX

<sup>3</sup> Wikipedia, [https://en.wikipedia.org/wiki/Green\\_company](https://en.wikipedia.org/wiki/Green_company)

## LITERATURE REVIEW

**Rajib Bhattacharya** – Investors all over the world are preferring to invest in environment responsive companies. Green Companies refers to the companies that are trying to reduce their carbon footprints by employing environment friendly technology as well as business exercises. BSE-GREENEX is created to provide a yardstick to assess the performance of green companies. The paper compares the returns from BSE-GREENEX from returns from BSE-SENSEX and BSE – SENSEX 500 to test the rewards from investing in green stocks. It also tries to model the three indices for prediction over a very short period of a day. The study reveals that BSE-GREENEX has a superior performance over BSE-SENSEX and BSE-SENSEX 500.

**Aashna Aggarwal, Priyam Kumar Singh, Jaskiran Arora and Chitralpa Sen** –

With a surge in awareness related to environment, companies are preferring to go green. Going green focuses on environment friendly practices, reducing emission of pollutants and promotion of environment friendly technology. The study wants to investigate the effect of information shocks on the returns of GREENEX and BSE200. The results propose that GREENEX is less sensitive to policy announcements than BSE200 although the difference is marginal, which implies that green stocks are safer bets, in case of significant information shocks in the marketplace.

**Ruchika Bammi** –

Along with financial performance, business houses have to focus environmental aspect also - due to regulations, increasing market pressure and attention of investors towards company's environmental concerns. The paper aims to test the existence of semi- strong form of market efficiency in Indian capital market by studying the impact of announcement of firm's name to be a part of BSE-GREENEX index (India's first green index) on the daily return series. Event study methodology is used on 20 companies belonging to BSE Greenex, to study the behaviour of the daily stock return series of the company. The paper suggests negative returns during the event window opposite to researcher's expectation. The suggested probable reason is Indian investors are not that conscious about Green image of the company.

**Swalih M. M. and Vinod M. S.** –

Fast depleting natural resources and awareness about environment protection has made many organisations to follow green practices. This has led to creation of S&P BSE GREENEX index in INDIA. The study focuses on calculation of Altman Z- score to verify the financial performance of companies listed on BSE GREENEX and also to measure financial distress of aforesaid companies. The paper reveals that out of 25 companies listed on the GREENEX index 3 are in safe zone, 10 are in grey zone and 12 are in distress zone. The paper recommends investment in companies listed on BSE GREENEX index as these companies have good financial condition along with negligible impact on environment.

**Sumit Kumar Maji and Ashoke Mondal** –

Business houses have been forced to mould their business strategy in relations of environment protection due to environmental pollution, increasing numbers of natural calamities and global warming. For a healthy growth, business has to be carried out in a way that does not harm environment. The study is carried out with objective to find risk and return of BSE GREENEX and compare the risk and return of GREENEX from another popular index. The outcome suggests that company specific, industry specific and economy specific factors influence the investment decisions of investors and there is no evidence that environment friendly measures undertaken by a firm affect the investment decision.

## OBJECTIVE OF STUDY

This research has been carried out to compare the returns of two indexes BSE-GREENEX and BSE SENSEX over a period of five years. The objective is to discover the index out of the two which is profitable to invest in. The Study has been done to find out the quarterly average and coefficient of variations in returns of BSE-GREENEX and BSE SENSEX.

## METHODOLOGY

The daily opening and closing values of the both indexes were taken from BSE India website for a period of five years i.e. starting from 1<sup>st</sup> Jan 2013 to 31<sup>st</sup> Dec 2018. To facilitate comparison the period is divided into 20 quarters. The daily returns have calculated using the formula  $R_t = (V_t - V_{t-1}) / V_{t-1}$ , where  $R_t$  stands for daily returns and  $V_t$  and  $V_{t-1}$  refers to closing values on present and previous day respectively. Then the Mean, Standard Deviation and Coefficient of Variation is calculated on quarterly basis for both the indices.

**Mean Return** - Mean return is calculated on quarterly basis. By adding up daily returns from that quarter and dividing by the number of trading days in that quarter. It shows the average return earned during that quarter.

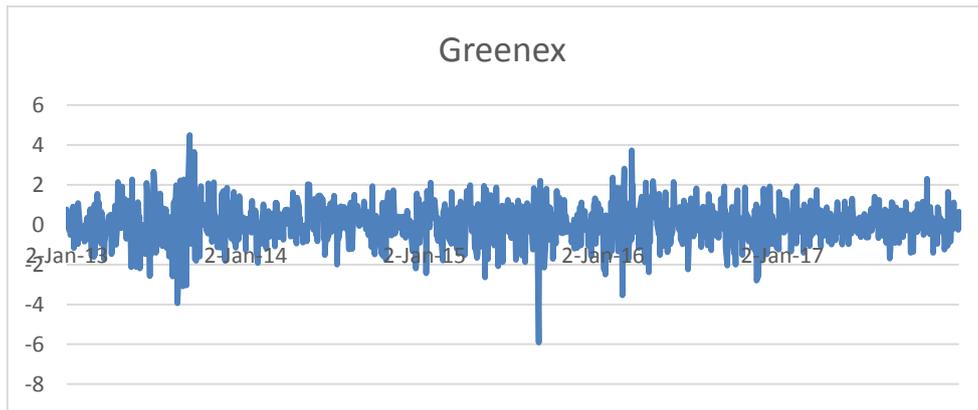
**Standard Deviation** – It measures the deviation of returns from the mean returns.

**Coefficient of variation** – It measures the volatility of investment. It is calculated as a ratio of Standard deviation with its mean and it is useful in comparing the degree of variation of one data from another.

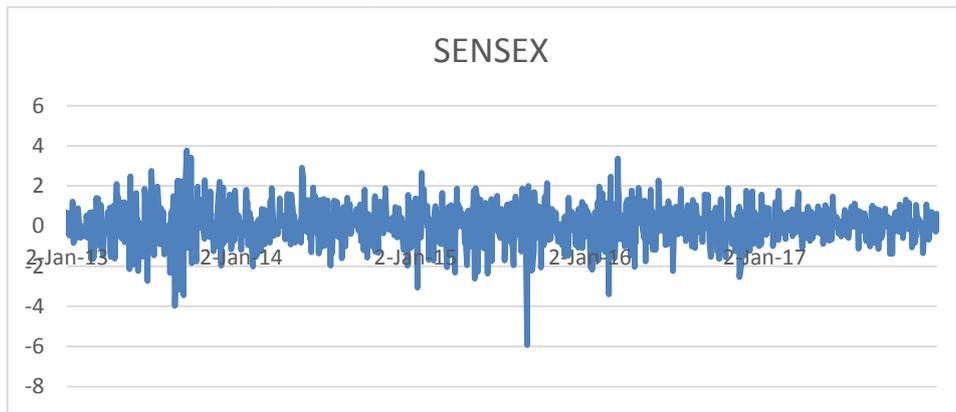
**Findings –**

The pattern of returns from BSE GREENEX quietly differs from returns from BSE SENSEX.

**Fig 1. Daily returns from BSE GREENEX**



**Fig. 2 Daily returns from BSE SENSEX**



The mean return from BSE GREENEX is consistently greater than the mean return from BSE SENSEX when calculations were done on the quarterly basis.

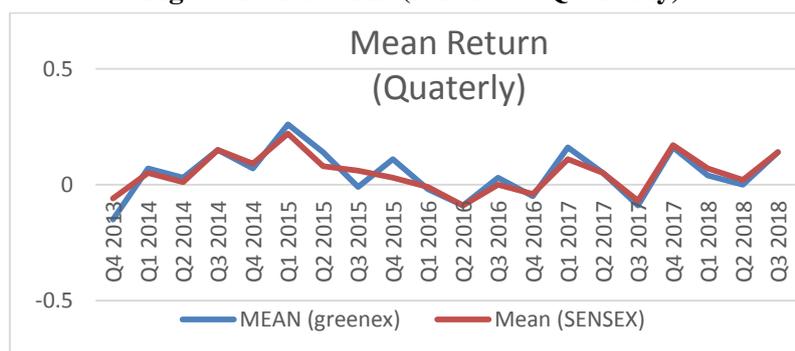
**Table 1 Mean daily returns (calculated quarterly)**

Timeline	Mean (GREENEX)	Mean (SENSEX)
Q4 2013	-0.15	-0.06
Q1 2014	0.07	0.05
Q2 2014	0.03	0.01
Q3 2014	0.15	0.15
Q4 2014	0.07	0.09
Q1 2015	0.26	0.22
Q2 2015	0.14	0.08
Q3 2015	-0.01	0.06
Q4 2015	0.11	0.03
Q1 2016	-0.02	-0.01
Q2 2016	-0.09	-0.09
Q3 2016	0.03	0

Q4 2016	-0.05	-0.04
Q1 2017	0.16	0.11
Q2 2017	0.05	0.05
Q3 2017	-0.09	-0.07
Q4 2017	0.16	0.17
Q1 2018	0.04	0.07
Q2 2018	0	0.02
Q3 2018	0.14	0.14

Source: <http://www.bseindia.com> and own calculations

**Fig. 3 Mean returns (calculated Quarterly)**



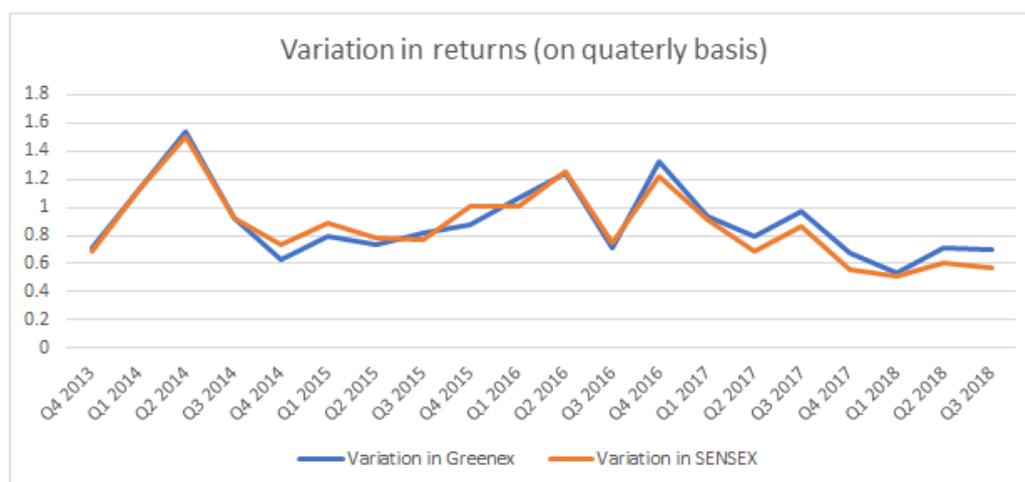
The variation in returns also differs between BSE GREENEX and BSE SENSEX. From Q3 2013 to Q 2013 the variation in returns from both the indices were almost equal. But after this for almost two years SENSEX witnessed greater variability. But after Q4 2016 BSE GREENEX is showing variation in returns greater than that of BSE SENSEX.

**Table 2 Standard Deviation of returns (calculated Quarterly)**

Timeline	Variation in GREENEX	Variation in SENSEX
Q4 2013	0.71	0.69
Q1 2014	1.12	1.12
Q2 2014	1.54	1.5
Q3 2014	0.93	0.92
Q4 2014	0.63	0.73
Q1 2015	0.8	0.89
Q2 2015	0.74	0.78
Q3 2015	0.82	0.77
Q4 2015	0.88	1.01
Q1 2016	1.07	1.01
Q2 2016	1.24	1.25
Q3 2016	0.71	0.75
Q4 2016	1.33	1.22
Q1 2017	0.94	0.91
Q2 2017	0.79	0.69
Q3 2017	0.97	0.86
Q4 2017	0.68	0.56
Q1 2018	0.54	0.51
Q2 2018	0.71	0.61
Q3 2018	0.7	0.57

Source: <http://www.bseindia.com> and own calculations

**Fig.4 Standard Deviation of returns (calculated Quarterly)**



Coefficient of Variation means extent of variability in relation to the mean. Lower coefficient of variation is better as it represents smaller variation in returns in comparison to mean returns.

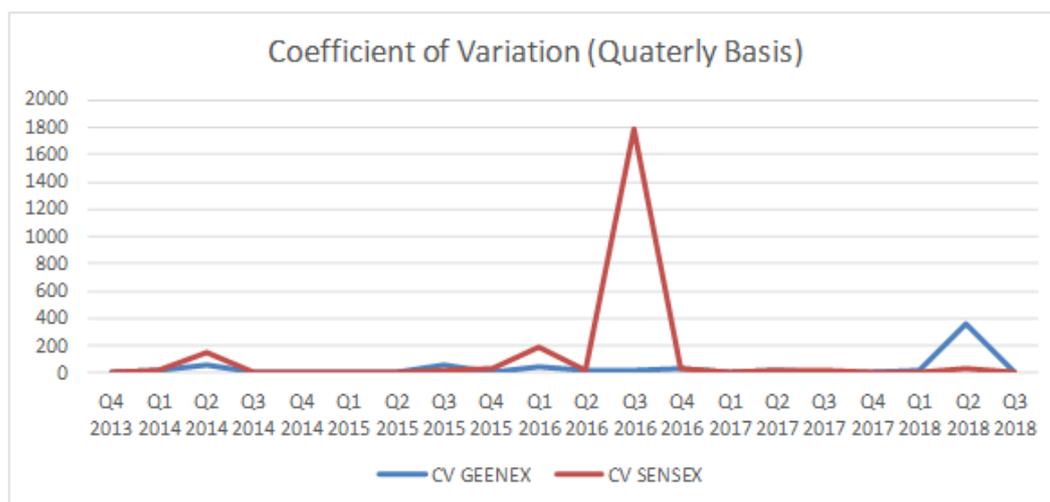
Out of 20 quarters under study, in 13 quarters BSE GREENEX had lower coefficient of variation. Hence, more consistent returns from BSE GREENEX in comparison with BSE SENSEX.

**Table 3 Coefficient of variation (calculated quarterly)**

Timeline	CV GREENEX	CV SENSEX
Q4 2013	4.73	11.21
Q1 2014	15.83	21.25
Q2 2014	58.91	153.92
Q3 2014	6.25	6.29
Q4 2014	9.28	7.98
Q1 2015	3.05	4.15
Q2 2015	5.31	10.13
Q3 2015	58.05	13.25
Q4 2015	8.29	31.8
Q1 2016	50.48	190.63
Q2 2016	14.41	14.54
Q3 2016	23.35	1792.69
Q4 2016	29.3	29.02
Q1 2017	5.95	8.52
Q2 2017	16.34	13.02
Q3 2017	11.06	12.41
Q4 2017	4.35	3.2
Q1 2018	12.48	7.1
Q2 2018	358.66	30.06
Q3 2018	4.88	4.1

Source: <http://www.bseindia.com> and own calculations

**Fig. 5 Coefficient of variation (calculated quarterly)**



### CONCLUSION

Returns from BSE GREENEX were comparatively more and consistent. Investment in green stocks can provide investors with greater and less volatile returns. By investing in green stocks, the investors can earn more returns along with taking forward the concept of sustainable development. Investing in environmentally committed organisation can provide long run value to its investors.

Business houses are looking ways to reduce their carbon footprints. Going green can help an organisation to build an image in the eyes of investors & customers, minimizing legal action and reducing governmental interference and taking a step for continual existence of mankind.

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## Impact of Capital Structure on Performance of Microfinance Institutions and its Sustainability

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### **ABSTRACT**

*Micro Finance Institutions (MFIs) renew economic competence in developing countries. MFIs are vital tool to tackle poverty and improve food security. Sustainability of MFIs is based on their capital structure ensures sustainability in poverty decline and better food security. A few literatures on the effect of capital structures on MFI performance necessitated the study. Data from 10 MFIs is collected based on availability and accessibility. The sources of data are financial statements and income statements covering five years. MFIs lent to both individuals and groups and 56% were not regulated by the Central Bank, 92% had their funding sources as loans and 79% attained operational self-sufficiency. Debt and grants were negatively correlated to operational and financial sustainability. When sustainability was more contracted to financial sustainability, debt and share capital remained notable. Subject to sampling uncertainties, the results show that MFIs must specialize their lending to reduce portfolio at risk. MFIs must decrease dependence on debts and grants and choose to accumulate share capital for long-term sustainability.*

**Keywords:** Microfinance, MFIs, Financial Sustainability, Grants, Debts, Share Capital

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### **INTRODUCTION**

Microfinance Institutions (MFIs) provide financial services to low-income households in developing countries around the world. In the minds of many, microfinance and micro-credit are synonymous. However, microfinance refers to a collection of financial services that include credit, savings, and insurance while micro-credit is the provision of credit which is usually used as capital for small business development. To mitigate themselves from apparent risks due to the target client's lack of collateral as a guarantee against default, MFIs are known to charge very high (30% - 60%) nominal interest rates. The loans are short-term, the average loan size is very small, and only a few programs require borrowers to put up collateral. (e.g., Loans can be as small as \$75, repaid over 1 year). Globally, there are more than 67 million households served by microfinance programs. Through MFIs, many would-be entrepreneurs with few assets have been able to escape positions as poorly paid wage laborers or farmers. MFIs have expanded the frontiers of institutional finance and have brought the poor, especially poor women, into the formal financial system by enabling them to access credit in order to fight poverty.

Despite the successes of many MFIs, millions of low-income individuals in developing countries still do not have access to financial services. High operating costs and capital constraints within the MFI industry have prevented MFIs from meeting the enormous demand. Thus, the high interest rates charged may be limiting the ability of MFIs to serve poorer potential clients. Donor agencies, local governments, and others are promoting competition and stressing financial sustainability as ways to maximize the breadth of outreach. Thus, institutional structure and capital flows to MFIs have become much more salient issues. Focusing on funding sources, this paper investigates the relationship between available capital and sustainability to identify opportunities for increasing sustainability through capital structure.

### **LITERATURE REVIEW**

MFIs globally assist the poor to get access to capital and escape persistent poverty (Ayayi, 2012; Valadez & Buskirk, 2012). However in some instances in the developing countries like India, MFIs are also known to confiscate the poor's properties especially on failure to re-pay (Sheremenko, Escalante, & Florkowski, 2012). Sheremenko et al. (2012) adds that though outreach contributes to MFI sustainability, if outreach is focused on inappropriate targets of the poor, outreach renders MFIs an enemy of the non-informed community who spread

MFI damaging opinions to other community members, limiting potential business clients. In India, the MFIs sector every year suffers an excess of 25% drop-outs of clients, (Wright et al., 1998). However, other than outreach, decent portfolio quality, active management and the worthy interest rates, established by Bogan, Johnson and Mhlanga (2007), Ayayi and Sene (2010), and Valadez and Buskirk (2012), capital structure composition is also central to MFI sustainability, (Bogan et al., 2007).

Real microfinance operations in India started in the early 1990's. Since the early 1990's to early 2000's, the Indian government seriously focused on promotion of MFIs and vigorously championed their participation in the formal financial sector. Around that time, large sums of donations were channeled to the poor through MFIs in addition to the gallant government support. To sustainably achieve the global goal of lowering poverty among the poor through access to finances, MFIs have to be financially gainful and free from interferences from funding sources, most of which are short-lived, (Ayayi & Sene, 2010; Ayayi, 2012). Not all MFIs in India would meet the requirements to become MDIs, thus even after 2006, some continued operating as MFIs but interruptedly. Making matters worse, in India there is yet no strict formal regulations for MFIs to assure the security of the interests of their clients (Wright & Rippey, 2003). Trust from clients is bound around a possibility of long-term existence of an MFI based on its capital composition. A good sustainable capital base also renders an MFI more competitive and hence more beneficial to her clients (Wright & Rippey, 2003; Porteous, 2009). Therefore assessment of the sustainability of India MFIs based on their capital structure was important.

## **INTRODUCTION OF THE PROBLEM**

Microfinance institutions (MFIs) have extended limits of formal finance and involved the deprived predominantly females into formal commercial systems thus diversifying families' income bases, physical, humanoid and social assets through decent money managing after economic tremors hence smoothening consumption. Extraordinary operating costs and capital constrictions in the MFI industry have prohibited MFIs from fulfilling the mammoth demand. Thus, understanding the role of MFIs' capital structure and its composition, whose knowledge largely misses in the literature, constitutes a knowledge gap in India, hence studying the field was important. Mainly this study seeks to ascertain implications of capital structure on MFI performance proxies by sustainability, specifically characterizing indicators of MFI performance, identifying funding sources and then determining the influence of capital structure on MFI performance.

## **RESEARCH QUESTIONS**

According to Armendáriz de Aghion and Morduch (2005) they concluded that there was a need to increase external funding to support MFIs for the MFIs' role in global poverty reduction. Such funding was usually in terms of grants and debts (loans) that constituted the MFIs' capital structure from which clients were availed the needed formal financial services. However with the liberalization of most of the world economies, business sustainability has been much dependent on the firm's ability including MFIs to operate successfully against market forces and at purely established free market forces. The questions for this study was that; what was the role of the various forms of capital structure including grants and loans (debts) on both operational and financial sustainability of MFIs in India.

## **RESEARCH METHODOLOGY**

Participants in this study were Microfinance institutions (MFIs) in India. In the study research preparations, every financial institution that had a publicly accessible office and was involved in formal delivery of financial services to the public was considered. Such MFIs had a five year span (2012 to 2017) data available. Data was collected from MFIs that were regulated by the Central Bank and non-regulated ones. Each of the 10 MFIs involved was analytically considered five times each representing a year. Bias was eliminated from the sample in so far as MFIs were operating in all regions of India with branches at least at district level except the capital city where some MFIs had more than one branch. Such spread of branches and operations was based on availability of clients and such clients were very different including those with securities and those without, those that borrowed in groups and those that borrowed individually, those that had seasonal businesses like farming and those that had permanent businesses and so on.

## **DATA ANALYSIS**

All MFIs lent to both individuals and groups. Combining the lending methodology allowed MFIs increase their chances of getting clients. Only 27.6% of MFIs comprising only of Rural Credit and Success had deposits/savings contributing over 50% of their total liabilities, 85.7% accessed funds from other sources that

included loans from commercial banks, central banks, international organizations and grants. Majority of MFIs (78.6%) were not regulated by the Central Bank signaling managerial risks. 64.3% of MFIs.

**Table 1- MFIs capital structure and performance**

Variables	Mean Value	Std. Dev.	Min.	Max.
Percent of Deposits on Assets	19.79	14.88	0.00	55.74
Percent of Debt on Assets	13.46	16.62	0.00	143.86
Percent of Share Capital on Assets	6.46	11.14	0.00	55.51
Percent of Retained Earnings on Assets	2.04	4.44	-11.97	41.08
Percent of Grants on Assets	14.82	13.78	-0.94	51.19
Active Borrowers (Persons)	15,714	15,973	330	59,889
Number of Credit Officers (Persons)	54.95	55.10	1.00	182.00
Savers (persons)	35,043	43,354	660	202,229
Financially Sustainable (%)	52.80	50.00	0.00	100.00
Operationally Sustainable (%)	72.80	44.50	0.00	100.00
Unsustainable (%)	27.20	44.50	0.00	100.00
Returns on Assets (%)	2.05	12.02	-3.03	197.68
Portfolio at Risk (%)	7.77	8.93	0.00	56.18
Number of Years in Operations	12.14	3.07	6.00	19.00
Number of Branches	8.92	7.60	1.00	34.00

Computed by the researcher

Return on Assets is percent of net income after taxes on Assets available at the time.

Portfolio at Risk is percent of total Portfolio at risk on total Gross loan portfolio. 73% of MFIs were operationally self-sufficient but only 53% were financially sustainable, however 27% of MFIs were unsustainable implying that they were likely to collapse since they were operationally incurring more expenses than the revenues they made.

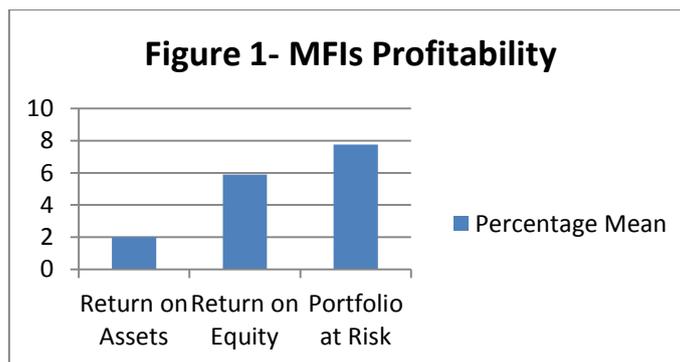
**Table 2- MFIs' capital structure – correlations with MFIs' sustainability**

MFI Characteristic	Correlation with	
	Operational Sustainability	Financial Sustainability
Percent of debt on Assets	-0.1947	-0.1883
Percent of Grants on Assets	-0.2437	-0.1457
Percent of Share Capital on Assets	0.1883	0.211
Logarithm of Assets	0.0807	0.0186
Risk Cushion Measure	-0.0818	-0.0331
Total Equity Relative on Assets	-0.1103	-0.0324
Logarithm of Number of Borrowers	0.0226	0.0622
Logarithm of Number of Savers	-0.0727	-0.1251

Computed by the researcher

Risk Cushion measure is the ratio of Loan loss reserves on total Gross loan portfolio.

The ratio of share capital on assets was positively correlated to all forms of MFI sustainability. Individual investors operate on competitive market prices, thus enabling MFIs to make better interest revenues that perhaps guarantee sustainability. The numbers of borrowers was positively correlated with both operational and financial sustainability of MFIs, whereas numbers of savers was negatively correlated to both sustainability measures. Risk cushion measure and total assets were negatively correlated to MFIs sustainability. Almost 30% of MFIs were unsustainable meaning that their expenses were more than their revenues.



Returns on Assets = {(Net Operating Incomes, less taxes)/ (Period's Total Assets)}

Portfolio at Risk Ratio = (Portfolio at risk over 30 days)/ (Gross Loan Portfolio). Risk greater than 30 days includes all loans that have any of installments of principal and or interest unpaid over 30 days from due date of repayment.

Gross loan portfolio, is the total amount of money lent out by the MFI. It excludes loans that with the understanding between the client and the MFI, their repayments have been re-organized. Returns on Equity = {(Net Operating Incomes, less taxes)/ (Period's Total Equity of the MFI)}

**Table 3- Operational sustainability: Profit regression with marginal effects**

Dependent Variable: Operational Sustainability			
Independent Variables	Coefficient	Std Errors	Marginal Effects
Percent of Debt on Assets	-0.0443	0.0134	-0.0169
Percent of Share Capital on Assets	0.0462	0.0157	0.0177
Logarithm of Assets	1.6239	0.4885	0.6218
Risk Cushion Measure	-3.7491	2.0254	-1.4355
Percent of Total Equity on Assets	-0.0075	0.0121	-0.0029
Logarithm of Numbers of Borrowers	1.1259	1.6719	0.4311
Logarithm of Numbers of savers	-2.285	1.5338	-0.8749
Percent of Total Debt on Equity	-0.115	0.0711	-0.0441
Rural credit	8.8488	8.9171	0.7296
Micro Credit	8.3116	8.7815	0.7113

Computed by the researcher

Percent of Short term Debt on assets and that of total debt on equity were significantly destructively related to operational self-sufficiency, implying that MFIs depending on debts as a source of funding had their efficiency negatively affected. Grants as a percent on assets was significant and depressingly related to MFIs operational self-sufficiency, thus business funds sourced at subsidized interest rates had a negative impact on MFIs efficiency.

**Table 4- Financial sustainability: Profit regression with marginal effects**

Dependent Variable: Financial Sustainability			
Independent Variables	Coefficient	Std Errors	Marginal Effects
Percent of Debt on Assets	-0.0278	0.0077	-0.011
Percent of Share Capital on Assets	0.0191	0.0115	0.0076
Logarithm of Assets	0.0865	0.3064	0.0343
Risk Cushion Measure	-0.2295	1.6915	-0.091
Percent of Total Equity on Assets	0.0059	0.0037	0.0024
Logarithm of Numbers of Borrowers	1.7593	1.1593	0.6743
Logarithm of Numbers of savers	-1.0301	1.1563	-0.4086
Percent of Total Debt on Equity	-0.0024	0.0081	-0.0009

Rural credit	7.1777	5.4696	0.6607
Micro Credit	5.1842	4.6667	0.6062

Computed by the researcher

Rosenberg (2009) computes financial self-sustainability as below:

$$FSS = \frac{\text{Total Operating Business Revenue Before Taxes} - \text{Grants}}{\text{Total Operating Expenses}}$$

FSS is Financial Self-Sufficiency

Using Equation and same capital structure and MFI characteristic a variable as independents, a regression was run to determine the impact of capital structure on MFI performance without grants (Financial self-sufficiency). A profit regression dummy for financial self-sustainability in this case similar to financial sustainability was also run with same independent variables. MFI whose financial self-sufficiency ratio was one and above were given a value of one and that of 0.99 and below zero. The Rosenberg (2009) methodology also revealed the role of capital structure on MFI performance. Short term debt, Percent of grants on assets and that of total debt on total equity were significant and negatively correlated with financial self-sufficiency, implying that indeed debts and grants deteriorated MFI efficiency thus their financial sufficiency.

**Table 5- Financial self sufficiency regression with panel corrected standard errors**

<b>Dependent Variable: Financial Self Sufficiency</b>		
<b>Independent Variables</b>	<b>Coefficient</b>	<b>Std Errors</b>
Percent of Debt on Assets	-0.0034	0.0019
Percent of Share Capital on Assets	0.0073	0.0024
Logarithm of Assets	0.1593	0.0781
Risk Cushion Measure	1.6177	0.4986
Percent of Total Equity on Assets	0.0059	0.0008
Logarithm of Numbers of Borrowers	0.4451	0.3195
Logarithm of Numbers of savers	-0.2904	0.3426
Percent of Total Debt on Equity	-0.0071	0.0028
Rural credit	0.6298	0.4182
Micro Credit	0.6561	0.4365

Computed by the researcher

### CONCLUSIONS

The sample was relatively small and conclusions should be subject to further study. The sample is however relatively strong for the larger institutions and inferences therefore less uncertain. Without grants, the dependent variable responded better to various independent variables. The negative impact of grants to MFIs' performances was also better reflected when grants were used amongst regressors. In all models grants had a negative significant impact on MFIs performance (sustainability). Therefore composition of Capital Structure is important for MFIs' sustainability operationally and financially whereby grants and debts erode it whereas share capital and assets improve it. Government policy must limit MFI's access to grants and debts. Dire financial need by smallholders must only be solved through direct aid to the needy such as food stamps, universal education, health care and others. Banking policy must premier share capital accumulation by MFIs and their close monitoring by Central Bank. However if terms and conditions under which grants are disseminated change to optimal levels (need to be investigated), grants may have a positive influence on MFI sustainability, though changing grants' terms may seriously jeopardize short-term objectives and intended purposes of grants.

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## Sustainable Development: An Ethical Concept

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### **ABSTRACT**

*Sustainable development is defined based on moral values and principles. It is considering people's welfare not only today, but also tomorrow. This means it involves not only efficient Utilisation of the resources but also environmental protection. Keeping the individual in the middle of all concern means, firstly, understanding the way the person can have a fulfilling life. Beyond the biological sphere, the human needs are composite and for more than two millennia, the world's thinkers have searched for solutions, means, ways to achieve welfare and happiness. Among these solutions there also stands sustainable development, which is founded on practical and moral considerations. The principles of sustainable development are general, being globally valid, but they need to be applied nationwide, at the macro and microeconomic level, by people, who are mainly, before being the beneficiaries or the "victims" of the development, its creators. The aim of this paper is to argue that the human capital has to be enriched with certain positive values, needed and defined as such according to the principles of sustainable development. On the other hand, efforts must be made at society level in order to improve nowadays' social values so that the potential sustainable development becomes more real.*

**Keywords:** *sustainable development, ethics, moral values, education, human capital.*

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### **INTRODUCTION**

Sustainable development according to the Brundtland's report is, "To meet the needs of present without compromising the ability of future generations to meet their own needs". According to *The World Conservation Strategy* report (1980), by the International Union for the Conservation of Nature and Natural Resources (IUCN), for development to be sustainable it must *take into account the social and economic factors as well as the ecological ones.* With the ever growing economies and the need and greed for more, the doctrine of Sustainable Development becomes the most relevant principle in today's times. The doctrine of Sustainable Development has most commonly been defined as development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.

The principle of Sustainable Development attempts to maintain a balance between development and the environment. It promotes inter-generational equity, i.e. better quality of life for present and future generations. The benefit from development ought to be equated with the impact on the environment for such development. While development is important or in fact necessary, the impact on the environment ought to be studied before undertaking such development. The basic concept of sustainable development aims to maintain a balance between economic advancement while protecting the environment in order to meet the needs of the present as well the future generations. The two pillars of the doctrine of Sustainable Development are Polluter Pays principle and Precautionary principle. India being a growing economy has seen rampant industrialisation and development in recent past, which resulted in adverse impact on the environment. Witnessing such degradation, the Supreme Court of India in a bid to protect the environment, played a significant role in shaping and adopting the doctrine of Sustainable Development. The ethics of sustainable development, its moral motivation, begins from ecological ethics, but it's much more complex. Protecting the environment is an absolutely necessary aspect, but not sufficient, for there may be a healthy and clean natural environment where people could live in poorness or not at all. And ecological ethics can be centered on certain disadvantaged or endangered species or on threatened natural area, whilst the sustainable development ethics refers firstly to people. Though initially sustainable development was confused mostly to environmental protection against industrial pollution, the concept embraced very quickly new aspects with respect to social ethics. Sustainable development has a social solidarity dimension – it has raised the issue that the underdeveloped countries would necessarily focus on the economic development without giving as much importance to the ecological aspect, situation that however changes when it comes to developed countries, which have no excuse to develop

without protecting the well-being of the Planet Furthermore, the existent technologies – biotechnology, genetic engineering, nanotechnology, robotics etc. – can also have other negative effects on mankind, in the present and in the future, others than the impact on the environment, but not less serious and with less important ethical implications, matters addressed by bioethics. In order to maintain a balance between development and environment, the principle of Sustainable Development which encompasses the 'Precautionary Principle' must be followed while envisaging a project. This would prevent any anticipated environmental impact a project may have by following and incorporating mitigating measures. Right from the stage of selection of site, to adopting efficient and environmental friendly measures at each stage and facet of construction to avoid or minimise environment de-gradation, to providing mediatory measures and monitoring the impact of a project on the environment/eco-system and afterward providing for restorative action in case of any degradation is imperative in today's pro- environment climate and is also the need of the hour. The developers today must be conscious of the environment and adopt a green, pro- environment, scientific and energy efficient mind-set for each stage of a project. These measures, may increase the over-all expenditure of the project, but in the longer run the benefits would surpass such costs. The Indian Government in furtherance of its INDCs and National Action Plan on Climate Change incentivises developers and promotes use of green and energy efficient measures and these incentives can be used by developers to off-set any additional green costs.

Undeniably, Sustainable Development is the need of the hour. With the advent of energy efficient technology, a harmonious marriage between development and environment is possible. It is time that each one of us adopt an 'energy-efficient and green' mind-set and use the natural resources available equitably, judiciously and save them for our future generations, as the best way to predict future is to create it

The approach of the economic matters in the Triple Bottom Line vision (TBL/3BL) or 3P – people, planet, profit – is considering the evaluation of the development on three dimensions: economic, social and environmental. When it comes to business, TBL suggests some reporting on the three dimensions to be done, therefore data about the stakeholders and the impact on the environment are added to the financial reporting, designed to offer a clearer and more real picture of the situation, thus making it possible, in conditions of maximum transparency, the managerial decision knowingly, based on a cost-benefit analysis, and the information of the interested public. Regarding the human dimension, TBL refers to all the stakeholders of an organization (employees, clients, collaborators, community members, etc.), and at the society level we can talk about all its members. Nevertheless, do not forget that the cost-benefit economic analysis cannot be generalized, certain values, as life and human health, cannot be morally evaluated in financial terms and it cannot be weighed, in counterbalancing with this kind of terms. Another vision about sustainable development – SAEJAS (Socially And Environmentally Just And Sustainable) considers that “the goal of Sustainable development may be analyzed into three statements:

1. Development in the use of finances means to increase people's choices and improve human welfare.
2. Development must be especially concerned with the people who now have the poorest choice set and the most substandard quality of life.
3. Achievements in development must not expose de range of choices or the well-being of people in the future.

### **Ethics Behind Sustainability**

In Rolson's opinion, the most important ethical principle that underlies the sustainability/durability is the one that life must be respected. To take away the means that are necessary for existence is almost equivalent to taking the very life of somebody. Non-sustainability endangers life. Sustainability, on the other hand, combines self-interest, the individual preoccupation for protecting their own life, and selflessness, the protection of life and interests of others. Very Precisely, moral values are invoked by the sustainable development theory. Certainly sustainable development is about altruism, honesty, sincerity, respect for life, man and nature, tolerance, solidarity, social justice and many others, all of them belonging to the moral “good”. For example, regarding the conceptual pair altruism/egoism “all the moral doctrines qualify negatively and reject from the acceptable sphere egoism – natively predisposed either to adaptive success through the act of power, in the broadest sense, or to pure high-living, orientated by the mythologization of pleasure. Egoism is subject to an altruist correction. To be morally tolerable means, therefore, enough temperance, the controlled suspension of the interest for utility and sensuality. However, for being virtuous the direct assumption of certain values, qualities and symbols is necessary to the inner experiences and the immediate acts. For development to be what it wanted to be, the human capital has to, we think, be enriched with a moral conscience which means more than respecting some rules, some sets of principles formulated as such (for example the Hannover Principles about sustainability (McDonough & Braungart, 1992), Principles of Environmental Impact Assessment Best

Practice (International Association for Impact Assessment & Institute of Environmental Assessment), etc.), some ethics codes. Human capital, knowledge, people's capabilities and abilities, obtained by investing in lifelong education, are the creative power which offers both its possessors and the organizations that employ them and the society they live in financial and nonfinancial benefits, generating development and what is called progress. However, for that development to be a good one and for progress to be real, people should be more than intelligent, effective, productive, creative, and imaginative. As much as generous the moral values included in the sustainable development concept would be, as well defined would be the rules and principles that underlying it, the moral of sustainable development, as any other moral, achieves its objectives only if the individuals involved believe in those values, give them a meaning that motivates them to act in a certain way. They must have a moral conscience which goes beyond the level of reacting to compulsion, beyond acceptance and conformity to rules, which should mean the incorporation of some moral values, the attachment to them so that they represent their inner motivations for acting in a certain way. "The respect for rules can't be reduced to the mere moral of correctness, but it has to be incorporated in a moral of conviction that is orientated to significance and humanistic grounds and, simultaneously, to a moral of responsibility for the penalty of our acts. The real internalization of the normative codes cannot motivate the simple fidelity to the rules, but it stimulates the closeness to their value significance, and the devotion to this dimension exhorts exactly to use the rules as being what they are: means for recommending, in terms of action, a value." This can be done by seeking for ways which can lead to enrichment, to ennoblement of the human capital through growing the moral conscience of the individual. In my views this can be done through education which imbibe values to individuals and also build an attachment of the conscience. Sadly the current global ethical evolution is not compatible to the declared values of sustainable development. The keys to these problems, even if partial, would represent a giant step forward to put the moral intentions of sustainable development into practice. There are, undoubtedly, concerns about true worth of education values, or moral education – the transfer of values through education in terms of constructing a moral conscience. But the moral values can be hardly conceptualized for example, "bravery, love, the ability to sacrifice are hard to vaccinate through education; the honor, love for order, self-control and temper can be, no doubt, achieved largely on the path of pedagogical guidance – in certain limits, of course, also the sense of liability, fidelity, Empathy etc. Moral development happens on three levels, each of them having two stages, in total six successive stages, starting from the assumption that moral development goes in parallel with the cognitive one and becomes possible through moral reasoning – analyzing an ethical dilemma and finding the answer to the question what is good and what is bad, what must be done morally starting with the identification of the possible consequences of the two behavioral variants. The attachment to values of the conscience remains however the "miraculous" solution to many problems. . Actually there is a division between the values that the education system tries to give to young people, values that are included in the moral category of the "good", and the current socially validated values. To the custody of which set of values do today's young generation belong? The age of democracies the post moralist age, and "This end of century is seriously marked by existential anguishes structured by the fragility and/or the absence of the senses; the erosion of the symbolic traditional horizons and the universalization of the pragmatic mentality, the discrediting of the oversensitive ideals with metaphoric ground and the axiological doubt that accompanies the irreversible consequences for the humanity of the technologies, the collapse of the great ideologies, utopias and globalizing discourses are signs of an ethical void followed by the foundations' crisis and the expansion on a depressing individualism. Narcissism, libertinism, hedonism define an identity crisis and stakes the search of the self of the individual. Society validates today, through television, movies, internet, as a result of the softening of the borders and the compression of distances through technology, a kind of individualism, aiming at one's own interest, detaching from the moral duty and from the local, national, traditional values. On the pretext of finitude, therefore of the limited resource of time, x living the very moment at a maximum intensity is being preached. Happiness has become equivalent with pleasure, and people are more and more lonely in a society where they communicate mainly virtually. Today people have become selfish, they are just running after money & power in their illusion that it will give them much needed happiness and Satisfaction. But are also getting trapped in vicious circle of their own greed and becoming victims of never heard before diseases like depression and loneliness'. In my views now is the time people should turn back to nature which is bountiful and should search for renewable sources of energy like solar power so as to protect our flora and fauna. We should also teach our young generation about the importance of preserving flora and fauna for their future generation and for their own benefits.

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## Online Activism on Social media for Women Empowerment and Advancing women's rights

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### **ABSTRACT**

*Social Media has changed the communication, sense of interacting and networking completely. It is not exaggeration to say that invention of Internet, Information communication technologies, Social media, digital media or say virtual space has revolutionized the communication globally. Social media made the 'Global village' a reality. Social media has provided a free space to all using internet where that can share their views, the information they have, ask for information and knowledge. People, masses even individuals are making online communities on social media based on their interest, ideologies or expertise. Long back in 1990s feminist scholars were able to see the impact of this new technologies on the feminism. The use of internet, online media and social media in the feminist tasks and issues was given a name cyberfeminism. In Cyberfeminism feminists, feminist's organizations using social media to spread their messages, to build online feminist committees, to have online campaigns to make women aware of their rights, to aware them about health and financial management. Social media has become an integral part of the feminist communication as it is viral in nature, approach is universal, and it is free from the boundaries of geography, political, religion, caste, creed, language etc. This paper wished to study how social media is helping the advancing the women's rights. It is an analytical study, content has been taken from social media sites like Facebook, Twitter, Instagram, YouTube. Case study is the research methodology. The time frame is chosen from 2010-2017.*

**Keywords:** *Online Activism, Social Media, Women empowerment, Feminism and Cyber feminism*

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### **INTRODUCTION**

Cyberspace has become the new platform for e activism of feminism. World is witnessing lots of women Empowerment campaigns, websites, Facebook posts are talking about the gender equality. Campaigns like #MeToo has shaken the world. This campaign was followed and adopted by 85 countries. Starting in 2017, till this days it is in news, high profile people are losing jobs, ministers had to resign, and it is not stopping. This social media campaigns have given a reason to study feminism as post-modern feminism or as cyberfeminism. As it is very much visible, audible, noticeable and making changes in the society and world at large. Before talking about the role of social media in advancing the rights of women, it is important to define the key terms used in paper. Anybody who supports gender equality and equal opportunity for women and respect women is feminist irrespective of gender. Defining feminism as written by Rosalind Delmer in her book, 'What is feminism?' writes, 'In the writing of feminist history it is the broad view which predominates: feminism is usually defined as an active desire to change women's position in society. Linked to this is the view that feminism is par excellence a social movement for change in the position of women.' (1)

Eli Zaretsky in her article 'What is feminism?' discussed various definition of feminism and challenges faced by feminists. She writes, 'To say that contemporary feminism, or at least a wing of its more self-questioning intellectuals is haunted by the question of socialism is to say, in addition, that it is haunted by its relations with men. The reason women's rights (and feminism) has needed this connection is that women's rights arise from liberalism and throughout its history, major segments of that movement have struggled not to remain trapped within the liberal framework of individuals rights, interest group politics and alternative life styles.' (2)

Cyberfeminism if feminism online in virtual space. Cyberfeminism began in Australia by four artists as a reaction to the male domination of computers that were taking over the world. The VNS Matrix, a web site, was the result of these first efforts and established a high level of creativity, bodily reference and use of the world wide web in Cyberfeminism.' (3) Maria Fernandex stated, 'Cyberspace has been construed as something that

exist in binary opposition to the 'real world', but when it comes to question of power, politics and structural relations, cyberspace is as real as it gets.''. Unfortunately, Cyberspace is not immune to the social structures that it was created in. Cyberspace is intimately connected with real space, even our navigational and organizational structures use metaphor of our real space existence. Assuming this is true, feminism, that exist outside of Cyberspace are intimately connected with the ones inside if a feminist movement is to be effective. (4)

Women rights as per dictionary means rights that promote a position of legal and social equality of women with the men. The efforts to secure equal rights for women and to remove gender discrimination from laws, institutions and behaviour patterns. (5) Women empowerment means Empowerment is the process of enabling or authorizing individual to think, take action and control work in an autonomous way. It is the process by which one can gain control over one's destiny and the circumstances of ones lives. Empowerment includes control over resources (physical, human, intellectual and financial) and over ideology (beliefs, values and attitudes). (Baltiwala, 1994). Women's empowerment is very essential for the development of society. Empowerment means individuals acquiring the power to think and act freely, exercises choice and fulfil their potential as full and equal members of society. As per the United National Development Fund for women (UNIFEM), the term women's empowerment means: • Acquiring knowledge and understanding of gender relations and the ways in which these relations may be changed. • Developing a sense of self-worth, a belief in one's ability to secure desired changes and the right to control one's life. • Gaining the ability to generate choices exercise bargaining power. • Developing the ability to organize and influence the direction of social change, to create a more just social and economic order, nationally and internationally. (6) Gender equality means the state in which access to rights or opportunities is unaffected by gender. As per United Nations Entity for Gender Equality and the Empowerment of Women, social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys, as well as the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialization processes. They are context/ time-specific and changeable. Gender determines what is expected, allowed and valued in a woman or a man in a given context. In most societies there are differences and inequalities between women and men in responsibilities assigned, activities undertaken, access to and control over resources, as well as decision-making opportunities. Gender is part of the broader socio-cultural context. Other important criteria for socio-cultural analysis include class, race, poverty level, ethnic group and age. (7)

Activism is the policy or action of using vigorous campaigning to bring about political or social change. Activism can be an intentional action to bring about social, political, economic or environmental change. This action is in support of or opposition of an often-controversial argument. (8) Online activism or e activism is the process of using Internet-based socializing and communication techniques to create, operate and manage activism of any type. It allows any individual or organization to utilize social networks and other online technologies to reach and gather followers, broadcast messages and progress a cause or movement. (9)

Cyberactivism is also known as Internet activism, online activism, digital activism, online organizing, electronic advocacy, e-campaigning and e-activism. The development of social media technologies created various opportunities for the civic population to plead their opinions. It also gave a big line of attack for the movements which needed much response that couldn't be bought out by the mainstream media. Cyber-activism is a growing field of scholarly research now-a-days. Langman (2005) argued that the people those who have acquaint computer knowledge use internet and initiate various activities like demonstrations, public protests etc. social media technologies have been widely used to spread information in a short time. People indulge in social media to form a network in order to socialize themselves and stay connected with other people. The message once passed or posted (well in SNS language) reaches many. (10)

Social media play an important role in facilitating the mobilisation for, and coordination of, direct actions offline. An overemphasis on the Internet is present in some studies and mobile technologies and text messaging often play a very important role (Gillan, et al., 2008). For example, SMS and mobile phones played a role in mobilisations against Philippine President Joseph - 'Erap' - Estrada, leading to his resignation in 2001 illustrating a substantial change in political communication and mobilisation in the Global South. Lowering the cost and increasing the efficiency of mobilization and coordination with a view to offline direct action is one of the main features of social networking sites and smart phones, enabling on-the-spot or in-real-time communicative practices. (11)

With social media women all over world found a space which was giving them freedom to speak, Arab revolution and the results of elections after social media 's presence in Arab speaks the impact of social media in activism. #MeToo, He for She, Bring our girls back, Stand with Wendy, Like a Girl, Why I stayed, Why I Left, I can do, Ask Her more all these online campaigns are asking for the public accountability and changes in the system, in the laws. The results or after effects of these campaigns are proof that feminists are using social media for their activism and it is providing them with global approach and communities as large as world. With online activism, feminist ensured that no women is alone in distress and problem. Take the example or Nirbhaya gang rape in Delhi and the reaction of people from all over the world. Take the recent example of France and Arab which announced to give equal pay to women as that of men. Agencies like United Nations, UNICEF are also using the social media for communication. They are launching their projects, campaigns online on all types of social media. On Social media there are women hackers to save the attacks on feminist content and content writers. Feminist hacktivists make attempts to use technology for women empowerment and gender equality. SubRosa is good example of feminist hacktivism. Subrosa utilized hacktivism by interacting with technology by becoming civil disobedient. They hacked existing medical institutions and subvert through art.

Social media is useful for generating awareness of these gender issues for a myriad of reasons: it can bring these issues from 'small circles' to the masses. According to Time magazine, "methods of organizing has adopted to the times." Another reason why women-cantered social media campaigns may gain traction is the prevalence of women on social media: 74% of women use social media sites, compared to 62% of men. These campaigns, however are interesting, because it's not just activists or feminists who are talking about these issues on social media: it's ordinary people who are making these hashtags trend worldwide, who are offering their thoughts and experiences in a way that they may not have in the past. The saying that the "personal is political" also means that by sharing these stories, women are able to form networks of solidarity. One recent and relevant example of social media success in changing the behaviours towards women is the #AskHerMore campaign, targeting the kinds of questions that women are asked on the red carpet. Specifically, the movement, this year brought to light by Reese Witherspoon, tried to end the sexist questions that women are forced to answer, such as "Who are you wearing" that men do not. The effort, according to *Miss Representation* documentary maker Jennifer Newsom, was a "runaway success," and one that hopefully will continue to change the red carpet culture. (12)

## **OBJECTIVE**

The paper wishes to explore and understand how social media is helping in advancing the women's rights. How it helps in women empowerment and gender equality. With case studies it will be studied analytically.

## **RESEARCH METHODOLOGY**

Case study and online content analysis is research methodology for this paper. The content has been taken from the social media sites like Blogs, Facebook, Twitter, YouTube, Instagram. Time frame is from 2010 to 2017.

## **LITERATURE REVIEW**

"Cyberfeminism with a difference" by Rosi Braidotti in 1996, discusses the cyberfeminism in post modernity with highlight issues of sexual differences. In post modernity Art and technology inter-connected especially in concern to information technology. Author did a survey of some social political representations of the Cyber body phenomenon from the angle of a feminist. Modernity and crisis of modernity are exposing women to new possibilities of joy and happiness.

Author highlight omnipresence and domination of visual media. Tis domination means too much focus on visuals and distortion distraction from other senses like audio and sense of touch, smell etc. Feminist challenge this primacy of vision. Author feels that the internet, cyberspace or visual reality all have changes the technology only.

With internet comes information revolution and when it was being assumed that gender gap will disappear but actually the gap is getting wider. With the gender gap in the use of computer, women's access to computer literacy and in the designing, programming, with the already existing gap between third world and developed world, it is sure that technology advancements will further forward few of its old habits of creating differences. In title Cyber imagines, author highlights the difference of reality and assumptions. The propagation and dissemination of all kinds of difference through new technologies with not be as liberating will not be as liberating as the cyber artists and internet edicts would want us to believe. Author says the animation and graphics has a very strong future and will, can impact anything, as Gulf war was fought by virtual reality, but

butchery was real and happened in real world. Feminist researchers were very upset and worried about the dangers posed by disembodiment, with modern technologies. In the form of pornographic violent humiliating images of women, specially designed programs allowing virtual rape and murder. Such contents are being made with new technologies in which interaction of sexuality and technology is visible as form of masturbating and masculinist power. These content show man as God and they promise to female a forever pleasure, ultimate orgasm. After which female wander as insane. So, technology is getting advanced with each year but main issue remains still there that there is a wide gap between the promise of virtual reality and cyberspace and the quality of what it delivers. (13)

**ARAB WOMEN cyberfeminism 2007 – Rita Stephan in the paper title, “Arab women cyberfeminism”** writes about the Arab CF and place, status of Arab cyberfeminism in American Cyberfeminism

“Arab American feminism emerged as a complex interaction between ‘First and Third world feminists situated within a highly politicized context.” ( Salib,19999, p.313-314)

In 1999, members of san Francisco chapter of Arab women Solidarity Association (AWSA- United) launched a website and email list to make a data of Arab women who uses internet, social media and interact under the titles women, Arab’s women, Muslim or of any religion.

Writer has used this case study to explain how internet, social media, digitization, virtual world helps Arab women to constitute their identity.

“Arab feminist has taken their activism to the safety of the internet in order to be safeguarded from unfavorable governmental restrictions, oppressive patriarchal systems and rigid religious practices in the Arab world.”

Arab women’s solidarity Association International founded in 1982, Egypt first pan- Arab women organization given international status by UN. It opened its 2 chapters in USA. Their chapters remained active till 2002. It’s still working. Arab feminism was very different from western feminists. It was deep rooted in religion, culture, norms of Arab world, like wester feminism they don’t identify themselves as feminists. The major percentage of these women agree to be a feminist. The women who are members and respondents in this case study were comfortable with their religious and ethnic identity. But the feminist thoughts were different among the women staying in Arab from the Arab women living outside Arab. Author concluded the Cyberfeminism of Arab as effective and added that with the more and more women were interested in joining this online interaction. But it was under the impression of US cyberfeminism and relating the issues with western concepts. It is more about US then Arabian. It provided a safe, free space to say what they think and problems they wish to share and discuss without being disclosed.” (14)

**Women and the internet Reflections on cyberfeminism and a virtual public sphere. By Megan Smitley as part of curriculum in M.Sc. in Information technology at Queen Mary, University of London,2004.**

Internet being a powerful platform for women which reflect the values, thinking, ideologies, desires, priorities, aspirations of women in the virtual public sphere. Woman body is the major commodity of internet consumption with making pornography a renowned leader of internet commerce. Cyberfeminism tend to highlight the capacity of cyberspace to generate a free more egalitarian society. Author takes a case study of the pornographic site, Schick trick, and emphasize on the fact that cyberspace is mainly a tool of capitalism. It is being assumed a big platform for women empowerment. This paper explains the approached to technology optimistic versus pessimistic.

As per author, pornographic industry was the first to recognize, to exploit and to sustain commercial successes on the internet. Researchers also pointed out that the pornographic material is the largest category of paid online content. It represents women as inferior to men. In the case study of Chick.Trick.com.s slogan to the script shows male as smart, sharp enough to fool woman to have sexual benefits. Women are presented shown as easily manipulated and mentally inferior to man. The success of promo business online follows that the virtual world is strongly characterized by the patriarchal relations that dominate in the real world. Where cyberfeminists are using internet as tool of women empowerment, defense and growth, development.

A small study done by author on seven working women and housewives depicts that women mostly use internet for work, mainly emails. They also use it for social interactions, so main use remain job and work related. Cyberfeminism is a partial solution of women’s oppression and it is as democratic as much women choose it to use for feminist issues. (15)

**Economic and social empowerment of women through information and communication technology: A case study of Palestine- Khalid Said, Rabayah, ICT 4D R&D, Arab American University, published in 2009**

This paper presents an initiative that intends to empower women through information and communication (ICT) technology, by a joint venture between NGO and Local women organization. In this paper he has taken a case study of research done on women from Palestine rural areas to see the impact of ICT. The development circle as world bank, United Nations Development Program (UNDP)

In Palestine, there are many organizations working towards women empowerment, gender equality, education, health, livelihood. 50% of the school student are female but in employment it is less than 15% women workforce. The study analyzed the endeavors of two organizations Relief international, Schools online and UNIFEM, these offered training program for basic ICT for thousands of Palestinian women in rural areas. The goals here were women with the vital living skills, ICT training, Training on legal issues, non-violence, political participation and civic education. These projects started in 2004 with the help of UN and funding from Japan. Through content analysis, interview, focus group discussion with 118 female mentors at 7 locations, 60 women in focus group in 4 groups, 15 each. Six additional semi-structures focus group discussion were convened.

In the result analysis the major findings were, knowledge seeking was found prominent among respondents, they wish to enhance their knowledge and employment position. They were aware of importance of ICT. Few found it as a window for sociology.

In overall conclusion, the impact of ICT on women was positive and heartening. Participants found ICT a way to enhance the quality of their lives by acquiring knowledge. Enhancing their employment, earning power. On personal front increase in self-confidence and this restored their awareness in their capabilities and competencies, it made them more determined to struggle against social norms and barriers associated with gender. (16)

## **CASE STUDIES**

### **Bring back our girls –**

On April 14, 2014 a government secondary boarding school in Chibok, Borno state, where girls students were busy in taking exams, was attacked by Boko Haram militants. Nearly 276 girls were abducted by Boko Haram, in this northern Nigerian village Chibok. As per BBA news ([www.bbc.com/news/world-africa-32299943](http://www.bbc.com/news/world-africa-32299943)) .. To get these girls back safely in their homes, their families, locals stated the biggest social media campaign with tweeters using the hashtag #BringBackOurGirls. Few girls managed their escape on their own. Negotiations started by the International Committee of the Red Cross (ICRC) with militants freed few and 100 girls were freed in exchange for Boko Haram militants. The escaped girls told that militants said western education is forbidden, it is like prostitution. It took two years to bring all girls back. (17)

On #bringbackourgirls organised a protest march and residents of Nigerians marched to the capital Abuja to demand action the bring girls safely. This social media spread the wave of sympathy and anger around the world. After launching the campaign, within three weeks the hashtag had been used over one million times. Celebrities from political parties like Michelle Obama also supported the campaign and added her selfie to this campaign.

(The Guardian, [www.theguardian.com/world/2015/apr/14](http://www.theguardian.com/world/2015/apr/14)) (18)

Ben Hewti, from A world at School an online portal of education, argues that most of the high profile campaigning has been in direct support of the grassroots #bringbackourgirls campaign in Nigeria, that campaign leveraged their international networks

OBY ezekwesili, vice president of the world bank for Africa, gave a speech in Nigeria demanding the Nigerian government to help to bring girls back. It was the reaction to the tweets in Nigeria using #BringBackOurGirls Hashtag. It adds up to one million tweets worldwide.

Social media played a very important role here, after being supported by friends, families, influencers, journalists and politicians, this campaign was picked by newspapers, political offices and them in ministry got get real action on this virtual campaign. (Reported ny Matt Collins, The guardian, May 2014)

In the article on MSNBC ([www.msnbc.com/msnbc/how-social-media-changing-the-feminist-movement](http://www.msnbc.com/msnbc/how-social-media-changing-the-feminist-movement)) , How Social Media is changing the feminist movement by Nisha Chittal, writes #BringBackOurGirls trended worldwide as people around the world raised awareness of the 200 plus Nigerian schoolgirls that had been kidnapped by Boko Haram. This campaign not only raised the awareness but also generated tangible results. (19)

As per the article written by Megan Gibson, on May 2014 on Time e portal ([www.time.com/90693/bringbackourgirls-nigeria-boko-haram](http://www.time.com/90693/bringbackourgirls-nigeria-boko-haram)) writes, world's attention has fixated on terrorist abductions in Nigeria, thanks to a large part to a hashtag.

Ibrahim M. Abdullahi, a lawyer in Nigeria told the BBC that," It was a number of individuals in Nigeria tweeting to raise awareness in the hope that the international community would eventually notice." The time-lapse map showed that the hashtag went viral, Hilary Clinton also sent the hashtag. It prompted physical protests both within Nigeria and around the world. After this, Nigerian police are now offering a reward of \$300,000 for the rescue of the girls. ([ime.com/90693/bringbackourgirls-Nigeria-boko-haram/](http://ime.com/90693/bringbackourgirls-Nigeria-boko-haram/))

The Washington Post article, Adam Taylor, one May 2014 analysed this campaign, hashtag made it major news item. United states pledged to send a team including military, personnel, intelligence and hostage negotiations. It is remarkable rise, hashtag is making impact, how much is yet to see. It became a slogan and part of politician's speech, like Oby Ezelwesli, vice president of the world bank for Africa used. It has turned into a true global social media phenomenon, with analytics firm Topsy confirmed in its report, that in three weeks it was tweeted more than one million. Although the problem still exists, girls are being kidnapped but so is the efforts to curb terrorism and these terrorist organizations. And at least it is good to read the impact of hashtag campaigns. (20) ([https://www.washingtonpost.com/news/worldviews/wp/2014/05/06/is-bringbackourgirls-helping/?utm\\_term=.f86a859a6658](https://www.washingtonpost.com/news/worldviews/wp/2014/05/06/is-bringbackourgirls-helping/?utm_term=.f86a859a6658))

### #StandwithWendy

As per the e-news portal The Verge, a report by Nateog, June 2013, stated that Texas state Senator Wendy Davis led a filibuster on Tuesday that kept a controversial abortion law from passing in her state. Around 11 am the followers from around the world viewed this on YouTube. It was viewed by more than 180,000 viewers tuning in.



#### Barack Obama

✓ @BarackObama

Something special is happening in Austin tonight: <http://OFA.BO/CBZ6c7> #StandWithWendy  
7:10 AM - Jun 26, 2013

- 5,906
- 16.4K people are talking about this (youTube @youTube)

When Barack Obama tweeted, #standWithWendy, "Something special is happening in Austin tonight", Wendy Davis, A Texas state senator had been standing on the floor of the legislature for more than nine hours – talking about women's bodies, their health, their lives and would stand for about four hour more Republicans forced to end this bill with people's support from around the world.

On Twitter, Wendy Davis was supported, and her message gone viral by #StandWithWendy. On online they also organised a protest match outside state capitol. Hundreds of people were there stood in and outside the state capitol to support the fight Wendy started for them. Hundreds of thousands were following this online hashtag campaign. (21)



#### A is For @AIsForOrg

120,000 people watching the livestream of #SB5 and neither @CNN, @MSNBC nor @FoxNews are covering it. Twitter > Cable News.

9:54 AM - Jun 26, 2013

- 94
- 373 people are talking about this



#### BuzzFeed News

✓ @BuzzFeedNews

"It was worth it, absolutely"-- @WendyDavisTexas in brief remarks to press [pic.twitter.com/tOkDe6KSAU](http://pic.twitter.com/tOkDe6KSAU) (@sonia\_smith)

11:27 AM - Jun 26, 2013

History is being made in #Texas, while @CNN talks about blueberry muffins. LITERALLY. @cleveil1 @ElizSimins pic.twitter.com/sau3lizzgLI #sb5  
— Elizabeth Plank (@feministabulous) June 26, 2013



**Joel Burns**@JoelBurns

#sitwithwendy (Pic) @WendyDavisTexas sits down for 1st time in 15 hours. Talks to daughters, hydrates. So proud.  
11:58 AM - Jun 26, 2013



**The Associated Press**

✓@AP

BREAKING: Republicans pass new restrictions expected to close almost every abortion clinic in Texas.  
10:40 AM - Jun 26, 2013

- 254
- 3,079 people are talking about this



**CBS News**

✓@CBSNews

Texas Republicans push through strict abortion limits, overcoming hours-long filibuster  
<http://cbsn.ws/11ZAb0D>  
11:05 AM - Jun 26, 2013

#### **Texas abortion bill fails after Sen. Wendy Davis' filibuster**

Hundreds of jeering protesters crowd capitol to help stop Republicans from passing tough measure by midnight deadline

[cbsnews.com](http://cbsnews.com)



**Texas Democrats**

✓@texasdemocrats

#SB5 failed to pass the Senate.  
12:48 PM - Jun 26, 2013

- 81
- 284 people are talking about this

Credits - <https://www.theverge.com/2013/6/26/4465316/texas-senator-abortion-filibuster-wendy-davis>

The blogger Kimberley Tan, on HuffPost, e port, wrote the abortion bill could have passed silently creating thousands problem for women in future, but it did not happen that way. Something more remarkable happened due to Wendy Davis. Her 11 hour continuous standing speech without food, water, a restroom break or something to lean against the support was a historic journey and captured the attention and respect of thousands across the globe. ( [https://www.huffingtonpost.com/kimberly-tan/wendy-davis-sb5\\_b\\_3505396.html](https://www.huffingtonpost.com/kimberly-tan/wendy-davis-sb5_b_3505396.html) ) (22)

Must Bol – It was youth led campaign against gender-based violence in India on social media. It encouraged youth to come out of shyness and fear and speak against the violence against them. It targeted the youth in Delhi who are social media users and also use creative media to generate thought provoking discussions on gender and violence. Rama Rao. The facilitator of CYC;s youth led campaign, ‘What is happening through this campaign is frank and open sharing of experiences and discussion about issues and solutions and action for change’. On social media the core 22 members found a virtual space to talk and discuss, share and interactions among young people. Campaign also used video, photographs and comics to engage young people. It reached to nearly 5000 people through social media platforms and nearly 5 lakh people viewed their pages for various discussions.(• [www.mustbol.in](http://www.mustbol.in),[www.twitter.com/mustbol](http://www.twitter.com/mustbol) [www.youtube.com/mustbol](http://www.youtube.com/mustbol),

[www.flickr.com/photos/mustbol](http://www.flickr.com/photos/mustbol) ) (23)

Credits - <http://www.partners4prevention.org/news/must-bol-%E2%80%93-youth-led-campaign-against-gender-based-violence-india-uses-social-media-social-chan>

In the second phase of the campaign in 2014, efforts were made by the streaming collective members to engage young people on the issue of gender identities and sexual and reproductive health rights-based conflict and violence. (Pravah, published in 2015, <https://pravah.org/content/files/Campaign/Arrow.pdf> )

The significant outcomes of this campaign remains that more than 70,000 people reached through surveys, youth meetings, film screening. & NGO engaged with this campaign, Key stakeholders such as parents, police officials media professionals, academicians reached out through community meetings, public events, seminars. UN women and Youth collective this young team led the campaign both online and offline. Website launched in 2011, A videoblog to exhibit films was created, shout box for young people to ask questions on gender-based violence without disclosing identity, The Must Bol page on Facebook has over 10,000 members and one million visitors. Hosted online photography campaign for theme, a blogthon was also organised by Community and UN women in 2011 for 15 days. It allowed bloggers and readers to dive into the many facets of the issue. 100 bloggers reached out to over a million people on various social media and online spaces. ( UN Women, <http://www.unwomen.org/en/news/stories/2012/3/india-s-youth-say-no-the-must-bol-campaign-against-gender-based-violence> ) (24)

On The Better India, e portal, Gunjeet Sra reported in Oct.2015 that these online campaigns by youth is creating good changes in the mindset of people towards the gender based violence. Case studies have proven that in many cases by-stander intervention has, in fact, saved people. "We definitely need that kind of an involvement in our society too because a lot of young women who face violence do not retaliate for the fear that no one will come forward and back them up," observes Manak Matiyani of Community-The Youth Collective, which motivates young people to bring about social change. "We try to tell people about the safest ways to intervene when they witness violence," he elaborates. Matiyani has been consistently mobilising the community through his Must Bol Campaign as well as through The Youth Collective, which he now heads in Delhi. (<https://www.thebetterindia.com/22854/how-india-is-breaking-the-silence-on-gender-violence/> ) (25)

[Credit – How India is breaking the silence on Gender Violence by Gunjeet Sra, The Better India ]

### **'Respect Yourself: Egypt Still Has Real Men' Campaign**

Case Study: 'Respect Yourself: Egypt Still Has Real Men' Campaign

"Respect Yourself" is a campaign initiated in May 2008 by an Egyptian journalist and the online magazine, Kelmetna, encouraging Egyptian men to renounce sexual harassment. A study in 2009 confirmed the large percentage (83%) of Egyptian women that were exposed to sexual and verbal harassment. (Egyptian Centre for Women's Rights, 2009).

The campaign promotes the idea that men should treat women the way they would like their sisters to be treated, i.e. refrain from all forms of sexual harassment and interfere when they see it happen. Kelmetna magazine hosts weekly seminars and discussions to raise awareness about the problem. In addition, campaigners and volunteers, aged between 14 and 25, take their work to the streets, talking to people about sexual harassment. One of their main goals is to convince the audience to refrain from all types of sexual harassment, and to speak out when they see it happening.

The journalist created a Respect Yourself Facebook group in support of the campaign in July 2008; as of March 2010, the group had more than 53,000 members who participate in on-line discussions on sexual harassment or real-life events. A number of organizations and public figures have lent their support to the initiative, such as TV and radio hosts, the Al Jazeera News Channel, and Dream TV's Al Ashera Masa'an show. (UN Women webpage, <http://www.endvawnow.org/en/articles/1278-the-social-web.html> ) (26)

### **CONCLUSION**

Virtual social networks such as Facebook or the micro-blogging tool Twitter offer free platforms where campaign messages can be promoted. An increasing number of organizations are creating their own profiles or pages on these networks. These can be used to advertise for campaigns and related events by enrolling virtual "friends", "fans" or followers, who may pass on the information to their own networks of "friends". Many Facebook pages for example, also describe the key campaign messages, provide information about campaign activities, and give supporters opportunities to engage via 'comments' with other supporters on campaign-related issues. Twitter is increasingly becoming a tool to share up-to-the-minute information rapidly with large numbers of people – about upcoming activities, or to rally support or encourage immediate action (e.g. for

demonstrations, to contact local politicians etc.) To choose the most effective platforms, find out which ones are most used by the campaign's target audience(s).

Although little evidence is available on the contribution social media has made so far to ending violence against women and girls, its impact could potentially be significant. Social media is a convenient vehicle to reach an internet-literate, relatively young audience. Arguably, just as in "real life" community activism, virtual socializing on Facebook "friends" and Twitter "followers" can create a safe environment to discuss and experiment with "new" ideas and attitudes, e.g. to explore forms of masculinity that are more gender-equal than those in one's "real-life" community. When combined with other communication channels – a high quality web-site, mass media announcements and community mobilization, for example – it may substantially broaden the reach of a campaign.

(UN Women webpage, <http://www.endvawnow.org/en/articles/1278-the-social-web.html> ) (27)

Arab Women Solidarity Association (AWSA- United) launched a website and email lists to connect Arab women internationally, it provided a space for Arab women to share information, discuss issues relevant to their lives. This made it possible for AW66SA – United members in the west to survive, especially after September 11,2001 terrorist attacks in America. Internet given them identity beyond Arab women, women of substance and with a mind of her own. It also strengthens members sense of Identity by encompassing their differences, it connected them to out world and to Arab women residing abroad to the women in homeland. It brings them together in a forum to discuss relevant to their lives as the Arab elections. (Rita Stephan, research scholar from University of Texas at Austin, in her article, 'Arab Women Cyberfeminism' Published in AL-Raida, Volume XXXIV Nos. 116-117, Winter/spring 2007)) (28)

Social media could be an efficient tool for communication and organization of protest if used in proper and practical manner, if all members' opinions and ideas are equally acknowledged, all content that raises awareness shared, messages and causes brought to all parts of society, all content relevant and actual to the group cause broadcasted. [Jelena Ivanisevic, University of Zadar, Croatia, 'Social Networks for Social Changes; Case study of Facebook Group Anonymous Hrvatska (Croatia)] (29) There are so many case studies from India and world that social media plays a very important role is raising awareness and asking for public accountability from governments in power, judiciary and religion and from society itself too. Need is to bring good strategies and finding the support from like-minded people and masses.

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## Can Blockchain Revolutionise the Financial Services Industry?

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### **ABSTRACT**

*One of the most burning topics in the financial services industry today is blockchain. If adopted to its full potential, it will enable banks to process disbursements much faster and accurately at a reduced transaction processing costs. However, to exploit the potential of blockchain technology, banks need to build the requisite infrastructure in order to create and operate a true global network using solutions based on this transformative technology. According to findings of a survey conducted by Accenture, blockchain usage is uppermost in the minds of banking executives all over the world. Financial stalwarts like Jamie Dimon and institutions like Goldman Sachs are saying that blockchain technology is here to stay rather than fade away in course of time. One of the objectives of this article is to enhance the reader's understanding of the promises and challenges faced by financial service providers due to the rapid advances in this technology. To conduct this study, researcher has extracted secondary data from various national and international journals, reports, newspapers articles, blogs and websites. The researcher has also deliberated on the subject with at least twenty working and erstwhile bank executives, some of them are now professors and my colleagues in the Amity School of Insurance, Banking and Actuarial Science, Amity University, Noida.*

**Keywords:** Blockchain, distributed ledger, Smart contracts, Ethereum, Bitcoin, DAOs.

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### **INTRODUCTION**

Blockchain took root with the Bitcoin whitepaper written by visionary Satoshi Nakamoto in 2009. The whitepaper outlines the details required for a protocol that establish a decentralized currency, operate it on a trust less network that is not controlled by individuals with bias towards a particular country or governing body.

Vitalik Buterin, one of the writers for Bitcoin Magazine which tried to popularize the technology in the early 2012, witnessed the problems in the Bitcoin implementation like wasteful mining hardware, centralized mining community, and lack of network scalability. In 2013, at the age of 19 years, Vitalik described his vision for Ethereum by extending the concept of Bitcoin beyond just currency. He proposed a platform where developer community and entrepreneurs could build distributed application for the Blockchain network. Vitalik referred to this concept as 'smart contracts'.

Many of the Large organizations are hiring and experimenting with the technology within the walls of their ownset up. The objectives and outcomes of these corporate experiments are not in public domain yet. Companies like IBM and Microsoft are also making it easy to rapidly launch cloud version of the technology.

Several governments all over the world are in using blockchain technology to simplify numerous aspects of governance. Large-scale corporations are trying to outshine each other by designing and creating sophisticated blockchain-based applications. IBM has invested huge money in developing blockchain applications for their business and finance market.

Blockchain technology has become firmly established as one of the most important evolving technologies in the same category as artificial intelligence and the internet of things (IoT).

### **LITERATURE REVIEW**

The literature study and review was conducted by means of the structured literature approach technique whereby secondary data was collected from various studies, research papers etc.

**Richard Meszaros, Diana Adachi, Hanif Dharamsi, Burak Yetiskin and Paul Thomas-** all Accenture Digital, Blockchain Subject Matter experts published a paper in 2016. During August and early September of 2016, a research agency, working on Accenture's behalf, interviewed 32 commercial banking professionals to learn about the evolution of the global transaction banking markets. Interviews were conducted via telephone with respondents at large or global banks in the United States, Canada and Europe. Respondents were asked a

series of questions about the potential of blockchain/distributed ledger technology to transform the payments business.

**A team of Deloitte consisting of Lory Kehoe, David Dalton, Cillian Leonowicz and Thomas Jankovich** published a scholarly article - Blockchain Disrupting the Financial Services Industry: "In this article, based on our research, interviews, and what we are seeing in the market, we seek to explain what Blockchain and its most famous use-case, Bitcoin, actually are and understand if they are in fact real disruptors for the financial services sector as well as many other industries".

"In an attempt to try and harness its potential disruptive power, hundreds of millions are being invested in Blockchain technology by companies from all industries across the globe. With this level of focus and hype, we want to help de-mystify what Blockchain is and how organisations can leverage its key features (security, transparency, full life-cycle transaction history, real-time, immutability and cost efficiency)."

**John Mason published an article in Dec 2017** – Why Blockchain will revolutionize the banking industry, wherein he says "The banking industry, for instance - with all of the potential that blockchain technology offers for change, iteration, and development - is particularly susceptible to getting overwhelmed. About 70% of financial service leaders say that the speed of technological change concerns them. There is no questioning whether blockchain technology will disrupt and revolutionize the banking industry. Leaders feel it coming. Some are ready. Most aren't. But why and how is blockchain going to change banking over the next decade? To answer that question, let's first discuss how blockchain technology works."

### **OBJECTIVE OF THE STUDY**

The main objective of this paper are:

- searching the possibilities of transforming Banking practices through blockchain;
- to spotlight the ever increasing significance of block chain in Financial Services Sector;
- evaluating the disruptive power of blockchain in context of financial service sector;
- assessing the potential the blockchain technology hold for financiers and bankers in improving their operational efficiency;
- exploring the prospects of Bankers' making use of blockchain in other areas;
- deliberating if blockchain can prevent or minimise the frauds in banking sector;
- anticipating the challenges faced by the financial service sector in wake of emergence of blockchain technology.

### **RESEARCH DESIGN AND METHODOLOGY**

The nature of this study is descriptive and exploratory, wherein relevant data has been collected on secondary basis from various sources such as published research papers in national and international journals; published reports, newspapers and websites. The researcher has used content analysis technique to analyse the collected secondary data. To conduct this study, the researcher, applied his own experience of more than 32 years in the field while working as an executive in the financial sector for 25 years and thereafter as Insurance and Management teacher till date.

#### **What is a Blockchain Technology?**

Blockchain technology, by facilitating digital information to be spread, generated the mainstay of a new type of internet. Initially devised for the cryptocurrency, Bitcoin, the tech community is now looking for other potential uses for the technology.

**"The blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value."** - Don & Alex Tapscott, authors Blockchain Revolution (2016)

The concept of Blockchain is akin to a sales ledger – which is a comprehensive and ever updated accounting record which depicts who holds what or who transferred what to whom. This sales ledger is a secure decentralised database that remains in public domain. Block chain can record anything, from physical assets to electronic cash. Thus the concept is based on distributed ledger technology, and helps participants to work on common areas of interest.

Blockchain is a distributed ledger of records that is nearly incorruptible. Every block links to a previous block and has a time and date marking thereon. It is self-monitored and does not require coordination and regulation from others.

A blockchain is a kind of digital storage medium, maintained decentrally by several participants, in which transactions bundled into blocks can be stored securely enabling it to be free from tampering. Block chain has enabled the recording of electronic money i.e.Bitcoin.

When a digital transaction takes place, it is grouped together in a cryptographically protected block with other transactions that have already occurred, and sent out to an entire network of transactions. Different members and users in the network are able to verify the transaction before taking any crucial decision involving financial transaction.

### **Advantages of Blockchain Technology:**

The main advantage of blockchain technology is that, a special encryption mechanism ensures that the data cannot be manipulated any participant. Some potential uses in the financial sector would be, for example, the international transfer of funds, or securities trading. Use of blockchain technology can make payments and securities transactions much quicker and cost effective, and keep them safe from fraud.

In its present condition, blockchain has the potential to help overcome the impediments in achieving the desired growth in the Internet of Things (IoT), due to the following properties:

- 1) **Scalability** - it is virtually scalable;
- 2) **Standardization**- it has the abundant potential to **standardize** the entire network;
- 3) **Inbuilt security** - as the blockchain is distributed across millions of computers, hacking it is almost impossible or unrealistic. This is one of the main reasons why there is such a big hype in the banking industry over the applications of blockchain technology;
- 4) **Transparency** - as the cryptographic public address of the sender and receiver of every transaction is recorded, and everything is available for inspection;
- 5) **Privacy**- it can also facilitate great improvement in terms of privacy, as users are generally pseudonymous and can execute transactions instantly without the need for any personal verification.
- 6) **Immune to censorship** - as no single authority has general control over it due to its de-centralised structure blockchain technology ensures immunity to censorship. With blockchain, users can have open access, without any potential risk of interruption.
- 7) **Immutability**: One of the most important features of blockchain is its immutability- once it has been saved into the chain, it cannot be altered or deleted afterwards.
- 8) **Applications in compliance**- Blockchain can be used for keeping track of the steps required by regulation. Recording actions and their immutably in a blockchain would create an audit trail for regulators to verify compliance.
- 9) **Facilitating collaboration**- it enables collaboration with several unknown parties that are situated in different geographical locations.

### **Is the Banking Industry adopting Blockchain Technology?**

According to results of the survey conducted by Accenture, most of banks are still in the early stages of adoption, with about 75% either involved in a proof-of-concept, formulating their blockchain strategy, or just started looking into it. Cross-border remittances, corporate payments, and inter-bank cross-border transfers are receiving comparatively less attention as compared to intra-bank cross-border transfers. But wherever they think of deploying blockchain, executives expect a wide range of benefits, including lower costs, quicker settlement, fewer errors and new revenue opportunities.

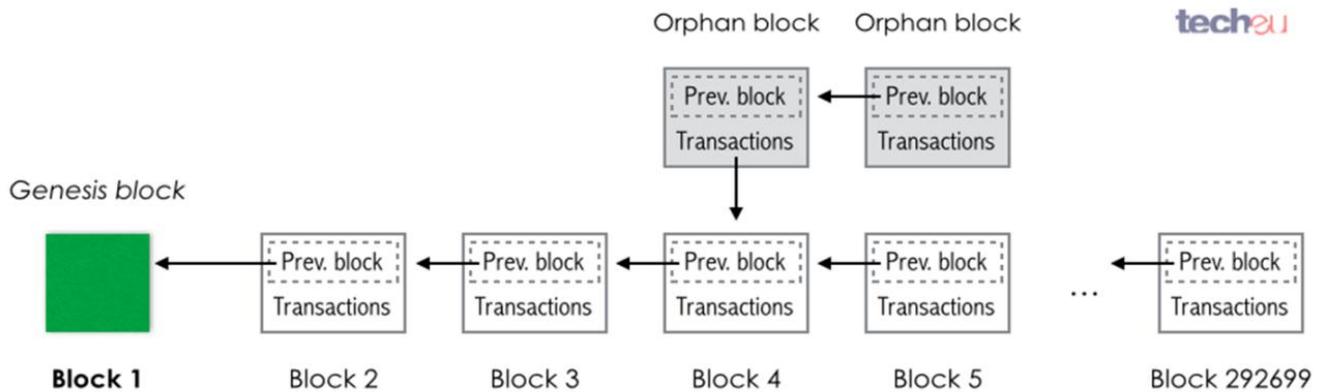
And that's probably why a majority of financial service leaders say that the speed of technological change concerns them. There is no doubt, whether blockchain technology will disrupt and revolutionize the banking industry. Leaders feel that it coming fast and will stay. Some are ready to face it but most of them are not. But how is blockchain going to disrupt banking industry over the next decade? To answer that question, we have to know how blockchain technology works.

### **How does blockchain work specially in context of banking?**

In order to understand how blockchain will transform the banking and finance industry, one needs to comprehend how it works. Just think of blockchain as a mathematical instrument for processing, securing, and finalizing transactions. Banks process huge number of transactions each day and hence they should be main industry to adopt the most from this technology.

The blockchain process is simple. First, someone requests to make a transaction - usually using cryptocurrency. Once they do so, computers, or "nodes," jump to work processing the transaction. When the nodes are over, blockchain verifies the transaction, gives it an exclusive identity, completes it, and places it as a new block within the constituent string of existing blocks as shown in figure 1.

Figure:1



Now that you have a fair idea how blockchain technology works, you may ask - is it really going to have significant impact on the banking industry? Or is this just another innovation that will fade away in course of time. 'Harvard Business Review' says that blockchain will do to banks what the internet did to media. Over the last few years, Blockchain technology has had a significant impact on supply chain finance specially, within the financial service sector.

In the year 2016, about 60% of financial organizations contemplated using blockchain for international remittance , 23% for security clearing and settlement, and 20% for KYC regulations and anti-money laundering services.

### Why is it safe to transact through blockchain?

A blockchain, is a chain of digital "blocks" that contain records of transactions. Each block works in collaboration rather than in isolation -it is connected to all the blocks before and after it (see Figure :2). This makes it virtually impossible for a hacker to tamper with a single record because he would need to change the block containing that record and also those linked to it to avoid detection. In addition, blockchain has some other inherent characteristics that provide additional means of security.

The records on a blockchain are secured through cryptography. All the participants in the Network have their own keys that are assigned to the transactions they make and act as a individual digital signature. If a record is altered, the signature will become invalid and the peer network will know right away that something wrong has taken place. Early notification is essential to averting further damage.

Blockchains are decentralized and distributed across peer-to-peer networks that are continually updated and kept in sync. As they are not centrally located, blockchains do not have a single point of failure and cannot be changed from a single node (computer). It would require great deal of efforts for ahacker to access every instance (or at least a 51 percent majority) of a certain blockchain and alter them all at the same time. So larger your network is, the more tamper-resistant your blockchain will be.

How exactly does blockchain provide more security than traditional transaction processes? Let's take a look at figure : 2

Figure: 2 Security by the blocks

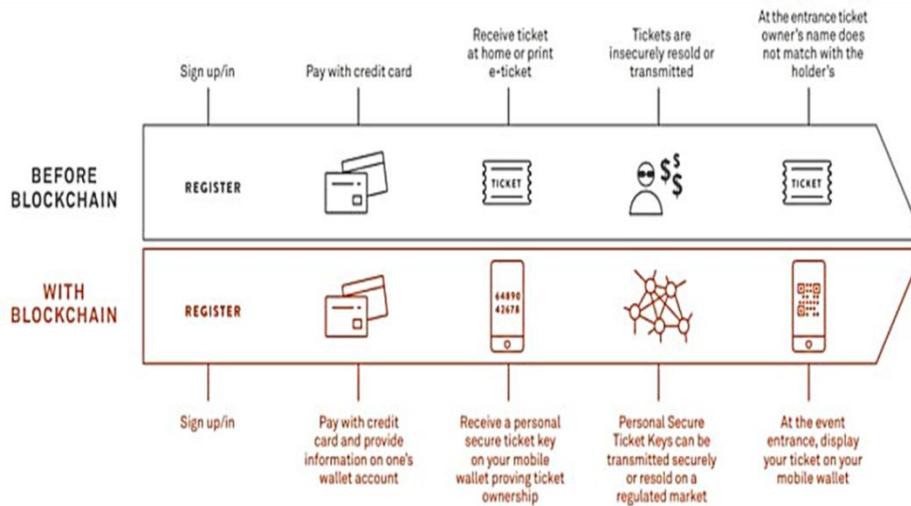


Image : courtesy MGB

### A promising road ahead for smart Banking

Blockchain and distributed ledgers have a bright future. As real-time and reliable platforms that safely transmit value and data, blockchain technology enable banks in reducing the cost of processing remittances and producing new products and services thereby generating significant new sources of revenue.

The most important key to turning blockchain’s potential into reality is a collaborative effort among banks to create the network essential to support global payments. By all probability, most of the banks are or will be starting creating their own cryptocurrencies and using blockchain technology for transactions within the next ten years. If for no other reason than the fact that it will save them a deal of efforts, money and time. After all, these are the most convincing reasons to make any change.

### CHALLENGES

Speed is often mentioned as a big issue for the wider adoption of blockchain. Performance of blockchains is significantly sluggish as compared to typical or conventional database. The cryptographic component, which is one of the most fascinating features of blockchain is highly calculation-intensive. For instance, the data capacity of bitcoin is around 7 transactions per second as compared to the average of 2,000 transactions per sec handled by the VISA payment system. In view of foregoing, concerted efforts are being made to build blockchains capable of high yielding performance.

### CONCLUSION

Over the last few years, the blockchain technology has been able to assert itself in many ways and hence numerous financial institutions are exploring a variety of opportunities to use blockchain, including applications to improve and enhance currency exchange, trade execution, remittance, supply chain management, micro-payments, transfers, asset registration and regulatory reporting. Blockchain technology is poised for transforming the financial service sector by improving effectiveness, efficiency, transparency and financial security, reducing operational costs.

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## A Study of Growth of Bancassurance Sector in India

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### ABSTRACT

*Financial Institutions for a long time have been dealing with the decrease in their interest margins as a result of the rise in competition, changes in technology and the deregulation of the Financial Sector as well as globalization. With the rise of financial innovation, Bancassurance is the way to go. Bancassurance means the selling of insurance through the bank distribution channel. Bancassurance in India has taken a flying start. India has the largest banking network on one hand and lower insurance penetration and insurance density on the other hand. GIC with 8331 operating offices and LIC with 4892 branch offices are almost already omnipresent and they both have a good range of personal line products already lined up but still there is a vast untapped potential waiting to be mined particularly for life insurance products. The size of the country, a diverse set of people combined with problems of connectivity in rural areas, makes insurance selling in India a very difficult proposition. Life insurance companies require immense distribution strength and tremendous manpower to reach out to such a huge customer base. With banking network of 1,36,412 branches serving more than 300 million retail banking customers, insurance can be made available at affordable prices to people even in remote corners of the country. Thus, Bancassurance not only enables the insurance companies to access far untapped markets, but also provides banks with the opportunity to acquire additional revenue streams while promoting customer retention. Economies of scale and scope make such an alliance attractive for both parties. This paper attempts to explain the scope for bancassurance models and strategy as feasible source of fee based, non-interest income. It also highlights some of the likely issues in general as well as specific from the point of banks and insurance companies. The paper concludes with an appropriate model and policies to make bancassurance a win-win situation for all the parties involved- the customer, the insurance companies and the banks.*

**Keywords:** Bancassurance, Banks, Insurance penetration, bancassurance model, Banking Regulation Act, Insurance Development and Regulatory Authority (IRDA), Reserve Bank of India (RBI), corporate agency.

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### INTRODUCTION

Financial sector plays a pivotal role in the development of an economy. With the rise of globalization, liberalization and the technological advancements, the finance sector of almost all the economies of the world gets exposed to varied challenges accompanied by the identifiable opportunities. The banking and the insurance sectors are the crucial segments of this sector. These sectors are thereby forced to search for the alternative ways of managing the situation. India is not an exception to this. It has its own set of challenges and opportunities.

The performance of life insurance companies in India is quite unsatisfactory. In spite of presence of multiple distribution channels and wide range of products; there is low insurance penetration and insurance density. Banks are also being exposed to increased intra-bank competition, competition from non-banking financial institutions and the financial markets, and the new regulatory requirements. These challenges have forced both the banking and insurance sectors to come closer together. In this situation, banc assurance has emerged as an opportunity for both the sectors. Banking sector, with its far and wide reach, is thought of as a potential distribution channel useful for the insurance companies. This union of two sectors is named as Bancassurance. "Bancassurance" refers to the selling of insurance through a banks established distribution channel. On one side, it will help in improving the growth and market penetration of life insurance business; and on the other, it

will help banks to get the benefits in the form of increased income. Thus the concept of bancassurance is based on the win-win situation where both the banks and the insurers get benefited with the business partnership.

### **ORIGIN OF BANCASSURANCE**

Bancassurance has grown at different paces, with different shapes and forms, at different places across the world. Its growth in various countries has been influenced by the demography, economic and legislative prescriptions in those countries. The concept originated in France and soon it got spread over the other countries of Europe. In USA the concept is relatively new. The Glass-Steagall Act of 1933 prevented the banks of USA from entering into alliance with different financial service providers, thereby putting a barrier on bancassurance. But with the US Government repealing the Act in 1999, the concept of bancassurance started gaining grounds in USA also.

Coming to India, bancassurance is a new buzzword. It originated in India in the year 2000 when the Government of India issued notification under Banking Regulation Act which allowed Indian Banks to do insurance distribution. It started picking up after Insurance Regulatory Development Authority (IRDA) passed a notification in October 2002 on 'Corporate Agency' regulations. As per the concept of Corporate Agency, banks can act as agent to one life and one non-life insurer. Currently bancassurance accounts for a share of almost 25-30% of the premium income amongst the private players in India. To further increase the insurance penetration in India the IRDA, recently in Jan 2015, has permitted the banks to act as insurance brokers also.

### **BANCASSURANCE BUSINESS MODELS**

Various models are used by banks for bancassurance. These models are:

- (a) **Strategic Alliance Model/ Corporate Agency:** Under this model, there is a tie-up between a bank and an insurance company. The bank only markets the products of the insurance company. Except for marketing the products, no other insurance functions are carried out by the bank.
- (b) **Full Integration Model/ Joint Venture:** This model entails a full integration of banking and insurance services. The bank sells the insurance products under its brand acting as a provider of financial solutions matching customer needs. Bank controls sales and insurer service levels including approach to claims. Under such an arrangement, the bank has an additional core activity almost similar to that of an insurance company.
- (c) **Mixed Model/ Referral Model:** Under this model, the marketing is done by the insurer's staff and the bank is responsible for generating leads only. In other words, the database of the bank is sold to the insurance company. This approach requires very little technical investment.

### **BANCASSURANCE IN INDIA**

A sound financial sector is the backbone of a healthy economy. The Insurance Industry as a financial service is considered as one of the important segments in an economy for its growth and development. Life Insurance Corporation of India has a complete monopoly over the life Insurance business for a very long period i.e. from 1956 to 1999, a period prior to the liberalization. In 1999, the Insurance sector was opened up for private participation to increase insurance penetration. The winds of liberalization and privatization have brought phenomenal changes in the financial sectors, particularly in life Insurance. In spite of presence of multiple distribution channels and wide range of new products; the performance of life Insurance companies was unsatisfactory. Hence to improve insurance growth and market penetration of life Insurance business a new concept called "Banc assurance" were introduced by IRDA in late 2002 where insurance companies have tie – ups with different banks through joint-venture for selling Insurance products.

But its origination in India took place in the year 2000 when the Government issued notification under Banking Regulation Act which allowed Indian Banks to set up insurance joint ventures on risk participation basis and also to undertake insurance business as agents of insurance companies on fee basis, without risk participation by banks and their subsidiaries. It started picking up after Insurance Regulatory and Development Authority (IRDA) passed a notification in October 2002 on 'Corporate Agency' regulations. As per the concept of Corporate Agency, banks can act as agent to one life and one non-life insurer.

With the objective of further increasing insurance penetration using the entire network of bank branches, the Finance Minister in the budget speech 2013-14 in the budget 2013-14 announced that banks will be permitted to act as insurance brokers. Consequently, IRDA has formulated and notified the *IRDA (Licensing of Banks as Insurance Brokers) Regulations, 2013* to enable banks to take up the business of insurance broking departmentally. Reserve Bank of India has also issued *Draft Guidelines on Entry of Banks into Insurance*

*Business-Insurance Broking Business on November 29, 2013* for public comments. Taking into account the comments received from various shareholders in response to the draft guidelines, the guidelines have now been finalized, as per *RBI Circular DBR.No.FSD.BC.62/24.01.018/2014-2015* released on January 15, 2015.

Now, the banks can undertake insurance broking business departmentally, subject to the requirements, including the minimum eligibility criteria. Banks desirous of offering insurance broking services should seek specific prior approval of Reserve Bank of India. On a whole, Banks in India may undertake insurance business by setting up a Subsidiary/ Joint Venture, as well as undertake Insurance Broking/Insurance Agency/ either departmentally or through a subsidiary subject to the eligibility conditions.

### OBJECTIVE OF THE STUDY

The objective of the study is to study the present status of Bancassurance in India and investigate the scope and challenges of the same via its operating models in India.

### METHODOLOGY

The present study is exploratory cum analytical in nature which is solely based on secondary data. The data have been collected from various sources, like, journals, RBI and IRDA Reports, web sites, text books and magazines, etc. The time period of the study is from 2001-2016. The variables of the study are: premium underwritten by life insurers, life insurance penetration and density in India, total life insurance premium income and channel wise new business premium (Individual & Group) of life insurers. The explanation of variables is given on the basis of Annual Reports of IRDA.

### STATUS OF BANCASSURANCE IN INDIA

The growth of Bancassurance was phenomenal in the initial years of opening. But as of now, the concept of Bancassurance appears to be gaining ground quite rapidly both through commission based arrangements and joint ventures between banks and insurance companies.

Globally, the share of life insurance business in total premium was 55.6 per cent. However, the share of life insurance business for India was very high at 79 per cent while the share of non-life insurance business was small at 21 per cent. In life insurance business, India is ranked 10th among the 88 countries cent, for which data is published by Swiss Re. India's share in global life insurance market was 2.24 per cent during 2015 whereas it was 2.08 per cent in 2014 . However, the share of Indian non-life insurance premium in global non-life insurance premium was small at 0.75 per cent and India ranks 18th in global non-life insurance markets.

**Table 1**  
**Premium underwritten: life insurers**

Insurer	Premium Underwritten (Rs crore)	
	2014-15	2015-16
LIC	239667.65 (1.15)	266444.21 (11.17)
Private Sector	88434.35 (14.32)	100499.02 (13.64)
Total	328102.00 (4.39)	366943.23 (11.84)
<b>Note:</b> Figures in brackets indicate the growth (in per cent) over the previous year.		

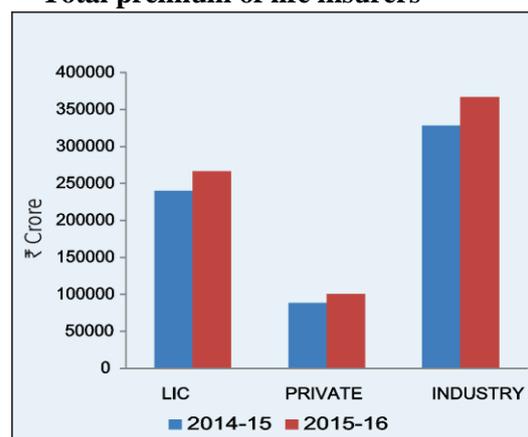
Source: IRDA Bulletin 2015-16

Life insurance industry recorded a premium income of Rs. 3,66,943.23 crore during 2015-16 as against Rs. 3,28,102 crore in the previous financial year, registering a growth of 11.84 per cent (4.39 per cent growth in previous year). While private sector insurers posted 13.64 per cent growth (14.32 percent growth in previous year) in their premium income, LIC recorded 11.17 per cent growth (1.15percent growth in previous year).

### Insurance penetration and density in India

The measure of insurance penetration and density reflects the level of development of insurance sector in a country. While insurance penetration is measured as the percentage of insurance premium to GDP, insurance density is calculated as the ratio of premium to population (per capita premium). During the first decade of

**Figure 1**  
**Total premium of life insurers**



insurance sector liberalisation, the sector has reported consistent increase in insurance penetration from 2.71 per cent in 2001 to 5.20 per cent in 2009. However, since then, the level of penetration has been declining reaching 3.9 per cent in 2013. However, there was slight increase in 2015 reaching 3.44 percent compared to 3.3 percent in 2014. A similar trend was observed in the level of insurance density which reached the maximum of USD 64.4 in the year 2010 from the level of USD 11.5 in 2001. During the year under review 2015, the insurance density was USD 54.7.

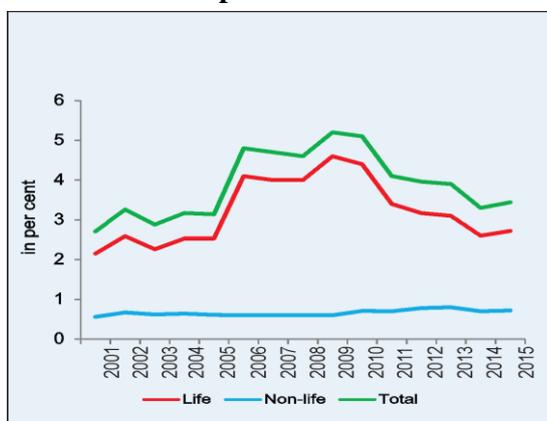
**Table 2**

INSURANCE PENETRATION AND DENSITY IN INDIA						
Year	Life		Non-Life		Industry	
	Density (USD)	Penetration (%age)	Density (USD)	Penetration (%age)	Density (USD)	Penetration (%age)
2001	9.1	2.15	2.4	0.56	11.5	2.71
2002	11.7	2.59	3.0	0.67	14.7	3.26
2003	12.9	2.26	3.5	0.62	16.4	2.88
2004	15.7	2.53	4.0	0.64	19.7	3.17
2005	18.3	2.53	4.4	0.61	22.7	3.14
2006	33.2	4.10	5.2	0.60	38.4	4.80
2007	40.4	4.00	6.2	0.60	46.6	4.70
2008	41.2	4.00	6.2	0.60	47.4	4.60
2009	47.7	4.60	6.7	0.60	54.3	5.20
2010	55.7	4.40	8.7	0.71	64.4	5.10
2011	49.0	3.40	10.0	0.70	59.0	4.10
2012	42.7	3.17	10.5	0.78	53.2	3.96
2013	41.0	3.10	11.0	0.80	52.0	3.90
2014	44	2.6	11.0	0.70	55.0	3.30
2015	43.2	2.72	11.5	0.72	54.7	3.44

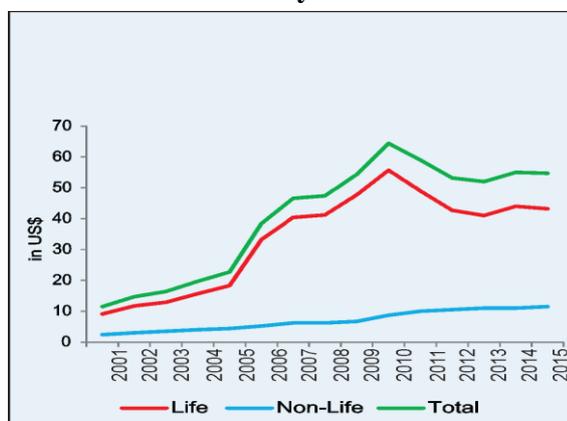
Source: IRDA Bulletin 2013-14

The insurance density of life insurance business had gone up from USD 9.1 in 2001 to reach the peak at USD 55.7 in 2010. During 2015, the level of life insurance density was only USD 43.2. Similarly, the life insurance penetration surged from 2.15 per cent in 2001 to 4.60 per cent in 2009. Since then, it has exhibited a declining trend reaching 3.1 per cent in 2013. However, there was a slight increase in 2015 reaching 2.72 percent in 2015 when compared to 2.6% in 2014. Over the last 10 years, the penetration of non-life insurance sector in the country remained steady in the range of 0.5-0.8 per cent. However, its density has gone up from USD 2.4 in 2001 to USD 11.5 in 2015. The figures show that there is ample scope of penetration in the said segment.

**Figure 2**  
insurance penetration in india



**figure 3**  
insurance density in india



Source: IRDA Bulletin 2015-16

**Share of Bancassurance**

The premium collected through bancassurance has gone up to Rs. 40327.061 crore in the financial year 2015-16 which is 10.99% of the total premium income of life and non-life insurance sectors. However the premium

growth seems to have reached a plateau due to the inability of both banker and insurance companies in exploiting full potential of bank customer profile. This is of importance when we consider the low levels of insurance penetration in the country.

**Table 3: Total life insurance premium income and bancassurance  
 Fy (2001-2016), rs.in crores**

Year	Total Premium Income (in Crores)	Banks Share (in %)	Total Contribution of Bancassurance in Premium Income
2005-06	105875.76	6.38	6754.8
2006-07	156075.84	5.46	8521.16
2007-08	201351.41	7.54	15181.8
2008-09	221785.47	9.69	21491.01
2009-10	265447.25	10.60	28137.7
2010-11	291638.64	9.81	28609.75
2011-12	287072.11	11.25	32295.61
2012-13	287202.49	11.33	32540.04
2013-14	314283.20	9.43	29636.9
2014-15	328102.01	11.34	37206.77
2015-16	366943.23	10.99	40327.06

*Source: IRDA Bulletin2015-16*

Table 4 shows channel wise individual new business premium of the life insurance companies both in private and public sector in the year 2015-16. The table also shows the contribution of different channels in the total life insurance industry.

**Table 4: Individual new business performance of life insurers for 2015-16: channel wise**

Life Insurer	Individual Agents	Corporate Agents		Brokers	Direct Selling	MI Agents	CSCs	W As	IMF	Online	Total Individual New Business	Referrals
		Banks	Others									
Private	31.90	51.70	3.00	3.64	8.65	0.01	0.004	0.00	0.00	1.10	100.00	0.06
LIC	96.50	2.18	0.14	0.02	1.03	0.06	0.00	0.00	0.00	0.07	100.00	0.00
Total	68.27	23.82	1.39	1.60	4.36	0.04	0.002	0.00	0.00	0.52	100.00	0.03

*Source: IRDA Bulletin2015-16*

From the table, it is clearly understood that the contribution of banks in case of LIC is very low (i.e. only 2.18 %) in 2015-16 but in the private sector the contribution of banks is very high (51.70%). The share of banks in total individual new business has gone up from 20.84% in 2014-15 to 23.82% in 2015-16.

Table 5 shows, channel wise group new business premium of the life insurance companies both in private and public sector, and in the total life insurance industry, in the year 2015-16.

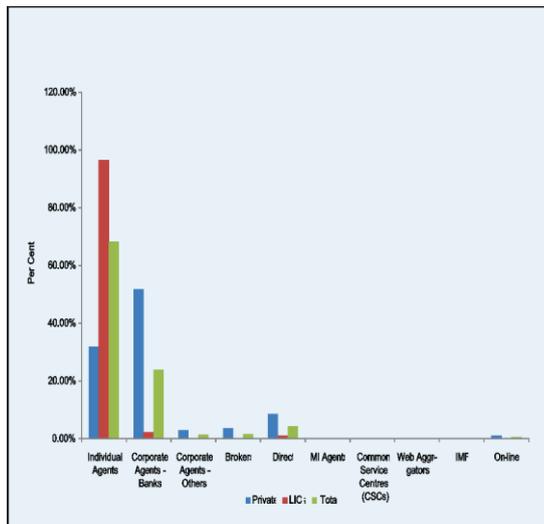
**Table 5: GROUP new business performance of life insurers for 2015-16: channel wise**

Life Insurer	Individual Agents	Corporate Agents		Brokers	Direct Selling	MI Agents	CSCs	WAs	IMF	Online	Total Individual New Business	Referrals
		Banks	Others									
Private	0.77	8.79	4.71	3.17	82.56	0.00	0.00	0.00	0.00	0.00	100.00	0.00
LIC	1.91	0.00	0.07	0.02	98.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
Total	1.69	1.69	0.96	0.63	95.03	0.00	0.00	0.00	0.00	0.00	100.00	0.00

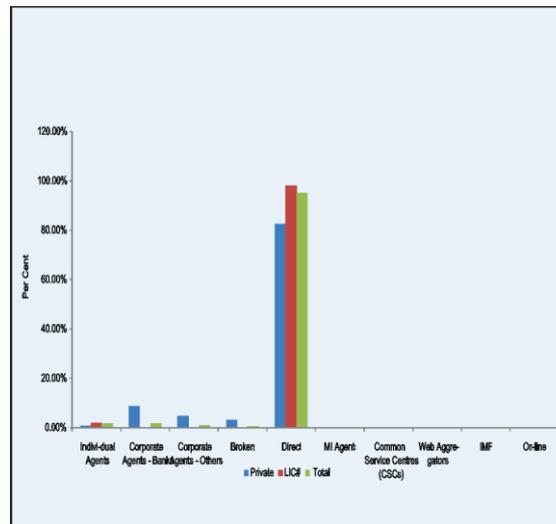
*Source: IRDA Bulletin2015-16*

During the year 2015-16, banks had contributed 8.79% of the total group business in the case of private insurers. This figure stood at 10.36% in the previous year. Direct selling remains to be dominant channel of distribution for group business, with a 95.03% share of premium and the banks share is only 1.69% which is quite low.

**Figure 4**  
**Individual New Business Performance of Life Insurers for 2015-16: Channel Wise**



**Figure 5**  
**Group New Business Performance of Life Insurers for 2015-16: Channel Wise**



Source: IRDA Bulletin 2015-16

As shown in table 6, at the aggregate level (individual and group business together), direct selling had contributed 56.92% of the total new business during the year compared to 49.67% in 2014-15. The share of individual agents to the aggregate premium had decreased to 29.68% from 36.44% of 2014-15. The contributions made by banks and corporate agents other than banks were 10.99% and 1.14% respectively. The contribution of Brokers was 1.04%. Online sales channel had contributed 0.22% of new business premium. The contribution of MI Agents and Common Service Centers (CSCs) was at 0.02% and zero percent respectively.

**Table 6: New business premium (individual & group) of life insurers for 2015-16: channel wise**

Life Insurer	Individual Agents	Corporate Agents		Brokers	Direct Selling	MI Agents	CSCs	W As	IMF	Online	Total Individual New Business	Referrals
		Banks	Others									
Private	20.13	35.48	3.65	3.47	36.59	0.00	0.00	0.00	0.00	0.68	100.00	0.04
LIC	33.68	0.73	0.09	0.02	65.43	0.02	0.00	0.00	0.00	0.02	100.00	0.00
<b>Total</b>	<b>29.68</b>	<b>10.99</b>	<b>1.14</b>	<b>1.04</b>	<b>56.92</b>	<b>0.02</b>	<b>0.0007</b>	<b>0.00</b>	<b>0.00</b>	<b>0.22</b>	<b>100.00</b>	<b>0.01</b>

Source: IRDA Bulletin 2015-16

Individual agents continue to be the prime channel for insurance distribution. Individual agents continued to play a major role in procuring new business in FY 2015-16, although it witnessed a fall in share to 29.68% in FY 2015-16 from 36.44% in FY 2014-15. The channel which recorded a visible growth compared with the preceding year was direct selling and corporate agents. This mode contributed 56.92% (49.67% in 2014-15) in 2015-16. The corporate agents has shown a decline in their contribution being 10.99% (11.34% in 2014-15) in FY 2015-16. Brokers represented a small part of the distribution system in India. The contribution of MI Agents and Common Service Centers (CSCs) was at 0.02% and zero percent respectively. However, in order to augment insurance penetration, multi-distribution network would be more appropriate in building range of opportunities for insurers to attract keeping customer's preferred mix of products, pricing, service and mode of channel. It is a method to get in touch with customers who could not be reached earlier, and to drag out more value from existing customers.

**SCOPE OF BANCASSURANCE**

Looking through the above figures, it is clear that still the insurance sector is lacking behind in terms of insurance penetration and insurance density. But bancassurance is rising as a promising opportunity to the insurance sector for improving its market in India. Along with this, bancassurance provides numerous varied benefits to the insurers, banks and the customers that they feel motivated to adopt it more aggressively in the future. These motivations in the form of various benefits to banks, insurers and customers are numerous. The profitability of banks will get enhanced as additional income can be generated in the form of commissions.

Further, their fixed costs will get reduced since it gets spreaded over the life insurance relationship. Further, on one side, with the expanded range of products, the customer retention rate along with new customers will improve; on the other side, there will be new opportunity to increase the staff productivity. Also, banks can leverage on face-to-face contacts and awareness about the financial conditions of customers to sell insurance products. Banks can cross sell insurance products e.g. Term insurance products with loans. Besides, the problem of over staffing can be mitigated without resorting to drastic solutions like large scale firing.

Seeking to increase insurance penetration in the country, the Reserve Bank of India has allowed banks to act as brokers for insurers, set up their own subsidiaries and also undertake referral services for multiple companies. The banks have also been allowed to set up subsidiaries and joint venture companies for undertaking insurance business with risk participation ([www.moneycontrol.com](http://www.moneycontrol.com), 15<sup>th</sup> January; 2015). Insurers can now exploit the banks' wide network of branches for distribution of products. The penetration of banks' branches into the rural areas can be utilized to sell products in those areas. Having access to customer database, leads can be easily generated and products can be customized accordingly.

Besides bank and insurers, the success factors of bancassurance also count on the benefits derived by customers. The people who are unaware of and/or are not in reach of insurance policies can be benefitted through widely distributed banking networks and better marketing channels of banks. It encourages customers of banks to purchase insurance policies and further helps in building better relationship with the bank. Higher trust will lead to comprehensive financial advisory services under one roof, i.e., insurance services along with other financial services such as banking, mutual funds, personal loans and so forth. Moreover, increase in number of providers means increase in competition and hence people can expect better premium rates and better services from bancassurance as compared to traditional insurance companies.

In plain words, it is aptly put that bancassurance has promised to combine insurance companies' competitive edge in the "production" of insurance products with banks' edge in their distribution, through their vast retail networks (Knight, 2005).

### **CHALLENGES TO BANCASSURANCE**

Bancassurance is a basket full of benefits and opportunities. But it too has its set of issues and challenges to be taken care of in a serious manner. In Indian context, the prime challenge faced by the bancassurance is related to Data Security. Data management of an individual customer's identity, contact, income details etc. may result in the insurance companies utilizing the details to market their products, thus compromising on data security. Also, there is a possibility of conflict of interest between other products of banks and insurance policies (like money back policy). This could create confusion in the minds of customers regarding where to invest. Better approach and services provided by the banks to customers is a hope rather than a fact. This is because many banks in India are known for their bad customer service and this in turn effects the selling of insurance products which requires a submissive attitude. Moreover, the bank employees have to sell insurance in addition to their routine works. Thus, they perceive insurance as a burden on their head without considering its benefits. Moreover, the bank employees are having more profit orientation than customer orientation. So, the majority of the bank employees tend to sell the policies which can fetch maximum benefits for them in terms of commission volume. But they forget to fulfill the customer requirements. In case of failure of the bancassurance operation, the bank runs the threat of image risk and cannibalizing deposits. There may be a fear among the staff that investment oriented life insurance products may eat into the deposit base of their branches. The bank employees are solely dependent on bancassurance executives for sales. It is difficult to manage and address all the requirements of customers simultaneously. Bancassurance products, being "push" products, require a totally different mindset and work culture. The issue of cultural incompatibility can impede bancassurance business to a large extent. Success of bancassurance depends on the extent to which and how fast the technology being used for banking operations can be used for meeting the technological requirements for insurance business. Otherwise, banks will have to incur large investments for putting in place the technological infrastructure for bancassurance operations.

### **SUGGESTIONS FOR FURTHERANCE OF BANCASSURANCE IN INDIA**

The above outlined problems need not, however, put off the banking sector to embark on bancassurance as any form of resistance from the bank employees could be tackled by devising an appropriate incentive system commensurate with intensive training to the frontline bank staff.

The insurance companies are required to come up with more customized products for bancassurance. Reorientation of staff in the public sector banks in particular, to be less bureaucratic and more customers

friendlier would indeed be a challenging task, *albeit* it is a prerequisite for the success of bancassurance. Owing to financial reforms and technological revolution, the customers are also more open and flexible to adapt the changes. Awareness programs to make customers know about the bancassurance and its benefits will yield better results. Improved best products should be offered to the customers in the cost effective manner. Quick and fair settlement of claims will also increase the trust and reliability of customers. Attractive incentives and proper motivation may be given to marketing personnel of banks to sell insurance products in an effective way. Besides, adequate and appropriate checks and balances are required to be put in place in time by all regulatory authorities concerned.

## **CONCLUSION**

In a country with more than 1 Billion people, sky is the limit for selling of insurance products. But the size of the country, a diverse set of people combined with problems of connectivity in rural areas, made insurance selling in India a very difficult proposition. Life insurance companies require immense distribution strength and tremendous manpower to reach out to such a huge customer base. With banking network of 65,000 branches serving more than 300 million retail banking customers, it seems that insurance can be made available at affordable prices to people even in remote corners of the country. In such environment, bancassurance came as a hope for both the sectors. Bancassurance not only enables the insurance companies to access far untapped markets, but also provides banks with the opportunity to acquire additional revenue streams while promoting customer retention. Economies of scale and scope make such an alliance attractive for both parties.

Bancassurance in India, over its 14 years journey, has proved to be a win-win model for insurance companies and banks. Insurance companies, with their relatively limited infrastructure, were able to sell their products throughout the country by using the distribution channel of bank branches. At the same time, banks without investing in additional resources or infrastructure were able to earn a fee-based income to supplement their core lending activities.

But the path of success will depend on how much both the regulators (RBI & IRDA) understand each other during the implementation and how much they are alive with the ground realities. Recently these regulators, has indeed, taken a very commendable initiative by permitting banks to act as insurance brokers which will help in taking bancassurance in India to new heights. Indian Economy, indeed, has a huge untapped potential with lot of challenges. If properly taken care, bancassurance can be a big success in India.

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## Social Media and Its Impact on Youth

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### ABSTRACT

*Social media, basically defined as grouping of internet based an application that builds on the ideological and scientific foundations for transforming communication, in to an effective and interactive conversation between different societies and individuals. Social media is one of the easiest means and includes media and social networking sites like face book, twitter, Google+ etc. This is creating lot of boom in the current generation as it is one of the exceptional resources in conveying the information*

**Keyword:** Social Media, Youth, Network Site.

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### INTRODUCTION

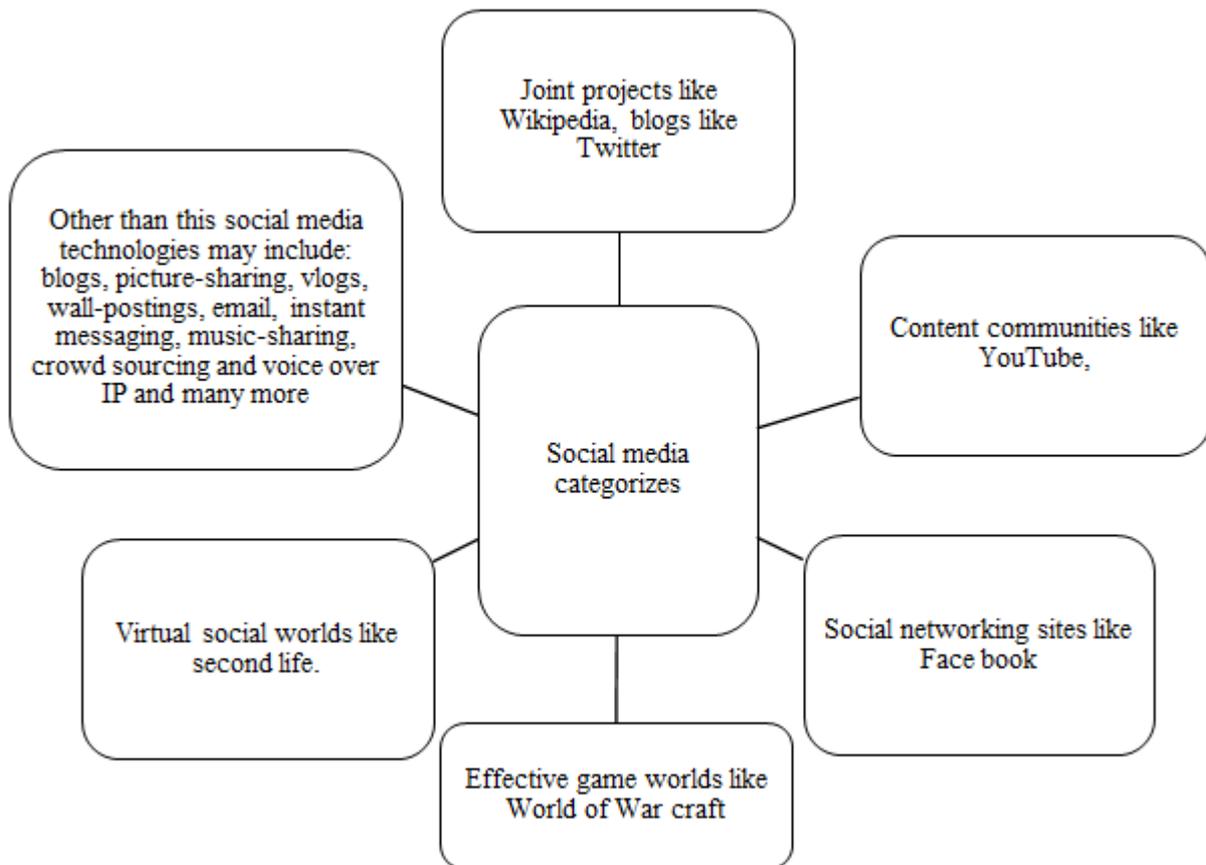
When Marshall McLuhan, a media and communication theorist, coined the term “global village” (1964) he could foresee how the advent of new technology was shrinking the world into a community. The digitization has squeezed economic, social and political boundaries thus giving it a common platform for development. The convergence of the media and extensive usage of internet has given birth to social media.

Lewis (2009) defines social media as the platforms that link people together in order to provide a means which will allow them to create and share content with others. According to Choi and Kang (2014), social media can be categorized into two: those (Facebook, Twitter, Pinterest, YouTube, Flickr) for social networking and those (Wikis, Blogs, Discussion Boards, Online Forums) for learning activities.

Social media, a concept that has given people a common platform for sharing their news, views and opinions regarding the happenings around them. Not only this, social media is also being used by the advertisers and companies for their promotions, professionals for searching and recruiting, students for internships, amateurs for professional work, parents and educators as social learning tools, etc. Why social media is becoming an integral tool. Social media has become an essential part of everyone’s life. All are activities of the day revolve around social media. It satisfies our urge for information, knowledge, shopping entertainment as it has become part of our smart phones and we can find anything and everything by just clicking at it.

Whole of social media is managed using the seven functional building blocks and they are: Identity, conversations, sharing, presence, relationships, reputation, and groups. Main purpose of using these building blocks is to get better idea on the essential needs of the social media viewers and these building blocks may differ with the type of social media. For example users of LinkedIn mainly focus on identity, reputation and contacts whereas YouTube building blocks are sharing, conversation, groups and reputation.

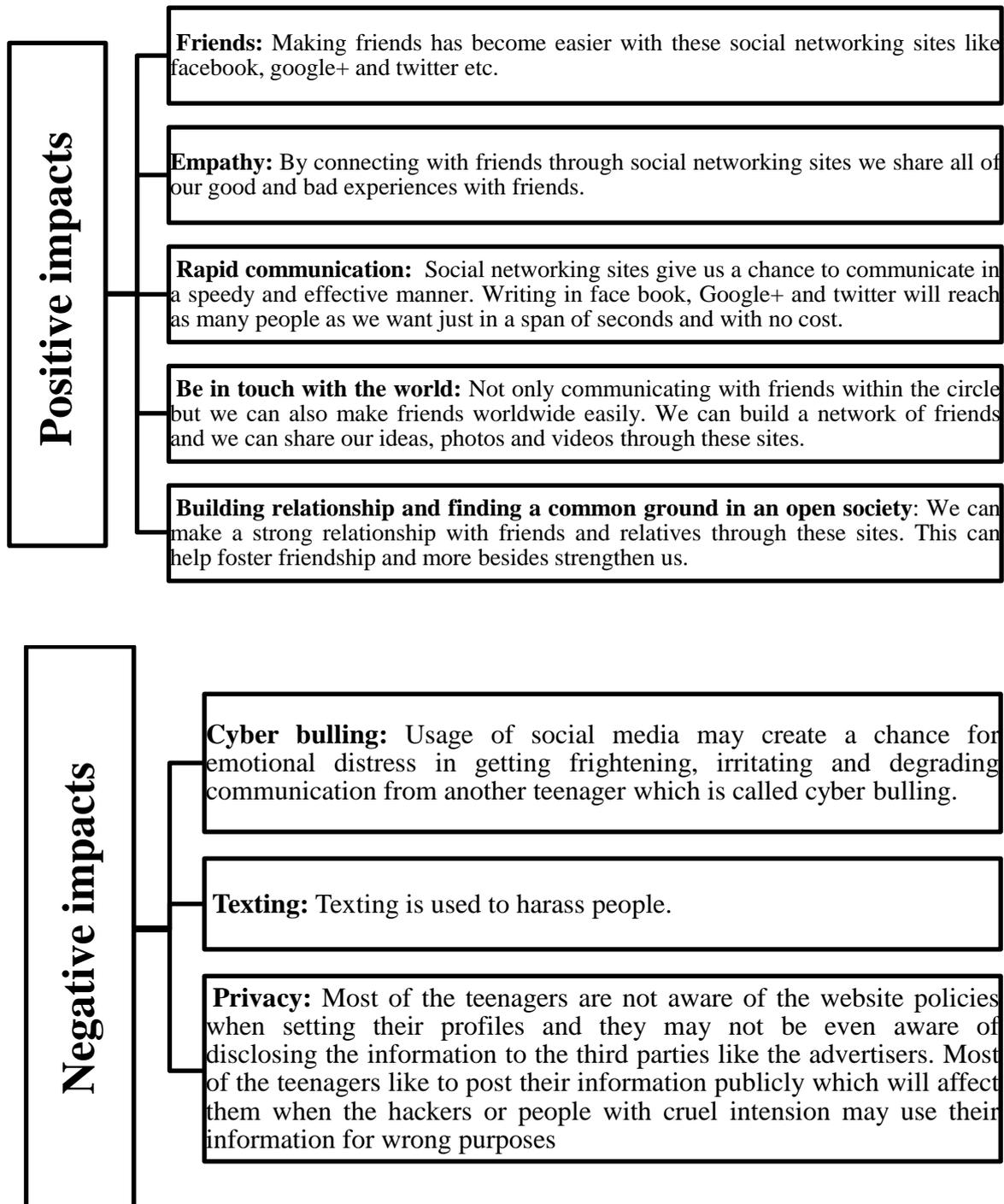
Social media can be categorized into following:



Social media is one such media which connects and reaches millions of people just in a fraction of seconds. Some of the benefits are listed below:

- ▶ **Reach:** It is proved that this social media can reach huge audience across the globe. People use it for connecting, sharing, expanding business and trade.
- ▶ **Accessibility:** Accessibility for industrial media is governed by government or it may be privately owned. Social media tools will be available to the public at a very low cost or sometimes at free of cost.
- ▶ **Usability:** It is very easy to operate and access social media for a person with minimum knowledge of computer operating and one can easily avail the vast services provided by social media. Social media is known for its ease of use.
- ▶ **Immediacy:** Social media is capable of conveying information in just a span of seconds. People or audience can get quick updates on the latest news with just a single click.
- ▶ **Permanence:** Social media can always be altered with comments or suggestions which are provided by the industry experts or the audience. Social media will undergo rigorous change to cope up with the latest technology that is exploring in today's generation.
- ▶ **A flexible media:** Social networking sites like facebook, twitter, google+ help users to find and connect with friends worldwide, easily with a quick process. These will also be helpful in promoting business by increasing contacts. Using these sites is very easy because they are designed in a way to reach the targeted audience and new features and functions are constantly developed so as to make the site more flexible in satisfying user needs. Many famous personalities for example celebrities, business men and famous personalities create their own blogs to promote their business or to express their views. This will make their work easier in reaching huge audience in a very less time.
- ▶ **Network building at free of cost:** When compared to journals and reports, social media will easily connect to the users. This will take less time in reaching the audience whereas the journals, reports will take lot of time as it is a tedious process. Social media also helps in promoting scientific researches which will be very helpful to mankind. Every service rendered by these social networking sites is provided at free of cost for its users.

Every technology has its positives and negatives. Social media is widely used by youth these days. So the engagement of youth with the media has its own benefits and ill effects. Lets look at the impact social media has on youth.



Just to conclude parents and caretakers must make their wards aware of the benefits and ill-effects of social media especially social networking sites. They must be encouraged to join communities whose members are known to them. The youth must be discouraged to reveal information about themselves to the unknown people. So that they are not bullied and that can be used in a better way to connect with people, share views and for research and developmental purposes.

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## CSR in India- Comparative Analysis of Companies in FMCG Sector

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### ABSTRACT

*The broadest definition of CSR is concerned with what should be the relationship between global corporations, governments of countries and individual citizens. Section 135 of the Companies Act has made it mandatory for some categories of companies in India to contribute towards CSR (Corporate Social Responsibility). This paper analysis the potential implications of Section 135 on firms incentives, the likely responses of major corporates that come under this Section, the level of CSR activities done by these corporates and finally the prospects and challenges of implementation of mandated CSR spending under the notified rules. Insights into these issues are drawn by examining the CSR behaviour of the major players in the FMCG industry, namely, ITC, HUL, P&G, Godrej, Britannia, Dabur and Nestle. The contribution made to CSR by these top FMCG companies in India was studied. The analysis is done to know the sectors of contribution of these companies, the amount of expenditure of CSR in the three year period and the main CSR project as per amount expended.*

**Keywords:** CSR, Company Act 2013, India, CSR Disclosure, Mandatory CSR, FMCG.

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### INTRODUCTION

According to UNIDO, Corporate Social Responsibility is a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders. CSR is generally understood as being the way through which a company achieves a balance of economic, environmental and social imperatives ("Triple-Bottom-Line- Approach"), while at the same time addressing the expectations of shareholders and stakeholders. Winston Churchill has been quoted as saying many times "Responsibility is the Price of Greatness". People, who through their own quest for greatness can contribute to making a company truly great.

Bowen has suggested that the "social responsibility of businessman refers to obligations of businessmen to pursue those policies to make those decisions or to follow those lines of action which are desirable in terms of objective and values of our society"

CSR has been a growing concept over the past years. Factors like sustainable development, globalization, governance, communications, finance, ethics, leadership and community have led to companies especially in the FMCG sector to focus on their responsibility towards the society. The fundamentals of CSR rest on the fact that along with the public policy, corporate should also be responsible for enough to address social issues.

Especially for the FMCG companies, where the major challenge is reduction of packaging materials, these companies are doing work in the field of Environment, Healthcare, Education, Community welfare, Women's empowerment and Girl Child care. Clause 135 of Company Act 2013 created huge hue and cry among the business community in India. As per clause 135 of the Companies Act, 2013, Every company with an annual turnover of 1,000 crore INR and more, or a net worth of 500 crore INR and more, or a net profit as low as five crore INR and more have to spend at least 2% of their average net profit over the previous three years on CSR activities. With the introduction of new Company act 2013 India became the first country in the world to have legislation for compulsory CSR spending. With the attempt to increase CSR awareness in our country, PM Narendra Modi launched Swach Bharat Programme across the nation. Prime Minister Modi advocated scientific social responsibility (SSR) for leading scientific institutions on the lines of corporate social responsibility (CSR) to promote scientific excellence in all stakeholders, including educational institutions.

## OBJECTIVE

The purpose of this special issue is to spread the CSR research agenda by bringing together multiple perspectives. Following points bring out the objective of this paper-

- To analyse the compliance of the companies in the FMCG sector in India to section 135 of Companies Act.
- To analyse the sectoral contributions made by these companies
- To make a comparative analysis on the monetary contribution made by these corporates
- To outline a trend in the contribution to CSR

## LITERATURE REVIEW

The concept of CSR dates back to ages but the modern concept where CSR is being related with the existence of business is most appropriately explained by Howard R. Bowen in his book *Social Responsibility of Businessman* in 1953. By social responsibility of businessmen, Bowen meant "the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action that are desirable in terms of the objectives and values of our society."

This modern concept of CSR is being followed today as well with the same question as Bowen asked " what responsibilities to society may businessmen reasonably be expected to assume?"

After this many prominent writers like William Frederick, Keith Davis, Clarence C. Walton have worked towards developing the concept of CSR. Fredrick wrote that 'Social responsibility in the final analysis implies a public posture towards society's economic and human resources and a willingness to see that those resources are used for broad social ends and not simply for the narrowly circumscribed interests of private persons and firms'. Carroll (1990) viewed CSR as an essential element of business and organised different social responsibilities as a four layered pyramid model and called it the pyramid of responsibilities.

Dozens of definitions or concept of Corporate Social Responsibility has come into being since then.

In India also, the evolution of concept of CSR has gone through many stages and is still growing. It is not a new concept in India. For a country rich in natural resources and manpower which provides it a prominent place in corporate world, CSR is essential. From the very beginning many corporates like Tata group, Aditya Birla group etc have discharged their duties towards society. But it was mainly through donations or charity that the firms contributed to the society. This was the first stage based as given by Sundar (2000). According to him the evolution of CSR can be categorised into four stages, first being based on Philanthropy and Charity also called as pre-independence era.. Second phase ( 1914-1960) was based on 'social development' where the firms developed trusts in order to tackle the social problems such as untouchability and empowering the deprived sections. Third phase (1960-1980) was based on mixed economy. In this stage more emphasis was given on social causes and PSUs were established out of the concerns for the environment, corporate governance, worker's empowerment. Fourth Stage (1980s - till present), CSR is considered as a way to maximize the company's overall impact on the society and stakeholders. CSR policies, practices and programs are being comprehensively integrated by an increasing number of companies throughout their business operations and processes.

(Anupam & Priyanka, 2014). Despite of the importance CSR holds, both for the company as well as the society, not all companies were committed towards it as it was optional for most companies. But the implementation of Companies Act 2013 has changed the whole idea of CSR contribution by the corporates.

India is the first country in world to make CSR spending mandatory. Under the new law(Company Act 2013), every company having a net worth of Rs.500 crore or more or revenue above Rs.1,000 crore or a net profit above Rs.5 crore needs to spend at least 2% of the average net profits for the past three years on CSR activities. Many researchers have worked towards analysing the impact of this law on the Indian companies.

## RESEARCH METHODOLOGY

The research paper is an attempt of exploratory research, based on the secondary data sourced from journals, articles, newspapers, websites, reports, conference papers and annual reports of respective companies. The paper analyses the contribution by companies to CSR in two aspects-

Economic Aspects of CSR-The monetary aspect emphasises on the amount which has been spent by the companies towards different projects in various sectors. It also analysis a trend in the contribution since the implication of Section 135 of the Companies Act, 2013.

Social Aspects of CSR- The social aspect focuses on the initiatives of the FMCG industry in the sectors of education, health care, environment and other projects. It analysis the sector in which each company has focused its attention.

## ANALYSIS & FINDINGS

### CSR Activities of top companies of FMCG Sector

COMPANY	EDUCATION	HEALTH CARE	ENVIRONMENT	OTHERS
1. Hindustan Unilever Limited	<ul style="list-style-type: none"> <li>• ANKUR was set up in 1993 as a centre by your Company's Plantations Division for special education for differently-abled children at Doom Dooma in Assam</li> <li>• RIN CAREER READY ACADEMY aims to inspire, educate and equip the youth from modest backgrounds with skills in English training, office dressing and interviewing</li> <li>• FAIR &amp; LOVELY Foundation identifies academically exceptional girls from financially challenged backgrounds and offers scholarships to deserving candidates</li> </ul>	<ul style="list-style-type: none"> <li>• Handwashing Behaviour Change Programme-the simple act of handwashing in institutions, such as primary schools and day care centres, reduces the incidence of diarrhoeal diseases by an average of 30 per cent</li> <li>• Safe Drinking Water</li> <li>• DOMEX TOILET ACADEMY (DTA)- Currently operational in Bihar, the DTA programme trains entrepreneurs and masons to help build and maintain toilets; provides access to micro-financing and creates demand for sanitation in low-income households</li> <li>• SWACHH AADAT SWACHH BHARAT</li> <li>• SUVIDHA, the Community Hygiene Centre-The Company has built a first-of-its-kind urban water, hygiene and sanitation community centre named 'Suvidha' in Azad Nagar, Ghatkopar, one of the largest slums in Mumbai</li> <li>• ASHA DAAN is a home in Mumbai for abandoned and differently-abled children, the HIV-positive people and the destitute</li> <li>• SANJEEVANI-Company runs a free mobile medical service camp 'Sanjeevani' for the local community near Doom Dooma factory in Assam.</li> </ul>	<ul style="list-style-type: none"> <li>• Water Conservation Projects</li> <li>• Sustainable Sourcing of Tea</li> </ul>	<ul style="list-style-type: none"> <li>• Project SHAKTI is the Company's initiative to financially empower rural women and create livelihood opportunities for them. The Shakti Ammas are given training for familiarisation with your Company's products and basic tenets of distribution management</li> <li>• 'Prabhat' programme - Enhancing Livelihoods, Water Conservation and Health and Hygiene.</li> </ul>
2. India Tobacco Company	<ul style="list-style-type: none"> <li>• Education: Provide children from weaker sections access to education with focus on enrolment, retention and improved pedagogy</li> <li>• Vocational Training:</li> </ul>	<ul style="list-style-type: none"> <li>• WASH-Water, Sanitation &amp; Hygiene</li> <li>• Water Recycling</li> <li>• Solid Waste management (Regions of AP, Telangana, Maharashtra, MP, UP, Rajasthan, West</li> </ul>	<ul style="list-style-type: none"> <li>• Afforestation programme</li> <li>• Animal husbandry- aims to assist cattle-owners to increase the</li> </ul>	<ul style="list-style-type: none"> <li>• E-CHOUPAL-A network of village internet kiosks – e-Choupals – enable even small and marginal farmers in rural India, who are</li> </ul>

	Build and upgrade skills of youth to better compete with the emerging needs of the job market across different sectors.	Bengal,Chhatisgarh,Odissa)	productivity of their animals and improve milk quality <ul style="list-style-type: none"> <li>Watershed development for soil &amp; moisture conservation</li> </ul>	de-linked from the formal market, to access real-time weather and price information, and relevant knowledge and services to enhance farm productivity, quality and command better prices – improving their competitiveness and capacity to manage risk.
3. Procter and Gamble	<ul style="list-style-type: none"> <li>P&amp;G SHIKSHA: <ul style="list-style-type: none"> <li>Read India Program</li> <li>Supporting communities(MP)</li> <li>Supporting Defence NGOs to educate underprivileged children(Mumbai, Delhi, Leh, Rajasthan)</li> <li>Supporting Education of Marginalised Girls and children in rural areas</li> <li>Supporting remedial learning via digital learning</li> <li>Supporting education &amp; infrastructure in Himalayan Belt(J&amp;K)</li> </ul> </li> </ul>	NIL	NIL	NIL
4. Nestle	<ul style="list-style-type: none"> <li>Educate the girl child - Company partnered with Nanhi kali Project to support girl child education.</li> </ul>	<ul style="list-style-type: none"> <li>Nestle Healthy Kids Programme - Aims to raise nutrition, health and wellness awareness of school age children.</li> <li>Project Jagriti - Rooled out to to provide education programmes for good nutrition and feeding practices, improving nutrition and health at key life stages - adolescence to caregivers.</li> <li>Clean drinking water projects and water awareness programmes</li> <li>Sanitation projects - Sponsoring the construction of sanitation facilities (toilets) for girl students in village schools across all its</li> </ul>	<ul style="list-style-type: none"> <li>Water Conservation in Agriculture</li> </ul>	<ul style="list-style-type: none"> <li>Livelihood enhancement for street food vendors - The trainings of street vendors included subjects such as health, hygiene, food handling, food safety, garbage disposal and entrepreneurship</li> <li>Relief efforts - The Company responded to natural disasters in Assam and Bihar by supporting relief operations</li> </ul>

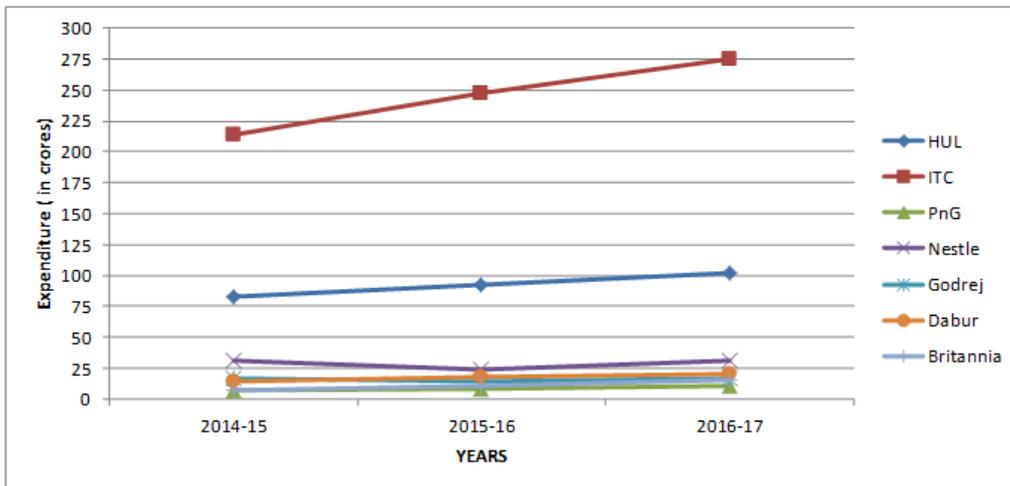
		<p>factory locations.</p> <ul style="list-style-type: none"> <li>• Cancer detection and treatment</li> </ul>		
5. Godrej Consumer Products Limited	<ul style="list-style-type: none"> <li>• Access to education - The donation to the Akanksha Foundation aims to provide access to quality education to children in Mumbai</li> </ul>	<ul style="list-style-type: none"> <li>• Behaviour Change Communication on Malaria and Vector-Borne Diseases (EMBED)</li> <li>• Fighting malnutrition in children</li> <li>• Critical ailment support to child suffering from Cancer - The project supports the Child Help Foundation to help critically ill children suffering from Cancer access quality medical treatment</li> </ul>	<ul style="list-style-type: none"> <li>• Waste Management - Urban waste management in Hyderabad, Plastic waste management in Guwahati.</li> <li>• Rural Electrification- Building renewable energy ecosystem in rural India to address the shortage of energy supply</li> <li>• Watershed Management - Aims at restoring the ecological balance in the drought prone district, recharge groundwater and make more water available for irrigation</li> </ul>	<ul style="list-style-type: none"> <li>• Project SALON-i - Skill training for employability leading to women empowerment</li> <li>• Project Prerna - Up-skilling of rural retailers and their assistants</li> <li>• Semi-longitudinal Impact Assessment of Godrej Employability Programmes</li> </ul>
6. Dabur	<ul style="list-style-type: none"> <li>• Education Centres for providing basic education to out-of-school under privileged kids through SUNDESH</li> <li>• Remedial education centers</li> <li>• School support Programmes</li> <li>• Life skill Training(Regions of UP, HP &amp; Uttarakhand)</li> </ul>	<ul style="list-style-type: none"> <li>• DIL SE DUA programme - to fight malnutrition among street children</li> <li>• Immune India awareness programme about the need of immunity in school going children</li> <li>• Dengue Fighter initiative to generate awareness about mosquitoes and prevention from</li> <li>• Health Camps to provide easy access to reliable healthcare for poor</li> <li>• Oral hygiene awareness Camps in schools</li> <li>• Programmes for empowering ASHA workers with knowledge on health care practices &amp; social development (Regions- Delhi,-NCR, UP, MP, Maharashtra,HP)</li> </ul>	<ul style="list-style-type: none"> <li>• Programmes to protect endangered species of herbs &amp; plants, enhancing livelihood of farmers through JIVANTI TRUST(regions- Odissa, TN,AP,J&amp;K,Delhi, Bangalore)</li> <li>• Promotion of Solar Energy</li> <li>• Vocational Training to women and villagers on bee-keeping</li> </ul>	<ul style="list-style-type: none"> <li>• SWAVALAMBAN - Training &amp; employment generation programme for rural youths (Regions of UP &amp; Bihar through JIVANTI trust)</li> <li>• Promoting &amp; managing self help groups for women</li> <li>• Promotion of Sports through 'AB DAUDEGA HINDUSTAN' initiative(Across India)</li> <li>• Incidental &amp; administrative expenses for running these programme</li> </ul>

7. Britannia	NIL	<ul style="list-style-type: none"> <li>Promoting preventive health care at Bai Jerbai Wadia Hospital for Children (BJWHC)</li> <li>Promoting preventive health Care at Nowrosjee Wadia Maternity Hospital (NWMH) (Regions-Mumbai &amp; Maharashtra)</li> <li>Promoting health care, growth and development of children from lower socio-economic section of the society through Britannia Nutrition Foundation (BNF)</li> </ul>	NIL	NIL
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**Comparative analysis( Monetary terms)**

Company Name	CSR (in Crores) 2014-15	% of last 3 years' average profit	CSR (in Crores) 2015-16	% of last 3 years' average profit	CSR (in Crores) 2016-17	% of last 3 years' average profit
1. HUL	82.35	2.12%	92.12	2.13%	101.71	2.04%
2. ITC	214.06	2.00%	247.50	2.00%	275.27	2.00%
3. PnG	6.52	2.00%	8.45	2.00%	10.8	2.00%
4. Nestle	30.7	1.99%	23.5	1.41%	31.2	2.20%
5. Godrej	16.08	2.59%	14.57	2.04%	16.52	2.02%
6. Dabur	14.71	2.007%	17.44	2.02%	20.38	2.004%
7. Britannia	7.35	2.00%	10.46	2.00%	15.80	2.00%

**Graphical depiction of CSR expenditure by the companies in the three year time frame :**



**RESULTS & CONCLUSION**

On the basis of the above table & graph we can derive the following results-

- CSR is a comprehensive concept & includes wide array of activities. Focus on different sector of social responsibility is essential for all companies which can be attained only if such activities are seen from a positive perspective and not as a burden. So the companies should not rely focusing on just one issue. Out of the seven sample companies, P&G and Britannia have focussed their CSR activities in specific sectors of education & healthcare respectively.

- Out of the seven companies under study, ITC has taken the lead in terms of CSR expenditure. The intra company analysis of last three years depicts that the monetary expenditure has been consistently increasing along with complying the 2% requirement of the Companies Act 2013.
- The CSR expenditure of Godrej & Nestle has dropped from 2014-15 to 2015-16 but eventually picked up in 2016-17. While Godrej complied with the requirements of section 135 throughout the period of study, Nestle on the other hand lacked behind in fulfilling the minimum requirement in 2015-16 but the same was compensated in 2016-17
- Following are the major projects of each company with their maximum investment outlay-  
Godrej- Project Salon-5.57 Cr  
P&G- Project Shiksha-10.8 Cr  
Britannia- at Nowrosjee Wadia Maternity Hospital (NWMH)-8.21 Cr  
Nestle- Project Jagriti-7.38 Cr  
ITC- Health & sanitation, Drinking water, eradicating poverty- 105.44 Cr  
HUL- Proect Shakti- 44.13 Cr  
Dabur- Programmes to meet nutrition needs of poor & needy3.8 Cr

#### **LIMITATIONS & SCOPE FOR FUTURE RESEARCH**

- A more comprehensive study can be done covering a larger no. Of companies
- Data has been taken only for 2014-15, 2015-16 and 2016-17. Expanding the data horizon can also enable a comparison between the contribution made pre & post the implication of Section 135 of Companies Act, 2013.

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# A Study on Acceptance of E-Banking Facility by Bank Customers in Udaipur District

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## ABSTRACT

Information technology plays a major role in shaping industries all over the world. Obviously, banks rely greatly on IT in conducting their businesses and spend enormous amounts of money on such technology to diminish operation costs and gain competitive advantage over their rivals by offering customers better services through ATMs machines, telephone banking and more evidently in the last decade the internet banking (IB). The main aim of this research is to find acceptance of internet banking among Indian consumers and how it is perceived by them. The idea of this research is to determine the factors influencing acceptance level of internet banking, i.e. awareness of service, security, quality of internet connection, how e-banking works, usefulness, perceived ease of use, perceived enjoyment, trust, and adoption intention among the e-banking account customers of different banks in Udaipur district. The data for the research project has been collected by self-administration. Direct personal interview method was used to collect primary data. A structure questionnaire was also framed as it is less time consuming, generates specific and to the point information, easier to tabulate.

**Keywords:** Internet Banking, Consumers, Information technology, Acceptance, usefulness, convenience.

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## INTRODUCTION

Providing service to the customers through internet is regarded as E- banking. Web Based services provide the customers with the package of simply accessible and manageable services such as reduction in cost of transactions and managing one's account at hand. E-banking also enables the customers to manage their accounts with few clicks, making their services cheap and favorable. The emergence of the Internet has changed the business landscape. The internet is a really important new technology in this era of development. One particularly important application of the Internet is in the area of banks and financial institutions, (i.e., financial transaction that could actually be done via the internet). The advent of Internet banking offers considerable opportunities and benefits for both banks and consumers. Banks can expand their client base and rationalize their business. Meanwhile, the e-banking can also increase consumer convenience, since many banking transactions such as transferring funds and paying bills can be conducted online.

Almost every bank today provides the service of internet banking. Hence it is important for the banks to know the determinants that influence the customer adoption of internet banking. Giving the services through internet is not enough but providing the quality service is the main thing. There are many factors that make the service good enough for the customers to be adopted. Web design, security, trust, product diversification, credibility, collaboration, access and communication are some of the factors that make the perception of customer about the quality of e- banking service.

## REVIEW OF LITERATURE

**Y.Wang,H. Lin,T.Tang (2003)** interested to identify the factors that determine acceptance of Internet banking by the users. They also examine the effect of computer self-efficacy on the intention to use Internet banking.

**S. Rotchanakitumnuai, M Speece, (2003)** investigated why corporate customers do not accept Internet banking, which can assist banks to implement this self-service technology more efficiently. They founded bank customers already using Internet banking seem to have more confidence that the system is reliable, whereas non-users are much more service conscious, and do not trust financial transactions made via Internet channels.

**SerkanAkinci, SafakAksoy, EdaAtilgan, (2004)** developed an understanding of consumers' attitudes and adoption of Internet banking among sophisticated consumers. The analyses revealed significant differences between the demographic profiles and attitudes users and non-users of internet banking.

**Kolodinsky, Hogarth, Hilgert,(2004)** explores factors that affect the adoption or intention to adopt e-banking technologies and changes in these factors over time. Income, assets, education, gender and marital status, and age also affect adoption. Adoption changed over time, but the impacts of other factors on adoption have not changed.

**S. Akinci, S. Aksoy, E. Atilgan, (2004)** developed an understanding of consumers' attitudes and adoption of Internet banking among sophisticated consumers. The analyses revealed significant differences between the demographic profiles and attitudes of users and non-users of internet banking.

**G. Kannabiran, P.C. Narayan (2005)** conducted a study which discusses the experiences of a private-sector bank in deploying Internet banking and e-commerce in India. Strategic alignment of business and IT strategies, planning and implementation of e-banking initiatives and management of benefits are captured, along with key contributions to development.

**C. Gan, M. Clemes, V. Limsombunchai, A. Weng (2006)** conducted a research to examine consumer's choices between electronic banking and non-electronic banking in New Zealand. The findings in the research show that the output from the logistic regression indicates that the service quality, perceived risk factors, user input factors, employment, and education were the dominant variables that influence consumers' choice of electronic banking and non-electronic banking channels.

**Harden, Gary (2006)** suggests that banks are finding it difficult to manage relationships effectively due, in large measure, to the sheer volume of customer data generated by new interactive, technology-based channels. They further suggested that channels such as e-banking potentially reduce the level of personal contact between bank and customer to the extent that a 'virtual' relationship develops.

**NikiGlaveli, Eugenia Petridou, Chris Liassides, CharalambosSpathis, (2006)** suggested that Greek customers perceived receiving the highest level of service quality. Differences and similarities between the countries were also reported related to the degree of importance attached to the service quality.

**Wai-Ching Poon, (2007)** investigated that privacy and security are the major sources of dissatisfaction, which have momentarily impacted users' satisfaction. Meanwhile, accessibility, convenience, design and content are sources of satisfaction. WAP, GPRS and 3G features from mobile devices are of no significance or influence in the adoption of e-banking services in his study.

**A.M. El-Sherbini, C.P Roas, M.Mohamed& A. Wugayan,(2007)** investigated the customer's perspectives of internet banking, their perceived importance for it, usage patterns and problems rising on its utilization. The researchers' main hypothesis tested that top five services considered relative important in Kuwait banks were "Review account balance", "Obtain detailed transactions histories, "Open accounts", Pay bills" and Transfer funds between own accounts".

**Krishnan Dandapani, Gordon V. Karels, Edward R. Lawrence, (2008)** conducted a study for the purpose to examine the impact of internet banking services on credit union activity. The impact of internet banking services on credit union over the period 1999-2006 was studied and regression.

**Pooja Malhotra, Balwinder Singh, (2010)** studied the present status of Internet banking in India and the extent of Internet banking services offered by Internet banks. They found that private and foreign Internet banks have performed well in offering a wider range and more advanced services of Internet banking in comparison with public sector banks.

## **OBJECTIVE OF RESEARCH**

- To study why people avail internet banking facility.
- To examine whether there is any relation with the demographic variable (e.g. gender) and respondents' perception about internet banking; and, whether the user and non-user perception differs.
- To understand the concept of Internet banking and importance, to bank as well as customers.
- To evaluate perception of people about internet banking.
- To get aware of various aspects of e- banking.

## **HYPOTHESES**

- **H<sub>01</sub>** . There is no association between demographic factor and knowledge of terms and condition essential for maintaining e-banking account.
- **H<sub>02</sub>** . There is no association between demographic factor and the perception as whether e-banking saves time.

- **H<sub>03</sub>**. There is no association between demographic factor and the knowledge regarding IT act 2000.

**RESEARCH METHODOLOGY**

- **Universe** : Individual having e-banking a/c (account) in different banks.
- **Sample unit** : Individuals availing e-banking facility in Udaipur city.
- **Sample** : Residents of Udaipur city.
- **Sample size** : 100 respondents
- **Tool used** : Questionnaire & Interview.
- **Time Period** : 4 months.
- **Collection of data** : Primary data was collected through Questionnaire and the secondary data is collected from internet.
- **Development the research plan:** The data for the research project has been collected through self-Administration. Direct personal interview method is used. A structure questionnaire was framed as it is less time consuming, generates specific and to the point information, easier to tabulate and interpret. Moreover respondent are perfect to give direct answers.

**DATA ANALYSIS AND INTERPRETATION**

**Frequency tables**  
**Table 1: Showing gender of respondents**

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	79	79.0	79.0	79.0
Female	21	21.0	21.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation** – From the questioner it was found that Out of 100 respondents 79 were male and 21 female.

**Table 2: Showing age distribution of respondents**

Age	Frequency	Percent	Valid Percent	Cumulative Percent
< 20 years	15	15.0	15.0	15.0
20-30 years	44	44.0	44.0	59.0
30-40 years	32	32.0	32.0	91.0
> 40 years	9	9.0	9.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation-** Most of the resp

ondents who avail e-baking facility come from age group 20-30 yrs. ,Below 20 years there were 15 respondents, between 30-40 yrs. there were 32 respondents and above 40 there were 9 respondent availing e–baking facility.

**Table 3: Showing Income distribution of respondents**

Income	Frequency	Percent	Valid Percent	Cumulative Percent
< Rs100000	27	27.0	27.0	27.0
Rs100000 – 300000	47	47.0	47.0	74.0
Rs300000-500000	22	22.0	22.0	96.0
> Rs500000	4	4.0	4.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation-** Internet banking users in Udaipur has a various yearly income, starting from the lowest income class i.e. below Rs.1 lake there were 27 respondents, between Rs. 1-3 lake there were 47 respondents, between 3-5 lake there were 22 and above 5 lake there were 5 respondent who avail e-banking facility.

**Table 4: Showing in which bank respondents availing e-banking a/c**

Banks	Frequency	Percent	Valid Percent	Cumulative Percent
SBI	39	39.0	39.0	39.0
ICICI	7	7.0	7.0	46.0

IDBI	20	20.0	20.0	66.0
HDFC	13	13.0	13.0	79.0
Others	21	21.0	21.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation** – There were 39% respondents who have their e-bank a/c in SBI bank, in ICICI there were only 7% respondents having e –bank a/c, in IDBI- 20%, HDFC-13%, and Other-21% respondents having e-banking facility.

**Table 5: Showing how many respondents having knowledge of how e-banking works**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	29	29.0	29.0	29.0
No	71	71.0	71.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation-** Out of 100 respondent only 29 respondents have knowledge of e- banking remaining 71 does not know how e-banking works.

**Table 6: Showing how many respondents feel insecure by hackers**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	11	11.0	11.0	11.0
No	89	89.0	89.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation-**Out of 100 respondent only 89 respondents does not feel insecure using e- banking facility and 11 feel secure.

**Table 7: Showing how often respondents are using e-banking services**

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	25	25.0	25.0	25.0
Weekly	31	31.0	31.0	56.0
Monthly	35	35.0	35.0	91.0
Never	9	9.0	9.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation-** There were 25 respondents who daily use e –banking services, 31-weekly, 35 monthly and there are 9 respondents who do not use e–banking services.

**Table 8: Showing is e-banking is useful to save time?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	82	82.0	82.0	82.0
No	18	18.0	18.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation-**Out of 100 respondent 82 respondents thinks e-banking is useful to save time whereas 18 thinks e banking does not save time.

**Table 9: Showing how many respondents purchase product through e-banking**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	33	33.0	33.0	33.0
No	67	67.0	67.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation-**Out of 100 respondent only 33 respondents purchase product through e- banking

**Table 10: Showing how many respondents have knowledge of IT act 2000**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	26	26.0	26.0	26.0
No	74	74.0	74.0	100.0
<b>Total</b>	100	100.0	100.0	

**Interpretation-** There are only 26 respondent who have knowledge of IT act 2000 of government of India and 74 do not what is the act is about.

**Degree of relationship between demographic factor and knowledge of terms and condition essential for maintaining e-banking account.** (Table 11, 12, 13)

**Table 11: Gender \* Knowledge of terms/condition**

		Knowledge of terms/condition			Total
		Fully Aware	Partially Aware	Not Aware	
Gender	Male	45	13	21	79
	Female	12	1	8	21
Total		57	14	29	100
Chi Square ( Calculated)		2.379			
Df		2			
Tabulated value		5.991			

**Interpretation:** The table value of chi square for 2 degree of freedom at 5% level of significance is 5.991. The calculated value of chi square is much less than this table value and hence the result of experiment supports the hypothesis.

**Table 12: Age \* Knowledge of terms/condition**

		Knowledge of terms/condition			Total
		Fully Aware	Partially Aware	Not Aware	
Age	< 20 years	10	0	5	15
	20-30 years	29	8	7	44
	30-40 years	15	5	12	32
	> 40 years	3	1	5	9
Total		57	14	29	100
chi square(calculated)		10.765			
Df		6			
Tabulated value		12.592			

**Interpretation:** The table value of chi square for 6 degree of freedom at 5% level of significance is 12.592. The calculated value of chi square is less than this table value and hence the result of experiment supports the hypothesis.

**Table 13: Income \* Knowledge of terms/condition**

		Knowledge of terms/condition			Total
		Fully Aware	Partially Aware	Not Aware	
Income	< Rs100000	14	2	11	27
	Rs100000 - 300000	30	7	10	47
	Rs300000-500000	11	5	6	22
	>Rs 500000	2	0	2	4
Total		57	14	29	100
Chi Square ( Calculated)		6.237			
Df		6			
Tabulated value		12.592			

**Interpretation:** The table value of chi square for 6 degree of freedom at 5% level of significance is 12.592. The calculated value of chi square is less than this table value and hence the result of experiment supports the hypothesis.

**Degree of relationship between demographic factor and the perception as whether e-banking saves time.**  
(Table 14, 15, 16)

**Table 14: Gender \* Is e-banking saves time**

		Is e-banking saves time		Total
		Yes	No	
Gender	Male	68	11	79
	Female	14	7	21
Total		82	18	100
Chi Square ( Calculated)		4.234		
Df		1		
Tabulated value		3.841		

**Interpretation:** The table value of chi square for 1 degree of freedom at 5% level of significance is 3.841. The calculated value of chi square is higher than this table value and hence the result of experiment does not support the hypothesis.

**Table 15: Age \* Is e-banking saves time**

		Is e-banking saves time		Total
		Yes	No	
Age	< 20 years	12	3	15
	20-30 years	37	7	44
	30-40 years	26	6	32
	> 40 years	7	2	9
Total		82	18	100
Chi Square ( Calculated)		0.292		
Df		3		
Tabulated value		7.815		

**Interpretation:** The table value of chi square for 3 degree of freedom at 5% level of significance is 7.815. The calculated value of chi square is much less than this table value and hence the result of experiment supports the hypothesis.

**Table16: Income \* Is e-banking saves time**

		Is e-banking saves time		Total
		Yes	No	
Income	< Rs100000	23	4	27
	Rs100000 - 300000	39	8	47
	Rs300000-500000	18	4	22
	>Rs 500000	2	2	4
Total		82	18	100
Chi Square ( Calculated)		2.992		
Df		3		
Tabulated value		7.815		

**Interpretation:** The table value of chi square for 3 degree of freedom at 5% level of significance is 7.815. The calculated value of chi square is much less than this table value and hence the result of experiment supports the hypothesis.

**Degree of relationship between demographic factor and the knowledge regarding IT act 2000. (17, 18, 19)**

**Table 17: Gender \* knowledge of IT act 2000**

		knowledge of IT act 2000		Total
		Yes	No	
Gender	Male	20	59	79
	Female	6	15	21
Total		26	74	100
Chi Square ( Calculated)		0.091		
Df		1		
Tabulated value		3.841		

**Interpretation:** The table value of chi square for 1 degree of freedom at 5% level of significance is 3.841. The calculated value of chi square is much less than this table value and hence the result of experiment supports the hypothesis.

**Table 18: Age \* knowledge of IT act 2000**

		knowledge of IT act 2000		Total
		Yes	No	
Age	< 20 years	4	11	15
	20-30 years	10	34	44
	30-40 years	10	22	32
	> 40 years	2	7	9
Total		26	74	100
Chi Square ( Calculated)		0.774		
Df		3		
Tabulated value		7.815		

**Interpretation:** The table value of chi square for 3 degree of freedom at 5% level of significance is 7.815. The calculated value of chi square is much less than this table value and hence the result of experiment supports the hypothesis.

**Table 19: Income \* knowledge of IT act 2000**

		knowledge of IT act 2000		Total
		Yes	No	
Income	< Rs100000	8	19	27
	Rs100000 - 300000	12	35	47
	Rs300000-500000	4	18	22
	>Rs 500000	2	2	4
Total		26	74	100
Chi Square ( Calculated)		2.087		
Df		3		
Tabulated value		7.815		

**Interpretation:** The table value of chi square for 3 degree of freedom at 5% level of significance is 7.815. The calculated value of chi square is much less than this table value and hence the result of experiment supports the hypothesis.

## CONCLUSION

The main purpose of this research was to understand why people in Udaipur avail e-banking facility and is they aware of various aspects of e-banking. The result of the hypotheses show that overall purposed hypotheses are accepted except one hypothesis i.e. does e-banking saves time. The research is useful for many parties especially for the banks as they are the providers of internet banking services.

Specifically, the findings suggest that time saving and convenience is the main motivator for consumers to bank on the internet, while there is a range of other influential factors that may be modulated by banks. The findings also highlight increasing risk acceptance by consumers in regard to internet-based services and the growing importance of offering deep levels of consumer support for such services. Gender differences are also highlighted. Thus we can say that e-banking provides comfort to customers at the same time it provides cost cutting for banks by eliminating physical documentation. Internet banking saves time of bank as well as those of customers.

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## Digital Financial Awareness among College Students (Youth) In Kota City

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### ABSTRACT

*As bankruptcies, loan defaults, hacking of financial sites are increasing on the daily basis and simultaneously Government of India is ushering digital India and want to move our country towards cashless. For this ambition of Government, youth residing in country need to have awareness about financial literacy. Financial literacy can be generally defined as a person's ability to understand, analyze, manage, and communicate personal finance matters. More specifically, it refers to the set of skills and knowledge that allows an individual to make informed and effective decisions through their understanding of finances and to take effective decision regarding the use and management of money. Now the trend is change financial literacy become digital financial literacy. The interesting side of digital financial literacy is more people are going of digital payments, the value of internet banking, debit card & credit card, mobile banking are going high. Indian Government is also promoting Digital India recently for which they have launched many schemes like are Pradhan Mantri Jan Dhan Yojna, Jeevan Jyoti Bima Yojna, Suraksha Bima, MUDRA Bank Yojna, BHIM. This paper aims to investigate the level of general digital financial awareness among youth, so as to help Government of India to fulfill their aim of making Digital India and to observe challenges, problems and opportunities related to 'Digital Financial Awareness'.*

**Keywords:** Financial Literacy, Digital Financial Literacy, Digital Financial Transactions, Financial Inclusion.

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### INTRODUCTION

In recent years, financial literacy has gained the attention of a wide range of major banking companies, government agencies, grass-roots consumer and community interest groups, and other organizations. Interested groups, including policymakers, are concerned that consumers lack a working knowledge of financial concepts and do not have the tools they need to make decisions most advantageous to their economic well-being. Such financial literacy deficiencies can affect an individual's or family's day-to-day money management and ability to save for long-term goals such as buying a home, seeking higher education, or financing retirement. Ineffective money management can also result in behaviors that make consumers vulnerable to severe financial crises. From a broader perspective, market operations and competitive forces are compromised when consumers do not have the skills to manage their finances effectively. Informed participants help create a more competitive, more efficient market. As knowledgeable consumers demand products that meet their short- and long-term financial needs, providers compete to create products having the characteristics that best respond to those demands. As concern about financial literacy has increased, so too have the number and variety of financial literacy training programs and program providers— some offering comprehensive information on savings, credit, and similar topics for a broad audience and others tailored to a specific group, such as youth or military personnel, or focused on a specific goal, such as home ownership or savings. The findings of studies of the effectiveness of financial literacy training have been mixed. Although some programs, particularly those having discrete objectives, have succeeded in improving certain aspects of consumers' personal financial management—such as maintaining a mortgage, increasing savings, or participating in employer sponsored benefit plans—improved financial behavior does not necessarily follow from increased financial information. The timing and format of training, as well as human traits such as aversion to change play a role in whether programs will effect positive change that contributes to households' long-term financial well-being. Accounting for all the variables associated with financial literacy training—when, how, and where it is delivered, who is trained, and what information is presented—poses a great challenge for program developers. Given the resources now devoted to

financial literacy training, this is an opportune time to evaluate the research, identify best practices, and consider public policy options that would further the goal of creating more financially savvy consumers.

## **FINANCIAL LITERACY**

Financial literacy is the education and understanding of various financial areas. This topic focuses on the ability to manage personal finance matters in an efficient manner, and it includes the knowledge of making appropriate decisions about personal finance such as investing, insurance, real estate, paying for college, budgeting, retirement and tax planning. Financial literacy also involves the proficiency of financial principles and concepts such as financial planning, compound interest, managing debt, profitable savings techniques and the time value of money. The lack of financial literacy may lead to making poor financial choices that can have negative consequences on the financial well-being of an individual. Consequently, the federal government created the Financial Literacy and Education Commission, which provides resources for people who want to learn more about financial literacy.

The main steps to achieving financial literacy include learning the skills to create a budget, the ability to track spending, learning the techniques to pay off debt and effectively planning for retirement. These steps can also include counselling from a financial expert. Education about the topic involves understanding how money works, creating and achieving financial goals, and managing internal and external financial challenges. Financial literacy helps individuals become self-sufficient so that they can achieve financial stability. Those who understand the subject should be able to answer several questions about purchases, such as whether an item is required, whether it is affordable, and whether it an asset or a liability. This field demonstrates the behaviours and attitudes a person possesses about money that is applied to his daily life. Financial literacy shows how an individual makes financial decisions. This skill can help a person develop a financial road map to identify what he earns, what he spends and what he owes. This topic also affects small business owners, who greatly contribute to economic growth and stability.

Financial illiteracy affects all ages and all socioeconomic levels. Financial illiteracy causes many people to become victims of predatory lending, subprime mortgages, and fraud and high interest rates, potentially resulting in bad credit, bankruptcy or foreclosure.

**Digital Financial Literacy:** Digital Financial Literacy is having the knowledge, acquired skills and developing necessary habits to effectively use digital devices to for financial transactions. This intersects with an individual's basic literacy levels and the individual's ability to use digital devices/technology. However, in the purist sense, it is

- Simply the ability to have a relationship with a bank/Financial Institution to keep your money safe
- Use facilities to transact using your own money for your needs in the safest most secure way possible
- Be aware, vigilant and extremely protective about your financial identity

### **Why is Digital Financial Literacy Important?**

As India focuses on the biggest digital transformation in recent history, Union Budget 2017 had a section on **Promoting Digital** (You can read more - Decoding Union Budget 2017's Impact on Digital Payments in India) in the budget speech apart from Policy Provisions in the Union Budget to impact these changes. With this deep focus, its a a necessary imperative to empower every citizen with the information and knowledge necessary to join the revolution and help India progress along the path of a Less-cash economy.

### **Three Tenets of Digital Financial Literacy**

#### **(A) Inform citizens about government policies, initiatives and digital financial options available for them**

This by far remains the biggest hurdle and hence offers the widest range of opportunities to ensure every citizen regardless of financial status, current literacy levels and geographical distance from the main cities is empowered with all necessary information. India is a diverse country with languages, cultures changing every 100 kilometres, to standardize a method or approach to imparting a program with mass impact is next to impossible. A one-size-fits-all may not work but a standard template can be created which can be customized to meet the needs of various target groups. A decentralized approach lead locally and with the assistance of local communities is the best and most efficient way. The government makes policies but local administration should be made responsible for measurable success along with periodic program tracking and reviewing success parameters.

### **(B) Building Awareness of Digital Payment Methods**

Digital Financial Literacy is the (convenient) marriage of all three paradigms: Digital, Finances and Literacy. An Individual and family may be at various different stages of each or all put together. Ensuring these needs are met by compatible payment methods is an absolute must. For example, for a rural farmer who doesn't even own a bank account, a USSD method of payment on mobile is not suitable. However helping the farmer open a bank account and learn to understand how to put cash and withdraw from the bank account can be the first step followed by how to use a bank card and transacting on mobile.

The government has created a slew of resources to enable volunteers for building awareness.

### **(C) Imparting knowledge of Safety and Security of Digital Payments**

In a digital world, safety and security is the topmost priority for everyone. Remaining safe is an individual's own responsibility which has to be taken seriously. Payment providers can put in the most fool proof systems in the world but the human element of payments and hence actions resulting in fraud cannot be emphasized enough.

### **Three Facilitators of Digital Financial Literacy**

#### **(A) Digital Payments Infrastructure to allow digital transactions: Merchants and Consumers**

The goal of education is not to increase the amount of knowledge but to create the possibilities for a child to invent and discover, to create men who are capable of doing new things. **Jean Piaget**

Creating possibilities and avenues for customers (consumers using the service or merchants providing the service) is key to ensuring the education drive bears fruit and allows the citizens of a Digital Economy to transact digitally as effortlessly and without barriers. Consumer choice is paramount and should drive what merchants provide for payments as well

#### **(B) Assisting less-cash behaviour shift**

Some amount of hand holding will be needed through this transition period. It's foolhardy to presume a onetime effort can result in long lasting change. Using public service communication channels like National TV, Radio, Print and Digital campaigns will ensure the message is delivered to recipients and reiterated many times over. Consistency and over managing delivery will be key. Addressing consumer issues and pain points with active listening and fast action are other necessary actions.

#### **(C) Incentivizing less-cash behaviour**

The most effective method in introducing trial and creating a habit is incentives, carefully timed to an individual's progress in usage of a product with periodic interventions to ensure instant gratification and drive habit change. Monetary incentives such as lotteries, cash backs and prizes will certainly motivate individuals to first try and later stick to paying digitally.

**Digital Financial Transactions:** A seamless and non-traditional system involving one or more participants, where transactions are effected without the need for cash. Digital transaction involves a constantly evolving way of doing things where financial technology companies (Fintech) collaborate with various sectors of the economy for the purpose of meeting the increasingly sophisticated demands of the growing tech-savvy users. As the needs of investors and financial service users become more complex, there is a demand for effective tools to simplify the processes and transactions carried out by end-users. It is inevitable that financial institutions would have to increase the number of digitized services and offerings, given a rise in the use of automated services. Implementing technology in the financial industry is a necessity for the survival of businesses as customers seek lower cost alternatives to traditional financial services. Fintech companies have led the revolution in transforming the financial sector by digitalizing the end-client's transactional eco-system.

Newer forms of payment have been recently developed in India which could greatly assist in this shift from a cash-dependent economy to a cashless economy. These have largely been technology-driven platforms due to the Digital India initiative. One of the professed roles of Digital India programmed is Faceless, Paperless, and Cashless. These new forms of payment include

1. United Payment Interface (UPI) enables a person to connect multiple bank accounts into one phone through an application. It allows transfer funds from one UPI account to another through a smart phone connected to the internet.
2. Mobile wallets like Paytm, Free charge, Jio Money and SBI Buddy amongst others where money from your account can be transferred to the wallet to send it to another person using their mobile number and bank details. This too requires a smart phone or tablet or smart watch, and internet data.

3. Pre-Paid Debit Card or Credit Cards can be used at ATMS and PoS (Point of Sale) machines by swiping cards
4. Aadhar Enabled Payment Systems (AEPS) allows funds to be transferred by using Aadhar numbers seeding with bank accounts. It allows interoperable financial transactions at PoS/ Micro ATM through Business Correspondent (BC)/ Bank Mitra of any bank using Aadhar authentication.
5. Unstructured Supplementary Service Data (USSD) allows funds to be transferred using just the mobile without internet by dialing \*99#,
6. Banking Cards such as RuPay Cards, VISA, and Master Card are card producers which offer several benefits like payment transactions, customized product offering and more security, convenience and control than most cashless forms of payment.
7. Point of Sale (PoS) is the place where sales are made. There are three kinds of PoS, Physical, Mobile and Virtual. All three need internet connectivity.

**Financial Inclusion:** Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost (The Committee on Financial Inclusion, Chairman: Dr. C. Rangarajan).

Financial inclusion broadens the resource base of the financial system by developing a culture of savings among large segment of rural population and plays its own role in the process of economic development. Further, by bringing low income groups within the perimeter of formal banking sector; financial inclusion protects their financial wealth and other resources in exigent circumstances. Financial inclusion also mitigates the exploitation of vulnerable sections by the usurious money lenders by facilitating easy access to formal credit.

## REVIEW OF THE WORK ALREADY DONE ON THE SUBJECT

**Disney, Gathergood (June 2012)** The relationship between financial literacy and consumer credit portfolios show that individuals who borrow on consumer credit exhibit worse financial literacy than those who do not. Borrowers with poor financial literacy hold higher shares of high cost credit than those with higher literacy. Individuals with poor financial literacy are more likely to lack confidence when interpreting credit terms, and to exhibit confusion over financial concepts. They are also less likely to engage in behavior which might help them to improve their awareness of the credit market.

**Lusardi et.al (2010)** financial literacy was strongly related to socio demographic characteristics and family financial sophistication. Specifically, a college-educated male whose parents had stocks and retirement savings was about 45 percentage points more likely to know about risk diversification than a female with less than a high school education whose parents were not wealthy.

**Tomas et.al (2011)** Examined Financial literacy is the best way to prevent their over-indebtedness. Educational environment interactively explains the basics of financial literacy; the user can browse through different topics. During the learning process he is tested by examples, which are practically oriented and review the level of his newly learned skills.

**Sang-Hee ,So-Hyun at all (2012)** Tested the relationships between financial socialization agents, financial experiences, money attitudes, demographic characteristics, and the financial literacy of Korean adolescents. It was found that those who chose media as their primary financial socialization agent, and those who had a bank account, exhibited higher levels of financial literacy.

**Maarten et.al (2011)** Complexity of financial decisions that households now face has increased to unprecedented levels. At the same time, households seem to lack the financial knowledge to cope with these decisions, including how to save and invest adequately for retirement. There is a strong and positive relationship between financial knowledge and retirement planning; those who are more financially knowledgeable are more likely to plan for retirement. Using information on economics education acquired in school, the nexus of causality goes from financial literacy to planning rather than the other way around.

**Werner Bonte, Ute Filipiak (2012)** The relevance of social interaction and caste affiliation for individual awareness of financial instruments and investment behavior of households in India. The results is based on a large scale survey on saving patterns of Indians, suggest a positive relationship between financial literacy and social interaction. However, especially backward caste people living in regions with a large fraction of backward castes have a lower probability of being aware of various financial instruments. In contrast, only weak empirical evidence for a direct effect of caste affiliation and social interaction on investment behavior.

**Martha Cooney, Lorene Hiris (2003)** They describe the use of a collaborative framework for integrating information literacy into a graduate finance course and for assessing the results. The framework provided a

guide for a more structured and fuller collaboration between the librarian and the classroom instructor. A checklist for assessing learning outcomes was also developed and was an important instrument for evaluating student performance.

**Huston (2010)** Said that financial literacy is essential to understand educational impact as well as barriers to effective financial choice. It summarized the broad range of financial literacy measures used in research over the last decade. An overview of the meaning and measurement of financial literacy is presented to highlight current limitations and assist researchers in establishing standardized, commonly accepted financial literacy instruments.

**Daniel et.al (2014)** Founded that interventions to improve financial literacy explain only 0.1% of the variance in financial behaviors studied, with weaker effects in low-income samples. Like other education, financial education decays over time; even large interventions with many hours of instruction have negligible effects on behavior 20 months or more from the time of intervention. Found that the partial effects of financial literacy diminish dramatically when one controls for psychological traits that have been omitted in prior research or when one uses an instrument for financial literacy to control for omitted variables.

**Tomas Dvorak, Henry Hanley (2010)** Designed and administer a financial literacy test tailored to a specific defined contribution plan. Found that participants show fairly good knowledge of the basic mechanics of the plan, but are unable to differentiate among various investment options. Knowledge is particularly low among women, low income and low education employees. Also find some evidence that personal contributions lead to more knowledge. These results support plan designs that have few investment options and encourage personal contributions.

**Tomaskova et.al (2011)** financial literacy addressed at the international level and the trend suggests that increasing the level of population knowledge in this direction can be more than useful. Financial literacy is a set of knowledge and skills necessary for people to financially secure themselves and to behave actively in the market of financial products and services. Financially literate citizens are well versed in issues of money and prices, and are able to manage their personal budget responsibly. Finances are important part of everyday life and financial literacy is the best way to prevent over-indebtedness of citizens.

**C.Thilakam (2012)** Financial literacy is the ability to understand finance. More specifically, it refers to the set of skills and knowledge that allows an individual to make informed and effective decisions through their understanding of finances. Financial literacy is mainly used in connection with personal finance matters. It often entails the knowledge of properly making decisions pertaining to certain personal finance areas like real estate, insurance, investing, saving, tax planning and retirement and involves intimate knowledge of financial concepts like compound interest, financial planning, the mechanics of a credit card, advantageous savings methods, consumer rights, time value of money etc.

**John Gathergood (2012)** Lack of self-control and financial illiteracy is positively associated with non-payment of consumer credit and self-reported excessive financial burdens of debt. Consumers who exhibit self-control problems are shown to make greater use of quick-access but high cost credit items such as store cards and payday loans. Also found consumers with self-control problems are more likely to suffer income shocks, credit withdrawals and unforeseen expenses on durables, suggesting that lack of self-control increases exposure to a variety of risks.

**Dean Roy Nash (2012)** financial literacy is nothing but knowledge about finance. The importance of financial education has improved in recent years due to the developments in financial markets as well as demographic, economic and policy changes. India is ranked number two in the list of highest financial literacy countries in the world. The Reserve bank of India, which is the central bank, has been actively participating in the field of eradicating financial literacy in the country. In this context a project called "Project financial literacy" has already been implemented. Financial literacy in India is on the positive side now. The survey conducted by The Financial Express shows that India has made rapid progress in the field of financial education among the ten leading nations of the world.

**E. Ibrahim & Fatima (2013)** Examined financial literacy among a sample of individuals residing in the United Arab Emirates (UAE) and its relation to different forms of personal debt. These forms of personal debt include bank loans, borrowing from friends and/or family members, and borrowing through credit cards. The results indicate that individuals with strong financial attitude tend to borrow less from credit cards. UAE nationals are more likely to borrow from banks than using credit cards or borrowing from friends/or family members.

**Emmanuel & Agyapong (2014)** Examined the relationship between financial literacy and demographic and other socioeconomic factors of a sample of undergraduate students; and to evaluate how undergraduate students' financial knowledge correlate with their attitude and behavior towards personal finance issues.

**Abraham & Michael (2012)** Explored the determinants of university working-students' financial literacy. In this study data were randomly collected from 250 undergraduate and postgraduate students of a public university in Ghana. Found that age and work experience were positively related to financial literacy. Also, mother's education was positively correlated with respondents' financial literacy. However, level of study, work location, father's education, access to media and the source of education on money were all not significantly correlated with financial literacy.

**Azizah Shaari & Abu Hasan (2013)** examined the financial literacy among university students. The study is used primary data by questionnaires and the sample consisted of 384 students and the target population of the study is from local Universities of Malaysia. The results revealed that the spending habit and year of study have a significant positive relationship with the financial literacy, whereby the age and gender are negatively associated with the financial literacy.

**Agarwal & Gupta (2014)** With the deregulation of financial markets and the easier access to credit; the rapid growth of credit cards; the increasing trend of marketing financial products and the government's encouragement for its citizens to take more self responsibility for their retirement incomes has made the role of financial literacy significant. The primary data has been collected through questionnaires, filled by 148 respondents. This study also identifies areas where financial literacy may be lacking. The determination of critical areas will assist educators, regulators and financial institutions to design financial planning courses with greater significance in helping adults to achieve greater financial freedom and be better equipped for retirement.

**Bhushan & Medury (2013)**, Financial literacy is the ability to make informed judgments and to take effective decisions regarding the use and management of money. Financial literacy enables individuals to improve their overall well-being. Research has shown that levels of financial literacy worldwide are unacceptably low. Findings of the study suggest that overall financial literacy level of respondents is not very high. Financial literacy level gets affected by gender, education, income, nature of employment and place of work whereas it does not get affected by age and geographic region.

**Bongini et.al (2012)** examined the financial literacy among Italian college students using Rasch analysis. Findings support the appeal of adopting such technique in measuring financial literacy: the provided set of information is not limited to a crude figure, indicating whether the population has passed or failed the test. On the contrary, the specific areas where deficiencies mostly occur are located. Among them, the group showing highest knowledge deficit can be determined.

**Md Hafizi Ahsan (2013)**, The need of financial literacy is becoming increasing important for undergraduate students in the Malaysian context. As a developing nation, rising cost of living and dynamic fluctuations price of goods and services demand people to be financially equipped in financial decision making, especially young adults which include undergraduate students.

### **Research Gaps identified in the proposed field of Investigation**

Review of previous literature leads to the following research gaps:

1. There have been very few empirical researches which attempt to measure financial literacy among the college students
2. No study is found by the researcher which attempts to measure financial literacy among the college students of Udaipur district.

### **OBJECTIVE OF RESEARCH**

- a) To map financial literacy among students studying at college.
- b) To diagnose problem face by students accessing the digital services.
- c) To examine the impact of digital financial services on students.
- d) To examine the level of awareness about digital financial services among college students.

### **RESEARCH METHODOLOGY**

**Research Design** The proposed research carries descriptive and exploratory research design. Proposed research is characterized by the prior formulation of specific research question and hypotheses. Thus, the information needed is clearly defined. As a result, this research is pre-planned and structured.

- **Sample size:** A sample of 100 undergraduate students will be selected from the Kota city.
- **Sampling technique:** The sampling technique required for this research would be convenience sampling.

- **Sources of information:** The data will be collected from primary and secondary sources. Primary data will be collected by observation. Secondary data will be gathered from books, journal article seminar, conference held on related to this topic and RBI or government publications.
- **Tools & Techniques of Research:** Collected data will be analyses with the help of appropriate tests according to the requirement.

## DATA ANALYSIS & INTERPRETATION

- A. Sources of Digital Knowledge:** It is observed that students obtained digital knowledge from different source. A good number of male students (46.99%) obtained digital knowledge through self learning where as majority of female 56.94% obtained digital knowledge from college. About half of students 40.97% obtained digital knowledge from colleges. Colleges are providing digital financial knowledge nowadays.
- B. Knowledge to usage various digital resources:** The usages of various digital resources by the college students are studied in order to understand their literacy towards digital resources. A large majority of male college students 85.54% and female students 75.00% make usage of visual/images materials. 91.57% of male students and majority of female above students 72.91% make use of audio materials. Majority of male students and female students make usage of internet, e-Mail, multimedia and others.
- C. Level (Proficiency) of Digital Literacy:** The details of the data regarding the level of Digital financial Literacy among college Students. Majority of the Male students 59.03 and about half of the female students 57.63 are average in digital financial literacy level.

## FINDINGS

### I. Financial awareness level:

- In the opinion 62% of total students, colleges do not provide for the information and skills needed by them to manage personal finances or they believe that colleges provide only the bare minimum information in that area.
- 72% of the students turn to their families for advises pertaining to managing their finances.
- Only 15% of the total students approach a bank or a financial institution for financial advice.

### II. Financial Behaviour:

- 12% of the Students save whatever money they receive to Invest.
- 25% of the students save whatever money they receive to spend at a later stage.
- 5% of the students are unable to save anything.
- 20% of the students rarely think of Personal finances and 20% of the students always think of personal finances and remaining 60 % at times think of personal finances.
- 97% of the students considers managing finance as the most important activity

### III. Financial Skills and Investment:

- 45% of the students do not consider themselves possessing required financial skills which they consider is needed to make right financial decisions.
- 67% of the students currently have savings account for them.
- Only 17% of the total student holds a Fixed Deposit.
- 19% of the students do not have any financial products.

## CONCLUSION

This paper discuss with the study of the usage of Digital resources in college students of Kota District students. Digital literacy is those capabilities that mean an individual is fit for living, learning and working in a digital society, it is about being able to make use of technologies to participate in and contribute to modern social, cultural, political and economic life. There is an unprecedented requirement for people of all ages to have digital literacy skills for a wide variety of reasons, including employability, to reach full potential in school and for active engagement in digital world at all ages, at the end, some of the suggestions to increase to awareness among the user community by providing effective digital literacy programmes. The financial knowledge among student in Kota city is poor as compared to the global standards. A large part of this is due to poor numeracy skills and can be attributed to the poor elementary and primary education system as documented in other

studies. There should be more focus that needs to be done for increasing the financial literacy amongst all the students of different faculties as they are the future of the country. One question which was exclusively asked to students regarding their attitude towards Financial Investment, as to if has it been changed positively after studying subjects related to finance in curriculum, has found an overwhelming response of 98% as 'YES'. Hence it is very clear that a lot needs to be done under academics to enhance the financial literacy of the students. As in present and future when India embarks on the journey of economic growth, the economic growth wouldn't be meaning full and real to the masses of country in the absence of complete Financial Literacy

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## The Determinants of effective training transfer in software industries: A Review

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### ABSTRACT

*This paper reviews some important existing research on determinants of transfer of training (on the basis of LTSI model and Kirkpatrick's model). A thorough review of the existing literature is carried out to identify several determinants of training transfer and studies on evaluation of training program effectiveness. Identification of transfer problem and transfer of training on the job is a matter of concern for practitioners and researchers. In today's world of digitalization software companies plays vital role by developing software for new arena and thus investing huge amount for training of employee's to enhance their knowledge, skills, attitude and its very important for organization to retain the enhanced capability of employees through training for achieving organizational goals.). The LTSI model also proposed that transfer of training in employees occurs at three points: individual performance, learning and organizational performance. Therefore, the present study integrated the two models by evaluating training effectiveness in terms of results (productivity, morale and quality), learning and behavior of individual employees as suggested by both the models, as well as by studying their subsequent effects on organizational performance in terms of sales, customer satisfaction and employee retention. This study highlights an integrative and analytical review of factors significantly influence effective training transfer in employees post-training of software companies are reviewed. We synthesize the creating Knowledge in regards to the essential elements affecting transfer to identify factors with substantive support and to observe the research gaps and suggestions are outlined to guide future empirical and theoretical research work in a meaningful direction.*

**Key words:** Training, transfer of training, software companies, LTSI model (Learning Transfer System Inventory model by Holton), Kirkpatrick's model, Knowledge, Skill's and Attitude of Employees, determinants of training transfer.

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### INTRODUCTION

In today's global arena, to achieve competitive advantage it's a need of an hour to enhance and maintain the knowledge, abilities and skills in growing and changing economy (Arguinis & Kraiger, 2009). As in software industries the nature of work is very challenging and technical thus it's very impotent to develop and enhance the skills of work force for organizational growth and achieving goals. Interpersonal skills and technological proficiency necessary for these varying work demands (Salas & Stagl, 2009). Huge investments are made by organization for training and development programs to enhance the skills, knowledge, and attitude of work force for better performance in work place. It is matter of concern for organizations to justify investments made on training programs' in term of improved performance, increase market share, customer satisfaction, profit and productivity. For researches and practioners training transfer is very vital field.

Training can be defined as: Broad & Newstrom, 1992 Transfer of training is defined as "the effective and continuing application, by trainees to their jobs, of the knowledge and skills gained in training, both on and off the job". Salas and Cannon-Bowers (2001) "There is an increasing concern in organizations that the investment made in training must be justified in terms of improved organizational performance-increased productivity, profit, safety, reduced error, enhanced market share". Training is focused on developing enduring cognitive and behavioral changes, and on increasing critical completions for job performance. Organizations make progressively more investments in training because it serves as a powerful tool for achieving the targeted cognitive, behavioral and affective learning results essential for their survival (Salas & Stagl, 2009). Training transfer leads to the effective use of trained knowledge and skill back on the job. For transfer to occur "learned behavior must be generalized to the job context and maintained over a period of time on the job" (Baldwin & Ford, 1988, p. 63).

This paper is focusing literature review on some important levels of LTSI model (Holton) and Kirkpatrick’s four levels which impact training transfer and its effective evaluation.

<b>Levels of Holton’s LTSI model</b>	<b>Donald Kirkpatrick, four levels</b>
Secondary influences	
Motivation	Reaction
Environment	Learning
Outcome	Behavior
Ability	Results

**LITERATURE REVIEW**

Literature is reviewed on Secondary influences of Holtons LTSI model include trainee’s cognitive ability, self-efficacy, and locus of control, motivation, and performance, perceived utility, work environment and Kirkpatrick some levels.

**Cognitive-ability:**

(Baldwin & Ford, 1988 Ree and Earles (1991) examined that live of intelligence best expected coaching success and located that general intelligence was best. Kanfer and Ackerman (1989) found psychological feature ability clearly exerted impact on impression bearing a control , sway on initiate performance because of its effect on basic cognitive process resource capability, and Oscar Palmer Robertson and Downs (1979) found initiate ability accounted for 16 PF of the variance in coaching effectiveness. Ultimately, Colquitt, LePine, and Noe (2000) echoed earlier findings by performing arts an intensive meta-analysis (n 310) supported twenty years of coaching of analysis and located the corrected correlation constant between psychological feature ability and training transfer is moderately high at .43. Additional recently, general psychological feature ability (as mediate by information structures) improved retention of a posh talent during a science lab take a look at of a 3-day game educational program (Day, Arthur, & Gettman, 2001)

**Self-efficacy:**

Self-efficacy theory is subsumed by the larger social psychological feature theory (Bandura, 1986), that posits that human behavior could be perform of reciprocal relationships between person, behavior and atmosphere. At intervals social psychological feature theory, self-efficacy, or the assumption in one’s ability to mobilize psychological feature and behavioral resources so as to accomplish a task, could be a primary determinant of behavior (Bandura, 1997). Self-efficacy, have conjointly received sturdy support for influencing transfer within the extant literature. Bandura (1982) outlined self- effectuality as judgments people create concerning their competence to perform an outlined task; he known four sources of self-efficacy development—enactive mastery, modeling, verbal persuasion, and arousal. Numerous studies have found a positive relationship between pertaining self-efficacy and supreme coaching mastery (Harrison, Rainer, Hochwarter, & Thompson, 1997; Holladay & Quinones, 2003; Mathieu, Martineau, & Tannenbaum, 1993). In transfer term outcomes, self-efficacy has been found to be totally associated with transfer simplification and transfer maintenance across multiple studies (Chiaburu & Marinova, 2005; Ford, ; Gaudine & Saks, 2004Smith, Weissbein, Gully, & Salas, 1998; Gist, 1989;, Tannenbaum, & Salas, 1992, Mathieu, Salas, & Cannon-Bowers, 1991). Latham & Frayne, 1989; Mathieu; Saks, 1995; Stevens & Gist, 1997; Tannenbaum. Similar to the overall work findings, pertaining self-efficacy beliefs are shown to absolutely relate to coaching performance (Bell & Kozlowski, 2008; Colquitt et al., 2000; Hughes et al., 2013). In forming self-efficacy beliefs, people think about, weight and integrate data from multiple sources (Bandura, 1997). The four most distinguished sources of self-efficacy for learning area unit enactive mastery, negative arousal, vicarious expertise and verbal persuasion.

**Locus of control**

Tziner and Falbe (1993) across four coaching outcome no important relationships of LOC found , Tziner, Haccoun, and Kadish (1991) found trainees with an inside LOC exhibited higher levels of transfer once employing training transfer intervention. Similarly, Baumgartel et al. (1984) found that managers high in internal LOC were a lot of probably to use new information gained in coaching back at work. Colquitt et al. (2000) found those with an inside LOC were a lot of impelled to learn; but, in their meta- analysis, external LOC was moderately associated with transfer.

### **Perceived-utility/instrumentality**

Transfer can even be influenced by the perceived utility or worth related to participating in coaching (Burke, 2007). Coaching has high utility instrumentality once trainees understand a transparent link between needed performance and outcomes that they worth (Chiaburu & Lindsay, 2008). Burke and Hutchins (2007) summarized factors that influence perceptions of coaching utility. These embrace trainees' analysis of the believability of the new skills for upper performance, their recognition of a requirement to boost job performance, their belief that applying new learning can improve performance and their perception of the utility of the new skills for easy transfer. Gilpin-Jackson and Bushe (2007) emphasized the importance of trainees' judgments concerning the worth of the coaching between coaching instrumentality and transfer. Instrumentality was conjointly associated with motivation to transfer, the first predictor of coaching transfer during this study. Organizations would be suggested to devote a little of their coaching programs to human activity the requirement and utility of their training efforts.

### **Motivation**

In more recent years, beginner motivation has emerged as a big contributor to the transfer of coaching (Baldwin et al., 2009). Motivation refers to the processes that account for Associate in Nursing individual's intensity, direction and persistence of effort toward attaining a goal (Robbins, 2009). In relevance transfer, motivation has been conceptualized and studied in numerous ways that specifically; pertaining motivation, motivation to find out and motivation to transfer have all exhibited necessary relationships with coaching outcomes (Burke, 2007). Naquin and Holton (2002), as an example, developed a construct termed motivation to enhance go through learning (MTIWL) that encompasses each motivation to find out and motivation to transfer. The authors found that MTIWL foreseen transfer significantly bigger than different relevant variables in their study. In Associate in Nursing investigation of the consequences of beginner characteristics on coaching effectiveness, Tziner et al. (2007) found that motivation to find out was the strongest contributor to coaching outcomes. Lim and Johnson (2002) explored factors that were thought to facilitate or hinder transfer, and known motivation to transfer as a primary supporting variable. Different studies have additionally incontestable the impact of motivation to transfer and pertaining motivation on the transfer of coaching (e.g. Chiaburu & Lindsay, 2008; Chiaburu & Marinova, 2005). Blume et al.'s (2010) meta-analysis provides extra proof of a positive relation- ship between motivation and transfer.

### **Work environment:**

The work atmosphere following coaching incorporates are important impact on transfer out- comes. The effectiveness of an educational program is basically smitten by the trainees' ability to use their recently no inheritable competencies on the work (Salas et al., 2006). Environmental factors facilitate confirm whether or not trainees exhibit learned behaviors once they come to the work setting. Work environment utilizes the desired behavior for effective and efficient transfer of training. The foremost important components of the work atmosphere embrace transfer climate, support, chance and follow-up.

### **Transfer-climate**

Transfer inhibits utilization of learned skills on the job (Rouiller & Goldstein, 1993). Once trainees understand a positive transfer climate, they have an inclination to use learned competencies a lot of without delay on the work (Salas et al., 2006). Characteristics of a positive transfer climate embrace cues that prompt trainees to use new skills, consequences for the right use of skills and redress for the inaccurate or lack of use, and social support from supervisors and peers through the utilization of incentives and feedback. Moreover, Rouiller and Goldstein (1993) classify these characteristics into 2 categories: situational cues and consequences. Consequences contain social control and positive and feedback following the appliance of trained skills. The mixture of such characteristics will considerably influence the degree to that trained skills square measure transferred to the work- place (Marler et al., 2006). Perceptions of resources were supported beliefs regarding whether or not or not ample time to observe new skills would be provided, whether or not supervisors would support the training method and whether or not documentation and professional facilitate would be on the market .Whereas many necessary factors contribute to climate (as mentioned in additional detail within the following sections .Colquitt et al. (2000) reportable a corrected correlation of zero.37 between climate and transfer. A recent meta-analysis showed similar results, with transfer climate showing the very best relationship with transfer as compared to alternative parts of the work atmosphere (Blume et al., 2010).

### **Strategic-Link**

Learning and coaching interventions don't exist during a vacuum and intrinsically we must always contemplate their support of structure goals and methods .Watad and Ospina (1999) in their case study resulted that

management development programs enables participants strategically link their daily work operation for achievement of mission. They consequently discovered associate improvement for structure effectiveness and learning. A lot of empirical studies may bolster claims that strategically linking coaching to structure goals improves transfer to the duty.

### **Supervisor/Peer-Support**

Supervisor support that trainees receive for implementation of skills and knowledge on the job consistently explains relation between the transfer and work environment (Clark, 2002). We tend to review analysis on the role of supervisors and peers break free transfer climate as a result of every variable has been found to contribute a novel influence on coaching transfer across many studies. Empirical and qualitative studies supported supervisor's role in influencing and supporting training transfer (Brinkerhoff & Montesino, 1995; Broad & Newstrom, 1992; Burke & Baldwin, 1999; Clarke, 2002). Foxon (1997) found that trainees' perception of social control support for exploitation skills on the task correlates with enhanced report of transfer. Researchers have known manager certificatory behaviors like discussing new learning, taking part in coaching, providing encouragement and training to trainees regarding applying skills and knowledge on their job as effective contributor. (1994; Salas, & Smith-Jentsch Brannick, 2001; Tannenbaum, Smith-Jentsch, McSherry & Taylor & Behson, 1998). Lim and Johnson (2002) identified that discussions with supervisors on exploitation new learning, supervisor's involvement in coaching, and feedback from supervisors were sorts of support most recognized by trainees as completely influencing their transfer of learning.

### **Opportunity-to-perform**

Employees want ample opportunities to use their new skills to the geographic point for positive transfer to occur (Burke, 2007). Analysis systematically shows that an absence of such opportunities will seriously inhibit the utilization of trained competencies on the task. Clarke (2002), for instance, known restricted chance to perform skills on the task because the strongest barrier to Triple Crown coaching transfers. Trainees rated chance to use trained skills because the highest variety of support, and conversely, the shortage of chance to use coaching because the biggest obstacle to transfer. Once conducting interviews with trainees, Gilpin-Jackson and Bushe (2007) all over that having time to use new skills is important for coaching transfer. To produce opportunities, managers ought to modify recent trainees' workloads to permit them to apply new skills on the task (Clarke, 2002). Moreover, delay between coaching and chance for trainees to use their learned skills ought to be decreased for optimum transfer outcomes (Salas et al., 2006). For coaching to success- totally transfer, trainees want the resources and opportunities to use their new skills and talents to the geographic point.

### **Follow-up**

The completion of formal coaching shouldn't mark the tip of the training expertise. The amount at once following the official educational program holds numerous opportunities for enhancing learning and maintenance (Salas & Stagl, 2009). Once action reviews, for instance, will serve to question trainees and supply more education. Coaching instructors and supervisors ought to conjointly offer post-training follow-up and feedback (Baldwin et al., 2009). Velada et al. (2007), for instance, found that feedback concerning trainees' post-training performance considerably influenced transfer. Moreover, Salas et al. (2006) emphasize the utilization of job aids; tools that are designed to help with job performance and more facilitate the transfer of coaching. Transfer literature, Baldwin et al. (2009) all over those post-training interventions like relapse interference, self-management, goal setting, coaching in self-talk and post-training educator follow-ups usually show positive effects on the transfer of coaching. Organizations ought to thus still facilitate the training method following the completion of coaching to push positive transfer.

## **CONCLUSION AND SUGGESTIONS**

The global economy and technological advances of these days need software organizations to form constant changes so as to keep up a competitive advantage (Arguinis & Kraiger, 2009). One such amendment is that the set of data, skills and talents that are currently crucial for achievement. Most staff doesn't inherently possess the qualities required to fulfill these ever-changing work demands, however. As a result, organizations invest billions of bucks in coaching interventions each year (Paradise, 2007). Despite these efforts, several of them reportedly fail to develop the talents and talents they aim (IBM, 2008). Coaching transfer refers to the applying, generalization and maintenance of trained skills on the duty (Ford & Weissbein, 1997). The apparent transfer downside has long been a preponderating concern of organizations and researchers alike (Michalak, 1981). Consequently, the aim of this paper was to spot factors that have shown the strongest, most consistent relationships with the transfer of coaching. Based on LTSI model and kerpatriks levels Organizations that look for steering once developing coaching programs and promoting the transfer of coaching will have faith in

colossal information of literature that has resulted from decades of analysis. Such resources, however, contain various, generally inconsistent, findings that may create it tough for organizations to pinpoint precisely that factors are most important for coaching transfer.

We tend to know variables associated with trainees, coaching style and therefore the work surroundings that have shown the strongest, most consistent relationships with transfer. This simplified review will function a basic guideline for those curious about deciding what very matters in relevancy the transfer of coaching. Holton et al.'s (2000) work on the LTSI as a transfer diagnose- twitch tool may be an exemplar of such Associate in Nursing approach, though its use is for diagnose- twitch functions solely. The LTSI may be a valid transfer system inventory together with sixteen factors composed of sixty-eight things menstruation individual, intervention, and work environment factors (with a further twenty-one things beneath review to extend reliability. Though the LTSI provides Associate in Nursing initial assessment of novice perceived factors impacting transfer and is effective for coming up with functions within the post- coaching context, it doesn't live transfer directly therefore limiting inferences regarding relationships with transfer outcomes (Kirwan & Birchall, 2006).

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## Big Data Analytics (Hadoop)

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### ABSTRACT

*The Big Data is the most prominent paradigm now-a-days. The promise of data driven decision making is now being recognized broadly, and there is growing enthusiasm for the notion of "Big Data". Big data is a term that describes the large volume of data – both structured and unstructured – that overwhelms a business on a day-to-day basis. But it's not the amount of data that's important. It's what organizations do with the data that matters. Big data can be analysed for insights that lead to better decisions and strategic business moves. The Big Data started its rule slowly in 2003, and expected to rule and dominate the IT industries at least up to 2030.. The Big Data is blasting everywhere around the World in every domain. The Big Data, a massive amount of data, is able to generate billions of revenue. The secret behind of these billions of revenue is ever growing volume. This paper presents the redefinition of volume of Big Data. The volume is redefined by engaging three other V's, namely, volume, variety, and velocity. 3Vs (volume, variety and velocity) are three defining properties or dimensions of big data. However, the storage and analysis of large amount of high-speed real-time smart building data is a challenging task. There are a number of contemporary Big Data management technologies and advanced analytics techniques that can be used to deal with this challenge. There is a need for an integrated IoT Big Data Analytics (IBDA) framework to fill the research gap in the Big Data Analytics domain. The initial version of the IBDA framework has been developed by using Python and the Big Data Cloud era platform. This paper covers the categorization of big data, its popularity on the web abilities, data available, gains, tools, techniques and applications. One primary conclusion is how Big Data can be dealt effectively and with precision.*

**Keywords:** Volume, Variety, Velocity, IoT big data analytics

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### INTRODUCTION

In a broad range of application areas, Data is being collected at unprecedented scale. Decisions that were previously based on guesswork or on models of reality can now be based on the data itself. Such Big Data analysis now drives nearly every aspect of our modern society , including mobile services, retail, manufacturing, financial services, life sciences, and physical sciences. Scientific Research has been revolutionized by Big Data. The Slogan Digital sky Survey has today become a central resource for astronomers all over the world. The field of Astronomy is being transformed from one where the pictures of the sky was a large part of an astronomer's job to one where the pictures are all in a database already and the astronomer's task is to find interesting objects and phenomenon in the database. Big Data has the potential to revolutionize not just research but also education. A recent detailed quantitative comparison of different approaches taken by 35 charter schools in NYC has found that one of the top five policies correlated with measurable academic effectiveness was the use of data to guide instruction. While the potential benefits of Big Data are real and significant, and some initial success have already been achieved (Slogan Digital Sky Survey), there remain many technical challenges that must be addressed to fully realize the potential. The sheer size of the data is a major challenge and is the one that can be easily recognized. The analysis of data involves two categories of data - Structured Data and Unstructured Data.

Structured data refers to the data which has a pre-defined data model structure and is often relational in nature and can be easily managed and consumed using the traditional tools/techniques. Unstructured data on the other hand is the data which does not have a well-defined data model. Structured data includes data in the relational databases; data from CRM systems, XML files etc. Unstructured data includes flat files, spread sheets, Word documents, emails, images, audio files, video files, feeds, PDF files, scanned documents, etc.

Key enablers for the growth of “Big Data” are: ◦ Increase of storage capacities

- Increase of processing power
- Availability of data

“Big Data” consists of very large volumes of heterogeneous data that is being generated, often, at high speeds. These data sets cannot be managed and processed using traditional data management tools and applications at hand. Big Data requires the use of a new set of tools, applications and frameworks to process and manage the data.



### What is Big Data?

Big data is a buzzword, catch-phrase, used to describe a massive volume of both structured and unstructured data that is so large that it's difficult to process using traditional database and software techniques



Big data is typically described by the first three characteristics. The term big data is believed to have originated with Web search companies who had to query very large distributed aggregations of loosely-structured data. Big data analytics requires capturing and processing data where it resides. This paper explores the value of data at the edge of networks, where some of —biggest big data is generated. As the use of sensors and devices as well as intelligent systems continues to expand, the potential to gain insight from the flood of data from these sources becomes a new and compelling opportunity. Businesses that can harness the power of big data at the edge and unlock its value to the organization will outperform their competitors with greater capabilities to innovate creatively and solve complex problems whose solutions have been out of reach in the past. Below—sometimes referred to as the three Vs. However, organizations need a fourth—value—to make big data work.

- Volume. Huge data sets that are orders of magnitude larger than data managed in traditional storage and analytical solutions. Think petabytes instead of terabytes.
- Variety. Heterogeneous, complex, and variable data which are generated in formats as different as e-mail, social media, video, images, blogs, and sensor data—as well as —shadow data such as access journals and Web search histories.
- Velocity. Data is generated as a constant stream with real- time queries for meaningful information to be served up on demand rather than batched.
- Value. Meaningful insights that deliver predictive analytics for future trends and patterns from deep, complex analysis based on machine learning, statistical modelling, and graph algorithms. These analytics go beyond the results of traditional business intelligence querying and reporting.

### What Comes Under Big Data?

Big data involves the data produced by different devices and applications. Given below are some of the fields that come under the umbrella of Big Data.

**Black Box Data:** It is a component of helicopter, airplanes, and jets, etc. It captures voices of the flight crew, recordings of microphones and earphones, and the performance information of the aircraft.

**Social Media Data:** Social media such as Facebook and Twitter hold information and the views posted by millions of people across the globe.

**Stock Exchange Data:** The stock exchange data holds information about the 'buy' and 'sell' decisions made on a share of different companies made by the customers.

**Power Grid Data:** The power grid data holds information consumed by a particular nodewith respect to a base station.

**Transport Data:** Transport data includes model, capacity, distance and availability of a vehicle.

**Search Engine Data:** Search engines retrieve lots of data from different databases



Thus Big Data includes huge volume, high velocity, and extensible variety of data. The data in it will be of three types.

Structured data: Relational data.

Semi Structured data: XML data.

Unstructured data: Word, PDF, Text, Media Logs.

### Benefits of Big Data

Big data is really critical to our life and its emerging as one of the most important technologies in modern world. Follow are just few benefits which are very much known to all of us: Using the information kept in the social network like Facebook, the marketing agencies are learning about the response for their campaigns, promotions, and other advertising mediums. Using the information in the social media like preferences and product perception of their consumers, product companies and retail organizations are planning their production. Using the data regarding the previous medical history of patients, hospitals are providing better and quick service.

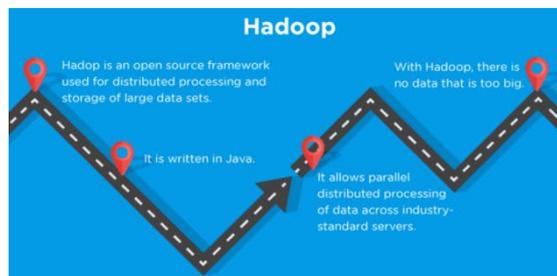
Some practical benefits are:

- Re-develop the products-  
Big data can help us understand that how others perceive our products so that we can adapt them
- Perform risk analysis-  
Big data helps us to scan and analyse newspaper reports or social media fees so that we can permanently keep speed on the latest developments in industry and environment
- Keeping data safe-  
Big data tools allow us to map the entire data landscape across the country. We can detect potentially sensitive information that is not protected in an appropriate manner.
- Creating new revenue streams-  
The insights than we gain from analysing the market and its consumers with big data are not just valuable to us. We could sell them as non-personalised trend data to large industry player operating in the same segment
- Customise the website in real time-  
Big data analytics allow us to personalise the content or look and feel of our website in real time to suit each consumer a entering our website .
- Reducing maintenance cost  
Big data tools can access large amount of data with their unequalled speed that can spot failing grid devices and predict when they will give out.
- Offering tailored healthcare

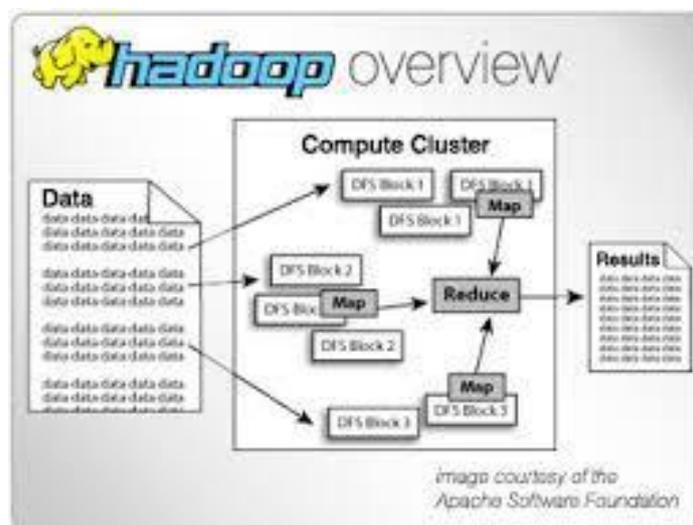
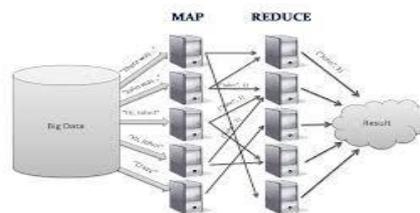
We are living in a hyper-personalised world, but healthcare seems to be one of the last sectors still using generalised approaches. When someone is diagnosed with cancer they usually undergo one therapy and if that doesn't work the doctors try another. But what if a cancer patient would receive medication that is tailored to his individual genes? This would result in a better outcome, less cost, less frustration and less fear. With human genome mapping and big data tools it will soon be common place for everyone to have their genes mapped as a part of their medical record.

- Offering enterprise-wide insights  
Previously, if business users needed to analyse large amount of varied data they had to ask their IT colleagues for help as they themselves lacked the technical skills for doing so. Often, by the time they received the requested information , it was no longer useful or even correct. With Big Data tools the technical teams can do the groundwork and then build repeatability into algorithms for faster searches. In other words, they can develop systems and install interactive and dynamic visualization tools that allow business users to analyse, view and benefit from the data.

**An Example of Big Data?**



(The Apache Hadoop Framework and Map Reduce) New technologies are emerging to make big data analytics possible and cost-effective. The Apache Hadoop framework is evolving as the best new approach. The Hadoop framework redefines the way data is managed and analyzed by leveraging the power of a distributed grid of computing resources. The Hadoop open-source framework uses a simple programming model to enable distributed processing of large data sets on clusters of computers. The complete technology stack includes common utilities, a distributed file system, analytics and data storage platforms, and an application layer that manages distributed processing, parallel computation, workflow, and configuration management. In addition to offering high availability, the Hadoop framework is more cost-effective for handling large, complex, or unstructured data sets than conventional approaches, and it offers massive scalability and skills.



## The Apache Hadoop Framework

The base Apache Hadoop framework is composed of the following modules:

- Hadoop Common – contains libraries and utilities needed by other Hadoop modules;
- Hadoop Distributed File System (HDFS) – a distributed file-system that stores data on commodity machines, providing very high aggregate bandwidth across the cluster;
- Hadoop YARN – a resource-management platform responsible for managing computing resources in clusters and using them for scheduling of users' applications;and
- HadoopMapReduce –an implementation of the Map Reduce
- Programming model for large scale data processing.

The term Hadoop has come to refer not just to the base modules above, but also to the ecosystem, or collection of additional software packages that can be installed on top of or alongside Hadoop, such as, Apache Pig, Apache Hive, Apache Base, Apache Phoenix, Apache Spark, Apache Zookeeper, Cloud era, Apache Flume, Apache Sqoop, Apache Oozie, Apache Storm.

- Apache Hadoop's MapReduce and HDFS components were inspired by Google papers on their Map Reduce and Google File System.
- The Hadoop framework itself is mostly written in the Java programming language, with some native code in C and command line utilities written as shell scripts. Though Map Reduce Java code is common, any programming language can be used with "Hadoop Streaming" to implement the "map" and "reduce" parts of the user's program.<sup>[10]</sup> Other projects in the Hadoop ecosystem expose richer user interfaces.

## Role of Big Data Hadoop Architect

What does a Big Data Hadoop Architect do?

Typically, a Big Data Hadoop architect addresses specific Big Data problems and requirements. If you take up this role, you will be expected to describe the structure and behavior of a Big Data solution utilizing the Hadoop technology. You will need to cater to the needs of the organization as well as Big Data specialists and engineers, and act as a link between them. Any organization that wants to build a Big Data environment will require a Big Data architect who can manage the complete lifecycle of a Hadoop solution – including requirement analysis, platform selection, design of technical architecture, design of application design and development, testing, and deployment of the proposed solution.

### Ensure you meet these primary requirements-

To be a Big Data Hadoop architect, you've got to have advanced data mining and data analytical skills which requires years of professional experience in the Big Data field. If you have the skills listed here, you're on the right track:

- Marketing and analytical skills: The ability to process and analyze data to understand the behavior of the buyer/customer.
- RDMSs(Relational Database Management Systems) or Foundational database skills
- The ability to implement and use No SQL, Cloud Computing, and Map Reduce
- Skills in statistics and applied math
- Data visualization and data migration

Moreover, your role as a data architect will be of more importance as many businesses are now turning to data architects than a data analyst or a database engineer. A data architects with the skills to integrate data from different sources is the need of the hour. As a data architect, you will play a important role working closely with users, system designers, and developers.

## Characteristics of Big Data

- Volume- It is the quantity of generated and stored data. The size of the data determines the value and potential insight- and whether it can actually be considered big data or not.
- Variety- The type and nature of the data. This helps people who analyze it to effectively use the resulting insight.
- Velocity- In this context, the speed at which the data is generated and processed to meet the demands and challenges that lie in the path of growth and development.
- Variability- Inconsistency of the data set can hamper processes to handle and manage it.
- Veracity- The quality of captured data can vary greatly, affecting accurate analysis.

### Applications and Challenges of Big Data

- Banking and Security- Study shows that the challenges in this industry include, securities fraud early warning, tick analytics, card fraud detection, archival of audit trails, enterprise credit risk reporting, trade visibility, customer data transformation, social analytics for trading, IT operations analytics, and IT policy compliance analytics.

#### Applications of big data in the banking and securities industry:

**The Securities Exchange Commission (SEC)** is using big data to monitor financial market activity. They are currently using network analytics and natural language processors to catch illegal trading activity in the financial markets.

Retail traders, Big banks, hedge funds and other so-called 'big boys' in the financial markets use big data for trade analytics used in high frequency trading, pre-trade decision-support analytics, sentiment measurement, Predictive Analytics etc.

This industry also heavily relies on big data for risk analytics including; anti-money laundering, demand enterprise risk management, "Know Your Customer", and fraud mitigation.

Big Data providers specific to this industry include: 1010data, Stream base Systems, Nice Actimize and Quartet FS.

- Communications, Media and Entertainment- Since consumers expect rich media on-demand in different formats and in a variety of devices, some big data challenges in the communications, media and entertainment industry include:
  1. Collecting, analyzing, and utilizing consumer insights
  2. Leveraging mobile and social media content
  3. Understanding patterns of real-time, media content usage

#### Applications of big data in the Communications, media and entertainment industry are:

Organizations in this industry simultaneously analyze customer data along with behavioural data to create detailed customer profiles that can be used to:

- i. Create content for different target audiences
- ii. Recommend content on demand
- iii. Measure content performance

**Spotify**, an on-demand music service, uses Hadoop big data analytics, to collect data from its millions of users worldwide and then uses the analyzed data to give informed music recommendations to individual users.

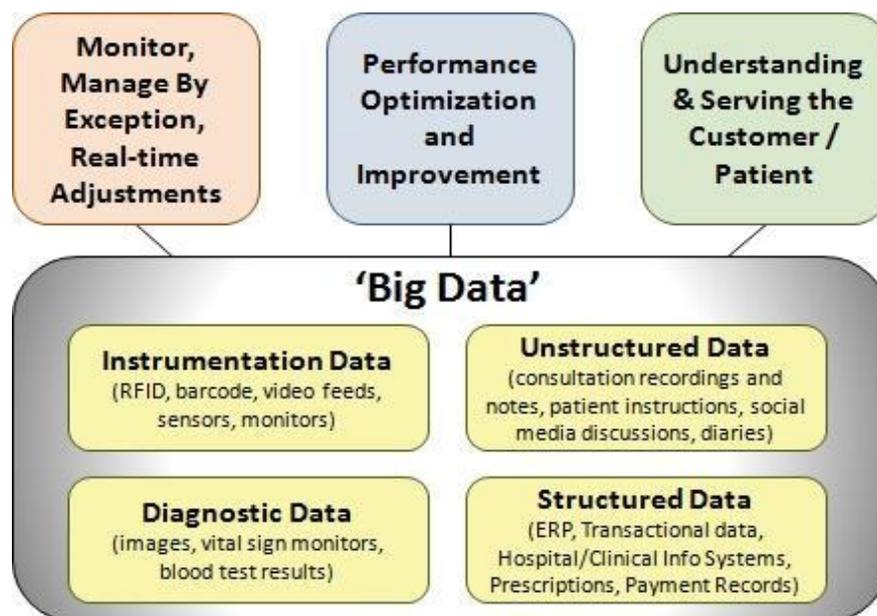
**Amazon Prime**, which is driven to provide a great customer experience by offering, video, music and Kindle books in a one-stop shop also heavily, utilizes big data.

Big Data Providers in this industry include: Info chimps, Spunk, Pervasive Software, and Visible Measures.

- Healthcare Providers- Industry-Specific challenges are:

The healthcare sector has access to huge amounts of data but has been plagued by failures in utilizing the data to curb the cost of rising healthcare and by inefficient systems that stifle faster and better healthcare benefits across the board.

This is mainly due to the fact that electronic data is unavailable, inadequate, or unusable. Additionally, the healthcare databases that hold health-related information have made it difficult to link data that can show patterns useful in the medical field.



Other challenges related to big data include: the exclusion of patients from the decision making process and the use of data from different readily available sensors.

#### **Applications of big data in the healthcare sector are:**

Some hospitals, like Beth Israel, are using data collected from a cell phone app, from millions of patients, to allow doctors to use evidence-based medicine as opposed to administering several medical/lab tests to all patients who go to the hospital. A battery of tests can be efficient but they can also be expensive and usually ineffective.

Free public health data and Google Maps have been used by the University of Florida to create visual data that allows for faster identification and efficient analysis of healthcare information, used in tracking the spread of chronic disease.

Big Data Providers in this industry include: Recombinant Data, Humedica, Explores and Cerner.

#### **• Education- Industry-Specific big data challenges are:**

From a technical point of view, a major challenge in the education industry is to incorporate big data from different sources and vendors and to utilize it on platforms that were not designed for the varying data. From a practical point of view, staff and institutions have to learn the new data management and analysis tools.

On the technical side, there are challenges to integrate data from different sources, on different platforms and from different vendors that were not designed to work with one another. Politically, issues of privacy and personal data protection associated with big data used for educational purposes are a challenge.

#### **Applications of big data in Education are:**

Big data is used quite significantly in higher education. For example, The University of Tasmania. An Australian university with over 26000 students has deployed a Learning and Management System that tracks among other things, when a student logs onto the system, how much time is spent on different pages in the system, as well as the overall progress of a student over time.

In a different use case of the use of big data in education, it is also used to measure teacher's effectiveness to ensure a good experience for both students and teachers. Teacher's performance can be fine-tuned and measured against student numbers, subject matter, student demographics, student aspirations, behavioural classification and several other variables.

On a governmental level, the Office of Educational Technology in the U. S. Department of Education is using big data to develop analytics to help course correct students who are going astray while using online big data courses. Click patterns are also being used to detect boredom.

Big Data Providers in this industry include: Knew ton and Carnegie Learning and My Fit/ Naviance.

• **Manufacturing and Natural Resources- Industry-Specific challenges include:**

Increasing demand for natural resources including oil, agricultural products, minerals, gas, metals, and so on has led to an increase in the volume, complexity, and velocity of data that is a challenge to handle. Similarly, large volumes of data from the manufacturing industry are untapped. The underutilization of this information prevents improved quality of products, energy efficiency, reliability, and better profit margins.

**Applications of big data in manufacturing and natural resources**

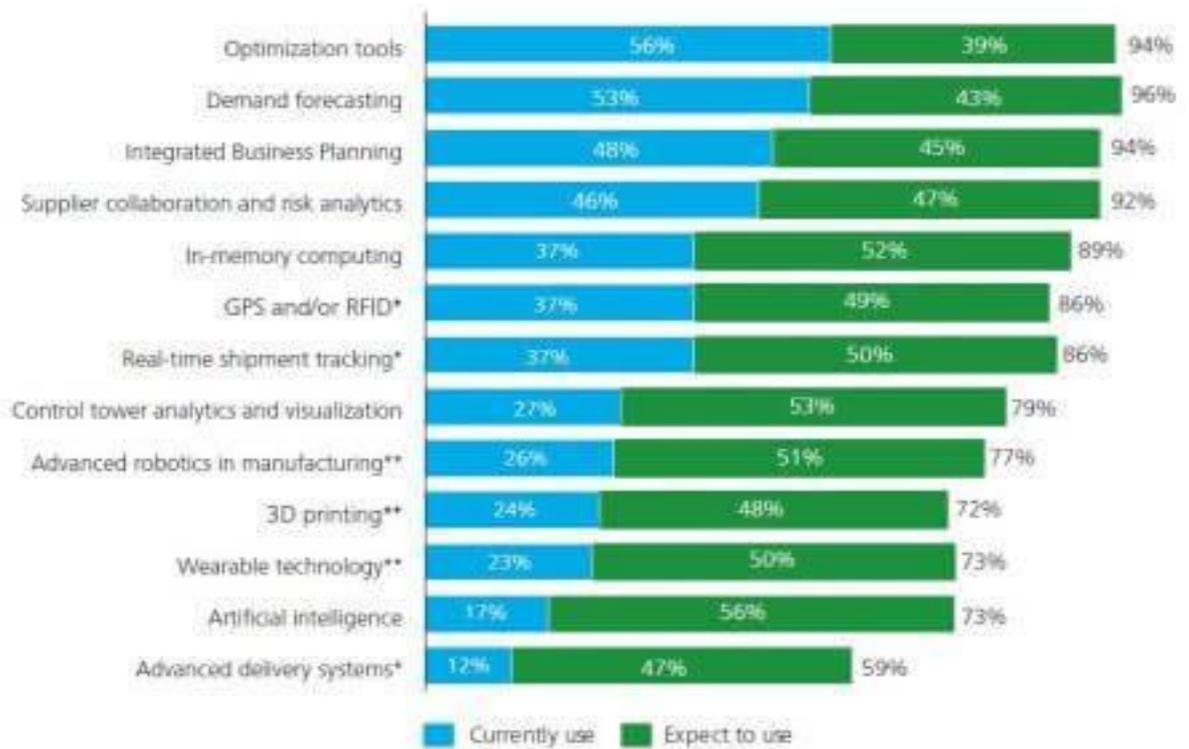
In the natural resources industry, big data allows for predictive modelling to support decision making that has been utilized to ingest and integrate large amounts of data from geospatial data, graphical data, text and temporal data. Areas of interest where this has been used include; seismic interpretation and reservoir characterization.

Big data has also been used in solving today’s manufacturing challenges and to gain competitive advantage among other benefits.

In the graphic below, a study by Deloitte shows the use of supply chain capabilities from big data currently in use and their expected use in the future.

**Big Data Providers in this industry include:** CSC, Aspen Technology, Invensys and Pentaho.

Figure 2: Use of supply chain capabilities



**Notes:**  
 Chart is ordered by the percentages for "Currently use"  
 \*Manufacturing and retail respondents only  
 \*\*Manufacturing respondents only

• **Government- Industry-Specific challenges include**

In governments the biggest challenges are the integration and interoperability of big data across different government departments and affiliated organizations.

**Applications of big data in Government**

In **public services**, big data has a very wide range of applications including: energy exploration, financial market analysis, fraud detection, health related research and environmental protection.

Some more specific examples are as follows:

Big data is being used in the analysis of large amounts of social disability claims, made to the Social Security Administration (SSA), that arrive in the form of unstructured data. The analytics are used to process medical information rapidly and efficiently for faster decision making and to detect suspicious or fraudulent claims.

The Food and Drug Administration (FDA) is using big data to detect and study patterns of food-related illnesses and diseases. This allows for faster response which has led to faster treatment and less death.

The Department of Homeland Security uses big data for several different use cases. Big data is analyzed from different government agencies and is used to protect the country.

Big Data Providers in this industry include: Digital Reasoning, Socrata and HP.

**• Insurance-Industry-Specific challenges include:**

Lack of personalized services, lack of personalized pricing and the lack of targeted services to new segments and to specific market segments are some of the main challenges.

In a survey challenges identified by professionals in the insurance industry include underutilization of data gathered by loss adjusters and a hunger for better insight.

**Applications of big data in the insurance industry are:**

Big data has been used in the industry to provide customer insights for transparent and simpler products, by analyzing and predicting customer behaviour through data derived from social media, GPS-enabled devices and CCTV footage. The big data also allows for better customer retention from insurance companies.

When it comes to claims management, predictive analytics from big data has been used to offer faster service since massive amounts of data can be analyzed especially in the underwriting stage. Fraud detection has also been enhanced.

Through massive data from digital channels and social media, real-time monitoring of claims throughout the claims cycle has been used to provide insights.

Big Data Providers in this industry include: Sprint, Qualcomm, Octo Telematics, The Climate Corp.

**• Retail and Wholesale Trade- Industry-Specific challenges include:**

From traditional brick and mortar retailers and wholesalers to current day e-commerce traders, the industry has gathered a lot of data over time. This data, derived from customer loyalty cards, POS scanners, RFID etc. is not being used enough to improve customer experiences on the whole. Any changes and improvements made have been quite slow.

**Applications of big data in the Retail and Wholesale industry**

Big data from customer loyalty data, POS, store inventory, local demographics data continues to be gathered by retail and wholesale stores.

In New York's Big Show retail trade conference in 2014, companies like Microsoft, Cisco and IBM pitched the need for the retail industry to utilize big data for analytics and for other uses including:

- Optimized staffing through data from shopping patterns, local events, and so on
- Reduced fraud
- Timely analysis of inventory

Social media use also has a lot of potential use and continues to be slowly but surely adopted especially by brick and mortar stores. Social media is used for customer prospecting, customer retention, promotion of products, and more.

Big Data Providers in this industry include: First Retail, First Insight, Fujitsu, Infor, Epicor and Vistex.

**• Transportation-Industry-Specific challenges include:**

In recent times, huge amounts of data from location-based social networks and high speed data from telecoms have affected travel behaviour. Regrettably, research to understand travel behaviour has not progressed as quickly.

In most places, transport demand models are still based on poorly understood new social media structures.

### Applications of big data in the transportation industry

Some applications of big data by governments, private organizations and individuals include:

Government's use of big data include, traffic control, route planning, intelligent transport systems, congestion management (by predicting traffic conditions).

Private sector use of big data in transport: revenue management, technological enhancements, logistics and for competitive advantage (by consolidating shipments and optimizing freight movement)

Individual use of big data includes: route planning to save on fuel and time, for travel arrangements in tourism etc.

**Big Data Providers in this industry include:** Qualcomm and Manhattan Associates.

#### • Energy and Utilities-

Applications of big data in the energy and utilities industry are:

Smart meter readers allow data to be collected almost every 15 minutes as opposed to once a day with the old meter readers. This granular data is being used to analyze consumption of utilities better which allows for improved customer feedback and better control of utilities use.

In utility companies the use of big data also allows for better asset and workforce management which is useful for recognizing errors and correcting them as soon as possible before complete failure is experienced.

Big Data Providers in this industry include: Alstom Siemens ABB and Cloud era.

### Skills required becoming Big Data Analyst

- **Analytical skills:** The ability to be able to make sense of the piles of data that you get. With analytical abilities, you will be able to determine which data is relevant to your solution, more like problem solving.
- **Creativity:** You need to have the ability to create new methods to gather, interpret, and analyze a data strategy. This is an extremely suitable skill to possess.
- **Mathematics and statistical skills:** Good, old fashioned "number crunching". This is extremely necessary, be it in data science, data analytics, or big data.
- **Computer science:** Computers are the workhorses behind every data strategy. Programmers will have a constant need to come up with algorithms to process data into insights.
- **Business skills:** Big Data professionals will need to have an understanding of the business objectives that are in place, as well as the underlying processes that drive the growth of the business as well as its profit.

### Sampling Big Data

An important research question that can be asked about big data sets is whether you need to look at the full data to draw certain conclusions about the properties of the data or is a sample good enough. The name big data itself contains a term related to size and this is an important characteristic of big data. But Sampling enables the selection of right data points from within the larger data set to estimate the characteristics of the whole population. In manufacturing different types of sensory data such as acoustics, vibration, pressure, current, voltage and controller data are available at short time intervals. To predict down-time it may not be necessary to look at all the data but a sample may be sufficient. Big Data can be broken down by various data point categories such as demographic, psychographic, behavioural, and transactional data. With large sets of data points, marketers are able to create and utilize more customized segments of consumers for more strategic targeting.

### CONCLUSION

Having gone through a vast knowledge about Big Data and industry verticals including how big data plays a role in these industries, here are a few key takeaways:

1. There is substantial real spending around big data
2. To capitalize on big data opportunities, you need to:
  - Familiarize yourself with and understand industry-specific challenges
  - Understand or know the data characteristics of each industry
  - Understand where spending is occurring

- Match market needs with your own capabilities and solutions

Vertical industry expertise is key to utilizing big data effectively and efficiently.

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## Digital Empowerment of Citizens

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### ABSTRACT

Technology is referred to as the tools, machines, materials, techniques and sources of power to make work easier and more productive. Development is closely related with the technology and the stage at which the human has arrived could not be possible without the advancement in technology. The radical change in the society has led to a major shift in the society leading to the digital age and empowerment of the citizens. This paper proposes a citizen and community-oriented approach to using information technology, whereby people are considered as participant members of the society. This empowering approach views people as subjects and actors who have abilities of to develop. Empowerment of individuals and communities means increased control over life and coping skills. With the information technology people gain new abilities and ways to participate and express them in the society. This paper also includes that digital empowerment is not a direct consequence of having and using the technical facilities, but a multi-phased process to gain better networking connection and opportunities to increase competence in the information society. Our main conclusion is to bring awareness in the community about the digital age and show a sense of enablement – enabling People to do what is important and use digital services provided to them. This paper also approaches of bridging some of the democratic, cultural and content divides by bringing in more aspect.

**Keyword:** Technology Development Empowerment Community.

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### INTRODUCTION

Today the world has transformed from knowledge savvy to tech savvy India. Think of something and we are a click away. It is a well-known fact that Digital India today, has come up with various innovations and technological advancements. These steps transform the lives of many citizens and will empower them as well as the society in a better manner. The digital world that we live in today is that where every civilian has a bright prospect to transform the lives in many ways that were hard to envision just a couple of years ago. It is the outcome of several innovations and technology advances. Today, every nation wants to be fully digitalized that will empower society in a better manner. The 'Digital India' program, an initiative of honorable Prime Minister Mr. Narendra Modi, will emerge new progressions in every sector and generates innovative endeavors for generation next. The motive behind the concept is to build participative, transparent and responsive system. All educational institutions and government services will soon be able to provide I-ways round the clock. Digital India will provide all services electronically and promote digital literacy. Digital Technologies which includes the concept of cloud computing and mobile applications have emerged as the catalysts for express economic growth and citizen empowerment. Companies all over the world desire to invest in Digital India- the 21st century India, as a growth opportunity. Hence, an attempt has been made in this paper to understand Digital Empowerment via Digital India as a campaign where technologies and connectivity will come together to make an impact on all aspects of governance and improve the quality of life of citizens as well as for the society we live in. Global investors like Sundar Pichai, Satya Nadella, and Elon Musk have supported Modi's Digital India initiative and helped various Indian citizens to be employed in the sector as well as enjoy their benefits.



### **People are Receivers of the Information Society**

The main discourse on the information society are described in terms of technological and economical determinism, like threat or challenge. Development of the information society seems inevitable; we can't afford to avoid it, we must face it, and adapt to its requirements. The development is rarely questioned, despite the fact that the abstract rhetoric fails to clarify where we are heading. The concept of the information society is vague and the citizen is almost forgotten. The main point of the message is dynamic development, which we have to be part of, otherwise we are lost. The deterministic and outside-led discourse can be explained by one-way authorial policy making, which leads to a patronizing and non-questionable attitude. The policy making of the information society is top-down from the authorities to the people, who receive and do not participate. The other explanation is the high levels of appreciation for markets and economic values, which supports market-driven development. Technology is partnering with the markets, which is financing new innovations, and this technology–market partnership is being allowed to manage the development much more than some the society, like social or cultural players. As a consequence of this top-down approach and the technology–market-driven orientation, the information society is mainly implemented as (a) authoritarian policies and (b) services for customers. The information society's policies represent authorities' reactivity in trying to get control over the situation. The e-strategy discourse creates visions, faith in the strengths of global markets, and ways to overcome the weaknesses. From the official strategies' point of view, peoples' roles involve adapting to the changing circumstances and receiving services from authorities. This non questioning adaptation is a consequence of top-down thinking and the requirements of the markets. People are mainly identified as users, customers, consumers and citizens. The common function for all these roles, from the standpoint, is to adapt and receive. Adaptive roles can be defined in relation to external and changing circumstances, which people have to integrate into. The conditions of the information society require continuous learning, updating of skills and knowledge, and the ability to cope with new technology. To conquer the challenges of the information society and a competitive economy, people have to invest in technical equipment and training so they can use and decode the contents of new communication technology. People are seen as inferior to circumstances and powerless to change them. In adaptive roles people are considered users of infrastructure and contents, and they are presumed to have user skills, but not too much participatory, planning or criticizing ability. The user may react, but he/she still remains in the role of user, not creator. Even when we talk about user-centered design as an ideal model to consider the needs of people, actually 'the norms and profiles of the information society use the user, and this way aims at producing desired individuals in society. The rhetoric of information society programs offers a very mechanistic role model for citizens, calling them users or consumers who should learn to use new technology and become competitive. The public administrations take the responsibility for supporting citizens' adaptation in the information society by offering some possibilities to access and use technical infrastructure, such as the Internet. This is usually the only way the administrations try to prevent the digital divides. Thus the support is directed to accessing technology, using technology, and receiving different services by using the new tools. If citizens break away from their user roles, they are easily considered as a threat, and are labeled hackers or troublemakers. User-citizens are usually measured quantitatively, either by the number of times they access the Internet, by the number of email accounts or by the volume of using services, not by their interest in the possibilities of Internet or by the meaning of technology in their everyday life. If digital equality or inequality is only quantitatively measured, it fails to convey the whole situation. My intention here is not to underestimate the ability to adapt, which is an important skill, but to show how one-sided and narrow this adapting user-citizen's role is. If people are seen only in this adaptive user-citizen's role, they are seen from the top down, and not as subjects who participate and can make differences in society. The other verb describing people's role in the information society concerns receiving. People receive their role by buying, using, consuming and accepting things offered from the top down. The public administration or media do not seem to recognize people in initiating and active roles, or as cooperators. Citizens are patronized, informed and offered things in a one-way manner.



Therefore citizens as receivers do not act as having complete control over their lives. In a receiving role people are called consumers, customers, users or the public. Even in citizens' role, people are also mainly considered as receiving and adapting subjects to the power (Karvonen, 2001). The receiving role can be described as being either an object or a target of activities, not a subject or actor. People are also getting used to their receiving role, demanding the ready-made services of the society, thereby becoming too passive to make an effort themselves. The reasons leading to the receiving role of people in society can be found in the authoritarian and patronizing mentality, as well as in market-driven values combined with individualistic values. The activities of the receiving citizen are connected to his/her choices as a customer or user, not to activities as an influential and competent citizen. The receiving role is also connected to purchasing power – what and how much a person is able to buy. In this individualistic culture people are more and more 'buying their lives', they are fulfilling their needs and desires by using money (Webster, 2000). In that way, the role of people is drawing closer to the consumer-identity offered by markets. Thus the markets are creating needs rather than satisfying them. This consumer-centered mentality is naturally causing an inequality among people. If, for example, the quality of information is defined by economic purchasing power, some citizens may become information poor in a sense of having access only to 'garbage information', which entertains and sells, but does not have much informational value (Webster, 2000). It seems also that the Internet is part of the new division of welfare, and it will become more and more an arena for consumption (Sassi, 2003). Digital Empowerment Citizens' adapting and receiving roles seem narrow. Citizenship in a one-way role of enjoying citizen's rights to receive and to be subsidized is not leading to a cooperative society. Citizenship in a sense of active participation requires skills and competence in order to have an influential role in society. Thus we propose a role of participant subject as an aim of citizenship, which includes a feeling of controlling one's life and having enough competence to collaborate significantly to make changes in the society.

### Included, Excluded or Digitally Divided?



'Why don't you leave me alone?! I want no part of your Internet, of your technological civilization, of your network society! I just want to live my life!' Well, if this is your position, we have bad news for you. If you do not care about the networks, the networks will care about you, anyway. For as long as you want to live in society, at this time and in this place, you will have to deal with the network society. (Castells, 2002) From economic-administrative perspective, an adapting citizen who can use technical services fluently is doing well: he/she has the knowledge, skills and qualifications to be successful in a competitive economy. Mostly the problem of inequality (digital divide) is defined as lacking the skills and opportunities to access digital services. Digitally marginalized citizens are usually described as people who are in unequal positions concerning the use of information technology, such as the Internet. The term 'digital divide' is commonly used to describe the unequal and marginalizing development in the information society. However, the thematic of the digital divide continues mostly with the discourse of people in their adapting and receiving roles. The digital divide is

measured quantitatively, e.g. by the Internet penetration of the area, or by the volume of online services consumed, even though some researchers have added other views, such as the aspects of social and democratic inequality (e.g. Norris, 2001). The 'haves' and 'have-nots' division is not quite adequate, because it can describe only the receiving aspect of the problem. There are more ambiguous factors, such as motivational, social, cultural and individual matters, affecting the situation. The ways of applying new technology vary in different contexts, and the technology itself may not be necessary for everyone. There are a number of people who choose not to use new technical tools and, if they did, it would not increase their equality in society. The discourse of haves and have-nots, or information rich and poor, is quite simplified and represents one-way mechanistic thinking. In fact a person who may statistically be defined as digitally disadvantaged or a dropout can feel quite competent as a member of the society, if he/she is able to participate influentially without using new technology and if applying technology would not make significant improvement in the person's life. However, since the new information and communication technology is daily becoming more influential in the economy and in various areas of life, more and more people are taking advantage of it. If we try to create more equality by digital bridges, we may bridge technical gaps, but not necessarily the inequality gaps of participation in society. The best way to improve digital balance in society is to use the digital bridges to support and complement the other development work done at the grassroots level. Bridging gaps by technical digital bridges is not quite enough to include people as influential members of the information society. Because of the one-way receiving sense, it would rather support the mainstreaming of new media, which today seems to be a 're-marking' trend (Lievrouw, 2004), and which has consequences such as cultural integration and decreasing diversity of perspectives. Digital exclusion describes the inequality of people better than division into haves and have-nots. An included person of the information society feels like a full member of the community or society, and he/she has the competence to influence with or without using the new technology. An excluded person does not have these possibilities or the necessary competence. People who decide not to use digital technology do not belong to the group of disadvantaged or excluded, and neither do the people who could not substantially improve their well-being by using the new technology.



The excluded people of the information society are the ones who could increase their welfare and prospects by using the information technology, but who don't have the chance or ability to use it. Excluded people are also the ones who are weakened or deprived by the information society and its characteristics such as consequences of globalization. They are also the ones who are only in receiving and consuming roles, and who do not feel full participation in social decision-making processes.

### Digital Empowerment in Enhancing Citizen Inclusion in Society

The informational and operational networks are elemental parts of the information society and its functions. Information has a significant exchange value, and the access to both information and social communication is crucial for many kinds of welfare and cooperation. Manuel Castells talks about information capitalism, which means that global information capital is becoming more and more the basis for economics in the information society. The other significant trend and consequence of the new information technology is widening

communicational networking. Thus we can call the post-industrial society, not only the information society, but also the network society or communication society. Information technology can create a framework for interaction and multidimensional communication, even though the technology itself is not interactive. Technology can be used to serve social networks, which are quite often hierarchical and form strong and weak information flows. The strongest information flows are usually forming between the strongest parties (i.e. nodes), and thus they become the dominating centers of the networks, while some other places stay less popular and become marginalized. These marginalized places and people are usually not reached by new communication technology and its interaction. The Internet supports first the ones who are already influential, such as the existing power structures, so the networks themselves do not empower anyone without some special activating inclusion efforts. However, Internet technology can very well be utilized for empowerment and enriching participation by diversifying the information flows, empowering horizontal communication and by opening new digital bridges to marginal or remote areas and people. Digital technology can be used as a tool for unprivileged people to reach the informational, social and economic capital of the social networks more easily than before. In the area of communication this empowerment can happen by investing in: 1) sharing information, not only one-way broadcasting; 2) opening possibilities to publish different views; 3) launching equal discussion forums; and 4) arranging opportunities to influence policy making. Internet technology is a magnificent tool for sharing information. Open network environments accumulate information; it can be edited and reformulated, and it can be potentially used by anyone without diminishing its value. Multidimensional information sharing enables communities and individuals to become information providers. Thus we can avoid one-way information flows becoming too monopolistic and powerful. Online publishing has opened totally new possibilities for people to express their views and opinions in public. Many activist groups, social movements and communities can display their views on critical issues concerning them. However, if these information flows are not widely considered, their publicity value is negligible. Online discussion is a potential arena for sharing views in an equal way. Interaction between different stakeholders is an essential prerequisite for democratic policy making, so every citizen should have the possibility to participate in the decision-making processes at their different stages.



## FUTURE SCOPE

Furthering the benefits of Digital India, the roadmap ahead looks promising. By the year 2019, 2.5 lakh villages will have broadband connection along with the added feature of phone connectivity. The imports of the country will turn zero as India will have a staggering 400, 000 Public Internet Access Points. Not only that, over 2.5 lakh educational institutions including schools and universities will have Wi-Fi facility. The program aims to impact the employment scenario immensely by increasing skills and job prospects. It is estimated that by 2019, about 1.7 crore young Indians will have proper training in IT, Telecom and electronics. This directly leads to 1.7 crore jobs for Indian Youth in about four years from now. With these developments, India is expected to become the world leader in IT interface with **e-Governance** and **e-services** getting maximum exposure. Driven by such digital engagement, Indian firms are expected to leave the best-in-the-world companies behind, with their IT expertise permeating into services like health, education and banking. Therefore, it can be concluded that 'Digital India' is all set to transform the interface of the country's socio-economic dynamics. It is deemed to bring systems and infrastructure up to speed and leverage the country's workforce, establishing a firm foundation towards sustainable practices and eventually progress.

## CONCLUSION

Despite its lively democracy, strong tradition of press freedom and political debates, India is in many ways struggling to find the right balance between freedom of expression online and other concerns such as security. While civil society is becoming increasingly vocal in attempting to push this balance towards freedom of expression, the government seems unwilling or unable to reform the law at the speed required to keep pace with new technologies, in particular the explosion in social media use. The report has found the main problems that need to be tackled are online censorship through take down requests, filtering and blocking and the criminalization of online speech. Politically motivated take down requests and network disruptions are significant violations of the right to freedom of expression. The government continues its regime of internet filtering and the authorities have stepped up surveillance online and put pressure on internet service providers to collude in the filtering and blocking of content which may be perfectly legitimate.



Despite numerous calls for change, the government has refused to reform the controversial IT Act. However, public outrage and protests against abuses of the law have multiplied since 2012. Civil society and political initiatives against this legislation have increased and demands for new transparent and participatory processes for making internet policy have gained popular. Technical means designed to curb freedom of expression, arguably to achieve political gain, have no place in a functioning democratic society. While government efforts to expand digital access across the country are promising, these efforts should not be undermined by disproportionate and politically motivated network shutdowns. While it is to be welcomed that India is taking a more vocal part in the global internet governance debate in favor of the multi stakeholder approach, it is essential it ensures its own laws are proportionate and protect freedom of expression in order for the country to have the most impact in this debate.

To end internet censorship and provide a safe space for digital freedom, Indian authorities must: Stop prosecuting citizens who express legitimate opinions in online debates, posts and discussions

- Revise take down procedures, so that demands for online content to be removed do not apply to legitimate expression of opinions or content in the public interest, so not to undermine freedom of expression;
- Reform IT Act provisions 66A and 79 and take down procedures so that content authors are notified and offered the opportunity to appeal take down requests before censorship occurs. Stop issuing take down requests without court orders, an increasingly common procedure;
- Lift restrictions on access to and functioning of cyber cafes;
- Take better account of the right to privacy and end unwarranted digital intrusions and interference with citizens' online communications;
- Maintain their support for a multi stakeholder approach to global internet governance.

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## Pollution and Its Effect on Human Health and Vegetation

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### ABSTRACT

*Pollution has now become major threat for the survival of all kind of flora and fauna. The problem was first recognised at the time of industrial revolution. Day by day and year by year, situation went on bad to worse. But now it seems that if it is not taken seriously by everyone, it will go beyond our control and engulf the whole world. Pollution can be defined as any kind of substance which is having adverse effect on the environment. There are various types of pollution, but Air pollution, water pollution and soil pollution are major contributors to pollute the environment. Other types of pollution are noise pollution, radioactive pollution, thermal pollution, Light pollution, and visual pollution. This research focuses on the effect of pollution on human health and vegetation. Sustainable development has emerged as the viable solution to cope up with the situation. The research also analyzes the role of sustainable development in the reduction of various types of pollution in improvement in the condition of all flora and fauna.*

**Keywords:** *Pollution, Human health, vegetation, flora, fauna, sustainable development*

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### INTRODUCTION

Any kind of substance in the environment which is harmful for the living organism is called pollution. Pollution can be caused by some kind of natural phenomenon like fire in the forest or volcano eruption. It can also be caused by the human interference like Industrial smoke, waste discharged to the river from domestic sources or industrial sources etc. The pollution which is caused by the nature has its own way to manage it but nature doesn't have any kind of mechanism to cope up with the man made pollution. In the last 50 years, the human being has polluted the environment considerably in the name of growth and development. The most developed place has contributed the most to pollute the environment.

There are following types of pollution

- 1. Air pollution:** Any kind of contamination of dust particle or gases which are harmful for the ecosystem is called Air pollution
- 2. Water pollution:** Any kind of substance which is discharged in the water, which causes adverse effect on the water bodies is called water pollution.
- 3. Soil pollution:** When harmful solid waste is mixed with the soil either naturally or artificially, is called soil pollution.
- 4. Noise pollution:** undesirable sound which is cause harm to the ear and brain of living beings is called noise pollution
- 5. Thermal pollution:** When heat of some place rises considerably in a very short period of time, that is called thermal pollution. It causes very harmful effect on the animals and plants as they are not able to adjust themselves in this sudden change of temperature.
- 6. Visual pollution:** When something is not appealing to the eyesight and it has long term harmful effect that is called visual pollution like obstruction to views like high rises, construction sights, billboards etc.
- 7. Light pollution:** When some area is over illuminated and it is causing adverse effect on the eyes, that is called light pollution.
- 8. Radioactive pollution:** This is one of the most harmful type of pollution. It occurs due to nuclear waste, leakages or accidents in nuclear power plants etc. It may cause birth defects, cancer and even death.

## **OBJECTIVES OF THE STUDY**

There are following objectives of this research:-

- 1) To study the adverse effects of pollution human health
- 2) To study the adverse effects of pollution on animals
- 3) To study the adverse effects of pollution on vegetation
- 4) To study sustainable development role to improve the condition

### **Effects of various air pollutants on Human health and vegetation**

- 1) **Nitrogen Dioxide:-** lung irritation, respiratory infection , eye irritation, pulmonary troubles, etc is caused by nitrogen dioxide. It also causes necrosis i.e. injury in the cell of plant and defoliation of plants.
- 2) **Sulphur Dioxide:-** Due to sulphur dioxide breathing problem, cardiovascular problem, respiratory problem takes place. It also causes eye irritation, chest constriction, vomiting , headache and even death.
- 3) **Carbon monoxide:-** It dissolves in blood 210 time faster than oxygen and decrease oxygen carrying capacity
- 4) **Carbon dioxide:-** It causes global warming and it also causes difficulties in breathing.
- 5) **Lead:-** lead causes high blood pressure, kidney disease and anemia etc.
- 6) **Particulate Matters:-** It causes bronchial disorder, allergy, curling of petals, leaf falls etc.
- 7) **Smog:-** It causes lung disorder, asthma, irritation on nose and eyes etc.
- 8) **Ground level ozone:-** When chemical reaction takes place, ozone gas is created on the ground level, which has a very harmful effect on the health of human being, animals and vegetation.
- 9) **Nitrates and sulphates:-** These are the main atmospheric pollutants which causes harmful effect on trees and plants. It hinders photosynthesis of plants. When plants are unable to do photosynthesis, they cannot produce enough food.
- 10) **Cadmium:-** Cadmium causes kidney damage and high blood pressure
- 11) **Peroxyacyl Nitrates:-** these are also called acyl peroxy nitrates. In short it is called PAN OR APN. These are very strong respiratory irritant and eye irritant. They are present in photochemical smog

### **Effects of water pollution on Human health and vegetation**

Polluted water contains various micro organisms and when it is used by human being it causes typhoid , diarrhoea, dysentery, cholera etc. Various metals are also there in polluted water like lead, cadmium, arsenic, mercury etc. which causes headache, abdominal pain, chest pain. It also causes vomiting, lung problem, liver problem and even cancer. When mercury is dissolved in water, it becomes very poisonous and when it is taken by human being it causes nervous disorder. Oil pollution is also very harmful for water bodies. It becomes a threat for their survival. Oil pollution takes place because of spillage of ship oil into sea or by discharge from industry. Thermal pollution in water causes sudden and considerable change in temperature of water. The water bodies are not able to adjust themselves with these sudden changes. As a result they don't survive.

### **Effect of soil pollution on human health and vegetation**

There are following reasons of soil pollution and its effects:-

1. It takes place by use of insecticides, pesticides and fertilizers etc. These are used to protect the crop and to expedite the growth of crop. But it also has some side effects. When these crops are consumed it causes several diseases in the consumer.
2. When industrial waste is thrown into the ground, it causes harm to the soil and destroys beneficial bacteria and micro organisms which help to grow the plant
3. 30% of world agricultural land is affected with salinity of soil.
4. Soil pollution decreases the nutritive value of the soil and affects the crop yield.
5. Many times it is observed that people throw plastics, sharps or other hazardous things onto the soil which are consumed by animals which causes them fatal disease and even death.

### **Radioactive Waste and its effect**

These kinds of waste are discharged from nuclear power plants. When it is discharged onto the soil it continuously emits gamma radiation which is having a very harmful effect on all flora and fauna. Some of them

are strontium 90, iodine 131 and barium 140. Japan is still suffering from radioactive pollution. It causes various kind of health problem including mutation in the genes.

### **Role of sustainable development to reduce the pollution**

Most of the pollution are taking place just because of human interference in our environment whether it be air pollution, water pollution, soil pollution, radioactive pollution or any kind of pollution. Human beings are adding considerably to increase the pollution. It cannot be said that they want to pollute the environment rather they have compulsion to do it. Human being are by nature growth oriented living being, so they are bound to grow and develop. But during the process of development they creates lots of wastages which causes pollution.

Sustainable development is the way through which one can grow and develop and as well as protect the environment. Biosphere reserves are the best example for sustainable development. There are 669 biosphere in 120 countries. In India, there are 18 biospheres. Biosphere covers land area, the coastal area and the marine area. Biosphere not only protects flora and fauna of that area but protects people of that area also and their way of living. The concept of biosphere is concerned with the sustainable use of the natural resources without harming the ecosystem. Sustainable development means that present should use the resources to grow but without compromising the need of the future generation. It means that while growing one should understand the long term effect of the development. If it is causing harm to the ecosystem, one should find out the way to protect it. In the name of development all the countries are exploiting the natural resources and increase the pollution level which is causing global warming and climate change. Sustainable development gives solution to develop without increasing pollution level of the environment.

### **CONCLUSION**

The passion of development is so intense that it is very easy to ignore environmental consequences of the development. All the countries have very strong appetite to grow, but it should not be done on the cost of increasing pollution level so much so that we have to wear mask all the time to protect ourselves from the pollution. It is reducing life span of human being. Development on the cost of environment will take us to the extinct of the life on the earth. The sustainable development is giving a way to grow without causing harm to our planet. In this study It is observed that pollution is having very harmful effect on human health and vegetation and sustainable development is playing a very important role to reduce it. Hence everyone need to imbibe this concept to participate in reduction of the pollution and save the ecosystem of the planet earth.

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- [https://en.wikipedia.org/wiki/Biosphere\\_reserves\\_of\\_India](https://en.wikipedia.org/wiki/Biosphere_reserves_of_India)
- [http://www.legrand.com/EN/sustainable-development-description\\_12847.html](http://www.legrand.com/EN/sustainable-development-description_12847.html)

## Sustainable Tourism

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### ABSTRACT

*Sustainability means conserving and maintaining resources so that it can be utilized for future generations. Sustainability benefits both the organization practicing it as well as the society. Tourism sustainability means protecting the tourist locations, places for the future travelers. It covers the economic, social and ecology (environment) development of the places. The paper tries to identify the awareness about sustainable tourism with the help of a survey. The study finds that there is lots that has to be done in enhancing the concept of sustainable tourism.*

**Keywords:** Sustainability, Tourism, Economic, Environment, Social, Sustainable development,

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### INTRODUCTION

Sustainability is considered to be one of the most important practices of Businesses today. More and more businesses are trying to mold their strategies around sustainability. Sustainability as per Brundtland Report of 1987 is defined as "The development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This definition comprises two concepts- 'Need'- pertaining to important needs of the poor and 'Limitations exerted'- on the environment to cater to future and present needs.

Pillars of Sustainable Development: (Finding and resolving the root cause of sustainability problem, 2014)

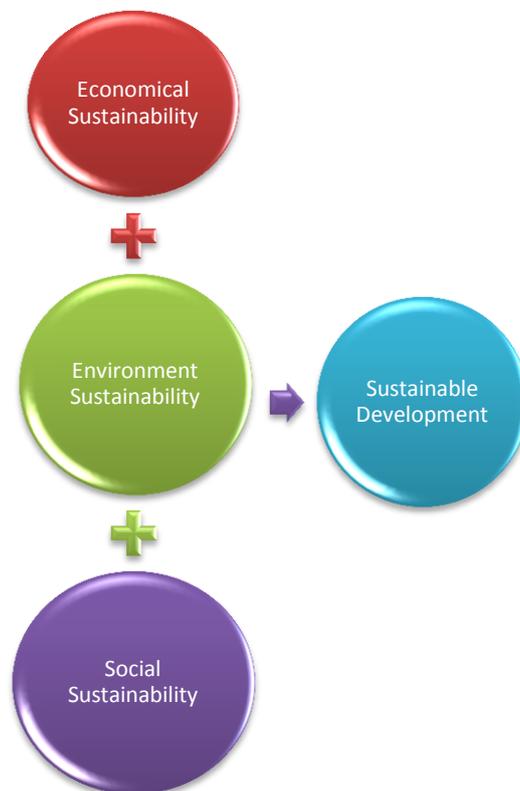


Figure 1.1: Elements of Sustainable Development

- Environment sustainability focuses on maintaining renewable resources, reduction in pollution and depletion of non-renewable resources.
- Economic sustainability refers to the capability to bear a definite level of economic production for indeterminable period.
- Social sustainability pertains to indefinite social wellbeing.

Be it any Country, Industry or a firm etc., if wants to have a sustainable development then these three pillars of sustainability should be given extreme importance as it is these on which the whole sustainable development relies. Tourism industry is one of the fastest growing industries in India as well as the world. India is world's 7<sup>th</sup> largest tourism economy in terms of GDP, contributing around 7% (World Travel and Tourism Council, 2017). A total of 14.1 trillion revenue was generated by the Indian tourism industry in 2016 and supported 40.3 million jobs. Having sustainable development in the tourism is the need of the hour as despite such developments there are lots of issues to be taken care of. Sustainability in tourism means conservation and protection of the natural and socio-cultural environment which might be damaged on the arrival of the tourists. Moreover it also focuses on welfare of the local communities and that they should benefit from the tourism. Sustainability in tourism implies the use of tourism resources and attractions in a manner that their consequential use be future generations is not compromised. (World Tourism Organisation (2000) Report of Multistakeholder Working Group on Tourism, 2000) Be it Hotels, Tour companies or the Tourism destinations all want to pose as sustainable; even the travelers have become so conscious about this word that even they are looking for sustainable ventures. Most of the people understand the word sustainable as "eco-friendly" or "green", but these aren't enough. For a tourism to be sustainable it has to consider- "the three pillars of sustainability". (Williams, 2011) The Environment is essential for tourism, it has to be protected. Be it the natural environment (Forests, Beaches, Waterways etc.) or the built one (Monuments, Buildings, ruins etc.), must be preserved for the future generations. Talking about socio-cultural sustainability in terms of tourism, it means protecting the host communities from the socio-cultural impact of the tourists. As an effect of tourism, local communities may see overcrowding and congestion of cities/ places, rise in crimes, introduction of new values, languages, increase of migrant workers etc. which might lead to depletion of their original socio-cultural environment. So, the motive of bringing this sustainability is to decrease the negative effects and concentrating on the positive aspects, that is- promotion of exchange of cultural values as well as preserving the local traditions. The third pillar- economic sustainability focuses on money. It focuses on reduction in leakages and enhancement in linkages. More and more local people, communities should be involved in tourism businesses as it will help the economy to grow, rather than a foreigner owing a hotel or a tour operator that will leak the money to foreign nation.

## **RESEARCH METHODOLOGY**

The study is based on secondary research by referring to various journals as well as on primary research by conducting a survey.

## **OBJECTIVES**

- To understand the concept of Tourism Sustainability.
- To evaluate the awareness of sustainable tourism among travelers.
- To propose ways to enhance sustainability awareness in Tourism.

## **LITERATURE REVIEW**

- "Fredico Neto" in his study " A new approach to sustainable tourism development: Moving beyond Environmental Protection" (Neto, 2003), examines the essential economic benefits and environmental impacts of tourism, and assesses the development of globally sustainable tourism agenda. Fredico in his study focuses on studying the development of sustainable tourism in developing nations. He concludes that the sustainable growth can be deployed not only for the recreation of tourists but essentially for enhancing the economic benefits and therefore uplifting the living standards of host communities and countries. Moreover, he also discusses how ecotourism has reduced the negative effects that increased tourism has on ecology and socio-culture environment. He proposes four major policies that could lead to pro-poor tourism approach:

- Poverty reduction should be the main concern of every sustainable tourism development plan of developing nations. It should be considered with extreme importance while designing national tourism development strategies.
- Barriers such as lack of knowledge, skill should be removed that keep the poor away from reaping the benefits related to tourism. Special efforts to be undertaken for capacity building and human resource development etc.
- Partnerships among associations of local Communities, Private sectors and Non-Governmental organizations should be encouraged for developing sustainable tourism.
- Financial and technical assistance from international communities can also help in the development of sustainable tourism resulting in the upliftment of the poor.
- “Zhenhua Liu”, in her study “Sustainable tourism development : a critique” (Liu, 2003) analyses the weaknesses in the sustainable tourism industry. The study tries to evaluate six issues that must be taken care of while developing sustainable tourism-
  - Demand of tourism
  - Nature of tourism resources
  - Intra-generational equity
  - Role of tourism in the promotion of socio- culture environment
  - Measurement of sustainability and forms of sustainable development.

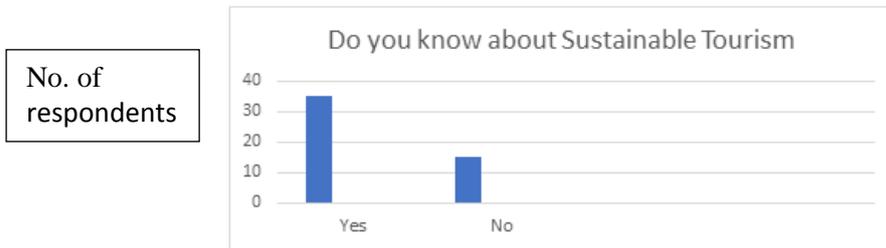
The researcher explores the interrelationship between environment, local communities and tourism and expresses that for managing eco-tourism a long-term perspective is required for development planning and conservation of resources. He further throws light on the issues that are of extreme importance for carrying out future research on sustainable tourism development, those are-

- Balanced view about concept of Sustainability; considering nature and the power of humans to harness nature.
- Acute need to develop theoretically sound and practically feasible measures and policies for the development of methods for translating ideas related to sustainable tourism development into reality.
- A perspective about the system is requisite for improving the understanding of the changing patterns of tourism and its liberal interaction with the economic, technological, social and natural environment.
- Developing an interdisciplinary approach such that researchers from diverse educational backgrounds can work together in researching about how to improve sustainability in tourism.
- ❖ A report on “Sustainable Tourism for India” by “Ministry of Tourism, Government of India” (Sustainable Tourism for India- criterias and indicators) expresses that sustainable tourism practice isn’t a new thing but has been practiced from many years. The twin travel dicta of Atithi Devo Bhavah and Bharat Darshan is very well known across the globe. The study explains that the tour operators, accommodation providers, transporters, MSMEs for providing various tourist services are all part of the supply chain, and a balance must be maintained by them to ensure biodiversity conservation along with providing good quality services to the travelers. The report focuses on developing a sustainable tourism which will enable the future travelers and communities to gain from comprehensive experiences. The development of sustainable tourism includes developing niche tourism products such as: Adventure, Wellness, Medical, Polo, Golf, Cruise, Meetings incentives conferences and exhibitions, Spiritual travel, Film tourism, Eco/ Wildlife tourism. In order to enhance sustainability in tourism, Government of India has been taking the following steps-
  - Workshops to create awareness about sustainability
  - Range of incentives for organizations complying with the Ministry’s development assistance scheme.
  - Support from Government of India for skill development of local communities.
  - Support to MSME tourism service providers.
  - Appointment of consultants and researchers for identifying and monitoring issues as well as development of regulations for sustainable tourism.
  - Providing trainings for the trainers to train individuals and organizations for sustainable tourism.
  - Incorporating sustainable tourism as a subject in schools and colleges

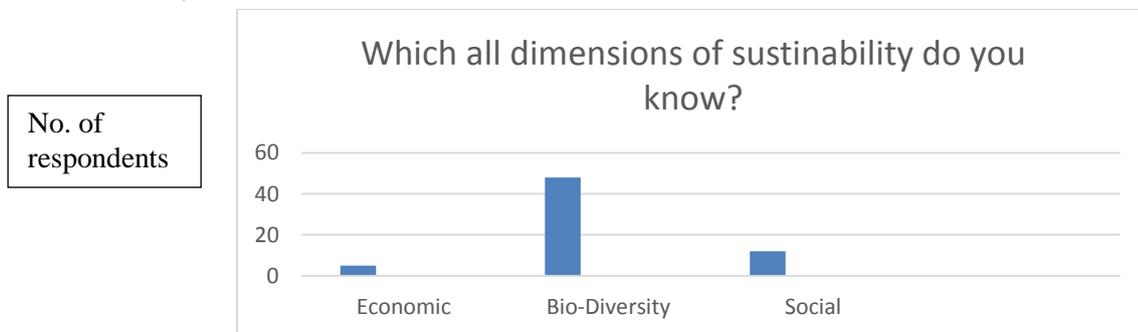
**DATA ANALYSIS**

A survey was conducted across a sample of 50 respondent in New Delhi area. Certain questions were asked to them and the responses received is discussed as follows:

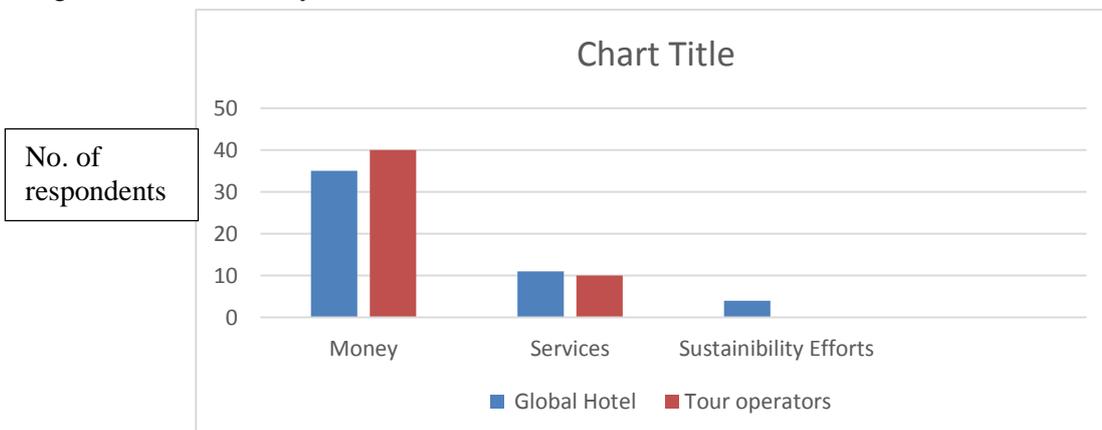
- Around 70% respondents agreed to have knowledge about Sustainable Tourism.



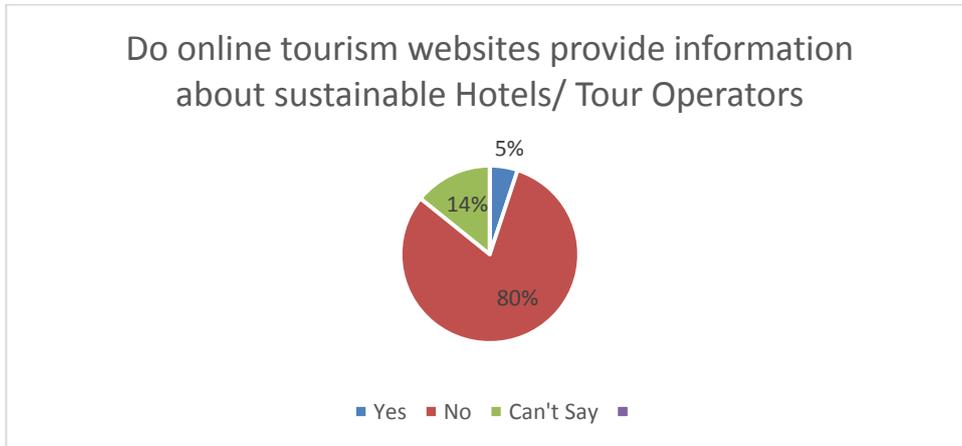
- Majority of the respondents were not very clear about the various dimensions of sustainable tourism. Only 5 respondents considered economic dimension as an aspect of sustainability, while 48 respondents were aware about Bio-diversity or environment and only 12 respondents had knowledge about social dimension of sustainability.



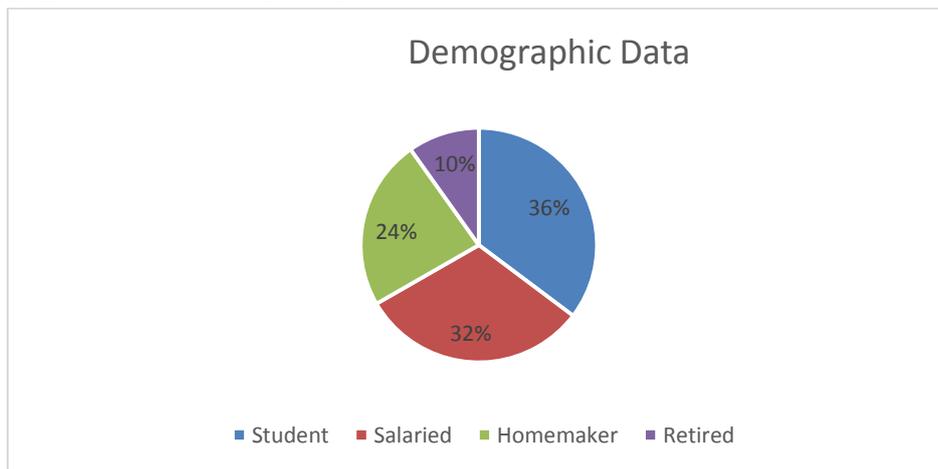
- Around 90% respondents showed interest in visiting a place which focuses on conservation of bio-diversity, environment protection etc.
- About 54% of respondents agreed about not caring about the environment while visiting any place and have done certain activities which could harm the ecology of the place/ Monuments etc.
- When asked about whether they agree that the local community could benefit from developing a sustainable approach to tourism- around 10% respondents agreed that yes having a sustainable development in tourism can benefit the local communities, while 75% selected may be and the 15% disagreed.
- Only 4 respondents agreed to preferring a Hotel/ Accommodation unit which has taken sustainability initiatives whereas there was none who preferred a tour operator practicing sustainability. Money was the basic criteria for selecting both a hotel and a tour operator followed by services and least importance was given to sustainability.



- When asked about the importance of online websites in selecting a sustainable Hotel or tour operator- 5% agreed to obtaining information regarding sustainable tourism services, while 80% respondents didn't find any distinction while selecting a Hotel or tour operator and the rest 14% replied can't say.



- The demographics for the survey comprised of:



**FINDINGS & SUGGESTIONS**

- Despite Government's efforts, people aren't very much aware about sustainable tourism. The government needs to identify the reasons as to why there is a gap, despite them trying to increase the awareness about sustainable tourism. The gap needs to be identified in order to increase the awareness among people.
- Majority of travelers did not bother about maintaining the place they visited and have sometime or the other involved in impermissible activities, such as littering the place, damaging the monuments, plucking leaves, flowers etc. The people need to develop a responsibility towards the community, place, heritage places, towards the nation etc, such can be done by educating students at schools and colleges, workshops should be conducted at various offices and at places of residence. Moreover, individuals not complying with the instructions at the tourist destinations should be penalized heavily.
- People's main criteria while selecting a place of accommodation or a tour operator wasn't their sustainability efforts but costs involved followed by services offered. Customers opting for sustainable hotels or tourist destinations should be provided some subsidies in rent or offered some extra free services which will encourage sustainable tourism. Also, various discounts, membership schemes etc. can be offered by Hotels, Tour operators which can encourage tourists to select sustainable tourism services.
- Online travel agencies, had no role while selecting a travel package, hotel or tourism services.

Online Travel agencies should also be favoring sustainable tourism accommodations, operators, packages etc. they should be showing such options on the top of their list and offer some benefits to individuals selecting sustainable options. Online travelling sites, should prioritize the Hotels, Tour operators, tourism services who are following sustainable development and should be shown in top in the search options.

- Several workshops, knowledge sharing sessions, nukkad nataks etc. should be organized on tourism sustainability at various offices, localities so that people become aware about sustainable tourism.

## CONCLUSION

Though the concept of sustainable tourism was introduced many years back, the people aren't still aware about it as well as they don't give any preference to it. Lots of work needs to be done in order to enhance the knowledge of individuals concerning sustainable tourism. Educating people is the major issues, unless people are educated they won't understand the concept of sustainable tourism. Various courses related to environment sustainability that have been introduced at school and college levels for providing knowledge about environment lack a practical approach and importance, giving a practical approach to the concepts, taking real-life examples, discussing negative points- what if sustainability isn't practiced should be done. It is for the people to understand that if they won't care for the environment, the environment will also not care for them.

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## Mass Media Intervention in Sustainable Development

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### ABSTRACT

*The sustainable development can simply be defined as the process where the development or the economic prosperity of a society or a nation is undertaken not only for the present generation but for the future generations as well. In other words, it is a process economic prosperity where the country's natural resources are not overexploited or depleted. Governments around the world and international organizations are working in this direction to create awareness among general public regarding the same. However, in this process various tools of mass media have played a tremendous role in disseminating information regarding the same. In fact, mass media intervention has changed the entire scenario where the efforts of creating awareness on sustainable development have been doubled. The different campaigns on television, radio and print media with an aim to increase awareness on several issues concerning the planet have achieved favourable results. The mass media tools are not only accessible from the remotest areas of the country but also help in understanding the masses via two-way communication process involving feedback. Mass media campaigns may contribute to immediate spreading of information and cessation of wrongdoings by correctly informing and awareness of people. The paper focuses on the various case studies where mass media intervention led to change in societal practices. A broad range of research methods has been used to substantiate our paper. This includes newspaper reports, published research papers, books and websites. Thus, the findings are a mixed result of the entire spectrum of study of the mass media intervention in the sustainable development of the country.*

**Keywords:** *Mass Media, economic prosperity, sustainable development, economy, country, and intervention.*

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### INTRODUCTION

We live in a 21<sup>st</sup> century era and our world believes in quick results. We want everything instantaneously. However, this has often resulted in bad results for our environment. Everyone is running to outdo each other. Globalization and cut-throat competition leaves little scope for environment protection. Undoubtedly, we are progressing as a world community and humans are evolving with every passing day. As a nation, we can observe large scale development all around and generation today can enjoy the best lifestyle. But the big question remains unanswered. What have we done for our future generation? In a bid to provide best lifestyle to the present generation, have we forgotten the future generations? Are the rapid depleting natural resources any testimony to this fact?

We walk on a path of development. Every ruling establishment talks of development but how many of us think of sustainable development? Might be a miniscule population. Any country today has to cope up with triple challenge of climate change, depleting natural resources and better lifestyle to its people. Hence sustainable development becomes an important focus of work. And, here, media plays a stupendous role in disseminating information and creating awareness about importance of sustainable development. Undoubtedly, media can not be compared with interpersonal communication process where earlier people could be made aware of the threats of rampant development without thinking of the future. But different mass media tools like radio, television etc can definitely offer low-cost alternative and providing vast reach even across the most remote areas with the possibility of instant feedback. Mass media tools like radio helps in disseminating news in the shortest period of time with maximum reach and feedback option as well. It helps initiating community-based dialogue, while, various colourful television and radio advertisements helps attracting many eye balls. Even community radio stations are working tirelessly to give a local approach and to initiate the process of dialogue. We can witness the increasing use of media for sustainable development efforts. Governments, administration and civil societies are working closely with the media to turn the tide in favour.

## METHODOLOGY

The paper is based on the content analysis. The content analysis of various newspapers, published reports and research reports was done to write the paper.

An extensive study has been done to study and research how repeated media intervention in sustainable development approach have helped turn tide in favour and also sensitizing people about the nitty-gritty of the sustainable development. The study was guided by the following research questions:

- (a) Has media intervention led to awareness among people on sustainable development?
- (b) Has it been able to bring results?

To address the research aim, an integrative literature review was performed. The findings are a mixed result of the entire spectrum of study and extent of media intervention in sustainable development

## REVIEW OF LITERATURE

The debates on climate change and environment protection are no longer stuck to any particular country around the world. Rather, it has become the global issue concerning the entire human race.

The natural resources are depleting at a fast rate coupled with burning of fossil fuels. This poses a great threat to our environment. Hence, it's high time that we discourage any irrational use of the natural resources and start focusing on Sustainable Development. In today's scenario, any news on climate change grabs the national headlines both in print as well as electronic media. In fact, Global Warming issue is a prioritized topic among the global mass media. It would not be wrong to say that today both the government and the people depend on media on such a sensitive issue. People gather news on what's happening around the world concerning environment while government uses media tools for agenda setting to sustainable development. Over the years, media has played a tremendous role in educating and enlightening the masses. While at the same time, its timely intervention has also led governments to stand against rampant use of natural resources and think for preservation of resources for future generations.

### (a) Has media intervention led to awareness among people on sustainable development?

Sustainable Development can be achieved by our sincere efforts to protect the environment while at the same time using natural resources judiciously. Taking a cue, mass media has played a very important role in mass awareness, sensitizing people and bringing favourable behavioural change. Even community radio is helping in a great way in far flung areas to educate the less-educated masses. Mass media aptly focuses on the various factors that leads to adverse impacts on environment and also its direct and indirect effect on people. Today, every natural disaster story is given prime importance. National electronic media channels cover them in their prime time debates.

**For eg. Mumbai rains** were widely covered by media. The extensive coverage detailed everything from incessant rains to haphazard construction and explainers that led to the heavy rains. Print media was also not far behind; it published reports, expert articles, photo features, hence informing people about every minute details.

However, it's not a once off incident that we get to see media jumping in such a pro-active role. In fact, media periodically raises these issues. As a layman is not able to understand what's happening in the environment, media raises or publishes articles on vital issues including global warming, rampant deforestation, rising sea level, injudiciously using natural resources etc. One can easily notice article or expert columns on these issues every now and then in major national dailies. Undoubtedly, these efforts are not enough to bring people to action but at least these efforts by the media can force people to think in this direction and positive behavioural change. There are numerous examples in India of how media intervention in sustainable development has led to sensitization of the people. Other than disaster stories which media cover extensively, other soft stories are also picked by the media. It includes **Namami Gange Programme, Appiko Movement, Jal Satyagraha, Chipko Movement among others.**

**Paris Climate Accord-** Interestingly, India's assertive global position on climate change vis-à-vis Paris Climate Accord was covered by not only Indian media but also international media.

The United States withdrew from the Paris agreement soon after Donald Trump came to power; however, India led by Prime Minister Narendra Modi affirmed that it will remain committed to the deal. This drew the world's attention to India and its commitment to climate change.

### (b) Has media been able to achieve favourable results?

The humankind is facing several problems these days but climate change is one of the biggest threats and mass media plays an important role about informing and educating the same.

Mass Media is helping in a great way to educate, inform and empower masses about sustainable development. Even in situation like post-disasters, media helps in aiding and informing people about government help and mitigating further losses. Media focuses on several factors that harm the environment and its negative effects on people. Also, how human activity has led to further degradation of the environment. In several of the above given examples, media has been able to construct an opinion among people's minds. Although, immediate action on the part of the people was missing but still an opinion was formed and favourable behavioural change was observed. There have been several reports of how National Green Tribunal acted on suo moto basis after reading several news reports of camping along the Ganges especially in Rishikesh. Hence, time and again it has been proved that timely media intervention has led to attract eyeballs of the people and also grab attention of the administration, if something heinous is going on against the environment.

### **ANALYSIS**

1. The scope of media involvement in environment matters should be increased by educating young minds about its benefits
2. To track young mind that they use natural resources judiciously and only when they need to do it rather than being using it unnecessary.
3. The provision of 'Priority to Nature' should be inculcated among masses with the help of media.
4. Consistent monitoring of the administration regarding their policies on environment by the media
5. Both Print and Electronic Media can dedicate 'Nature Space' on a regular basis rather than raising this issue periodically. Print media can have columns by experts commenting on government policies on environment an updates regarding the same. While electronic media can have debates dedicated to the issue.

### **CONCLUSION**

Climate Change is surely not going to stop via mass media alone. A holistic approach is needed to deal with this challenge threatening the entire human race. There is an urgent to aware people as well as government on the importance of sustainable development and depleting nature resources before the entire humankind is wiped off from the face of the planet. In this regard, media is playing a pivotal role in sensitizing people about the impending threat. The ubiquitous media today can disseminate news and inform people at the fastest rate. From national electronic media to regional newspapers and community, it can just do wonders in achieving positive behavioural change among masses regarding the sustainable development. Monitoring and evaluation should be there to strengthen the information dissemination to create high impact on young minds regarding the importance of the sustainable development. The involvement of parents and teachers is also highly important to make it a success. The young should be motivated to care for the nature. Care for the nature should not only be made a simple duty or forced subject rather it should be a made part of the lifestyle to help turn the wheel in favour.

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## Usage of Memes for Political Communication

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### ABSTRACT

*Political communication underwent a major prototype shift after the instantaneous growth of social media. The new form of media had made it possible for political candidates to stretch out to its audience by the virtue of direct communication. Be it Twitter, YouTube or Facebook, political communicators have been using these media platforms for mass media communication on a larger extend. This is majorly due to the easy access of cheaper smartphones with unlimited Internet data facility. With more than 350 million users of Internet in the country, having to come closer to any political candidate as becomes task not to be worried about. The sea change method of political campaign took a new face during the 2014 general elections, when current Prime minister used social media tool to bridge a personal relation with his voter to promote Bharatiya Janta Party resulting in a historic win. During this very phase the nation witness a sudden raise of political meme that served as the most powerful propaganda against any rival political party. A meme is chiefly an image, video, and a piece of text typically humorous in nature that is made and shared to spread rapidly by Internet users, often with slight variations. These are spread on various or all-social media platforms like Facebook, Instagram, and Twitter. Blogs, e-mails, too have no becoming a colossal Internet culture. Having a wider reach and influencing potential, memes have been used rapidly for marketing, advertising, public relations and propaganda too. This paper shall look at the usage of memes for active political communication. The research approach to be adapted is an empirical research of methodology by direct means of observation that is being analyzed both qualitatively and quantitatively.*

**Keywords:** Social Media, Political Communication, Memes, Propaganda.

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### INTRODUCTION

#### Political Communication

To many, the first message the word Politics delivers is the art of manipulation, lies, power and opportunism. To some it is just politics, an action of seeking hope for a change. The current contemporary political scenario in the country is being contoured by the metamorphosis of public oriented communication in a high-octane manner. Political communication is perhaps the most “encephalic combination of art and science”.<sup>1</sup> So what exactly does a political communication stands for? Does it belong to art or science?. The constitutes of both the words i.e. politics and communication has nefarious infinite definitions because the terms themselves are open to many definitions and statements. Political communication is the process by which language and symbols, employed by leaders, media, or citizens, exert intended or unintended effects on the political cognitions, attitudes, or behaviors of individuals or on outcomes that bear on the public policy of a nation, state, or community.<sup>2</sup> The study of political communication is a branch of contemporary communication studies that began at the turn of this century. Although this notion is not an invention of the 20th century and its origins can be traced back many centuries e.g. Aristotle’s and Plato’s works in ancient Greece, as a cross-disciplinary field of study it began to emerge in the 1950s.<sup>3</sup> Modern politics is dominantly shaped by the dynamics of public communication. As a consequence, the success of governments that historically are interconnected to the

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<sup>1</sup> Kenterelidou, C. (2005). Public Political Communication and the Media: The case of contemporary Greece, Symposium on Modern Greece, Current Social Science Research on Greece, LSE University & Hellenic Observatory

<sup>2</sup> Denton & Kuypers, 2008; McNair, 1995; Smith, 1990): The Dynamics of Political Communication: Media and Politics in a Digital Age

<sup>3</sup> Kenterelidou, C. (2005). Public Political Communication and the Media: The case of contemporary Greece, Symposium on Modern Greece, Current Social Science Research on Greece, LSE University & Hellenic Observatory

country in general is to a large extent dependent on their ability to communicate effectively to the broader public. Public information, dispensed by government and other social groups, has become an increasingly vital aspect of politics. The Media are now playing an active part in the political field. They compose a societal institution for the political management of the public sphere, and the media-centric logic emerges. Governments, in order to comply with the forenamed commitments and these newly coming trends, employ new communication policies and strategies. Furthermore, they set off modern public information tools such as "infoganda" (information + propaganda).<sup>4</sup>

## **PROPAGANDA**

"Propaganda is making puppets of us. We are moved by hidden strings which the propagandist manipulates." – Everett Dean Martin

The origin of Propaganda can be traced to 1622 when Cardinals were obliged to Pope Gregory XV to take missionary activity's responsibilities. Over the period of time the study of propaganda drew various perspectives in different fields of studies such as psychology, sociology, history and political science. The turning point of the entire dominance of propaganda was seen during the world war one a forerunner tools used by the Nazi government. Propaganda is an undeviating, permanent endeavor to fabricate or draw outlines of affairs to control or rather impact the correspondence between the public and the venture holder or any body, idea or group. Lasswell in 1935 said that propaganda was a social movement to control the mass audience. Political parties, government, and pressure groups carry out political propaganda when ideology is spread by means of context like movies, ads and everyday experience.<sup>5</sup> Propaganda can also seek to destroy the government or the established order, may unify and stabilize by getting the individual to participate and use facts, statistic and graphs to form an impression based on rational data designed by the propagandist. In today's world the word propaganda is associated with manipulative advancements to convey certain fabricated messages.

## **INTERNET MEMES**

Ever since Richard Dawkins coined the term in 1976 to describe gene-like infectious units of culture that spread from person to person, memes have been the subject of constant academic debate, derision, and even outright dismissal. The uptick in vibrant popular discourse about memes in an era increasingly defined by Internet communication is not coincidental. While memes were conceptualized long before the digital era, the unique features of the Internet turned their diffusion into a ubiquitous and highly visible routine. Memes, since at least as early as the 1990s, have been said to "replicate at rates that make even fruit flies and yeast cells look glacial in comparison"<sup>6</sup> The term meme has been widely adapted (and disputed) in many disciplines, to include psychology, philosophy, anthropology, folklore, and linguistics. For the most part, however, it was utterly ignored in the field of communication. Until the twenty-first century, mass communication researchers felt comfortable overlooking memes. As units that propagate gradually through interpersonal contact, they were considered unsuitable for exploring content that is transmitted simultaneously from a single institutional source to the masses. But this is no longer the case in an era of blurring boundaries between interpersonal and mass, professional and amateur, bottom-up and top-down communications.

## **OBJECTIVE OF STUDY AND RESEARCH METHODOLOGY**

Due to the advancement of the Internet, communication has shaped itself into a new form where anything could be conveyed to anyone despite any barriers. Memes comes out as a new way of communication that is widely enjoyed by the mass users of Internet. The objective of the study focuses on whether memes used for propaganda in political communication is influential or not? And also is the meme concept useful for understanding digital culture? How do memes influence our perceptions of political candidates, their personalities and their platforms? In your opinion, is this influence mostly beneficial or dangerous to our society, and why? To the topic chosen, there are various methods to conduct a research, such as Survey Method, Case Study, Observation and many more. But the methodology used in this study is empirical research by direct means of observation.

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4 Kenterelidou, C. (2005). Public Political Communication and the Media: The case of contemporary Greece, Symposium on Modern Greece, Current Social Science Research on Greece, LSE University & Hellenic Observatory

6 Jacques Ellul (1973), Propaganda: The formation of Men's Attitude

6 Daniel Dennett (1993) Quining qualia. Readings in Philosophy and Cognitive Science, 381–414. Cambridge, MA: MIT Press. Dennett, D. C. and Kinsbourne

## **HYPOTHESIS**

Memes are not dangerous to anyone or anything because the memes are pretty much peoples opinions. If people don't like them or don't necessarily agree with them, they could go find another source. Memes could be harmful to people and or candidate but not necessarily Democracy. Also Political memes influence the audience's perceptions negatively because they give many false impressions of candidates, personalities, and political platforms.

For example: the 2016 American election. Memes were made to influence voters toward Trump or Clinton. Many are false accusations that large amounts of people think are true. Memes aren't accurate always, they are used to be funny many of times, or just because an individual dislikes a side. But, all in all memes are not exactly dangerous because everyone can choose to think the way they think. It depends totally on individuals to individuals. Also, if the person doesn't agree with the meme he or she can go to a different "source."

Memes can empower citizens if the meme itself go viral and starts many discussions and/or arguments. Political memes are not dangerous to democracy because people should be able to figure out if things are true or not by doing research on it or go somewhere else. The country has a lot of problems and memes are not on the top of the list of dangers to democracy. Memes in politics will probably more common in the future because it is a great way to push political propaganda.

## **CONCLUSION**

The study overall shows that political memes for propaganda causes no harm in communication on major extend since the audiences are entitled to their own opinions and views regarding the meme would actually mean. Memes gives the citizen an idea whether they are good or bad, not holding the potential to be dangerous as of now.

Memes only influence the audience as much as they let them driving four conclusions to the study.

1. Memes can make things look bad that could create a roughness in the campaign conducted.
2. Memes gives an illusion look because some can be very funny and can be an add-on to humor.
3. Memes are not dangerous. It just gets people to pay attention to politics in an unconventional way.
4. Memes are going to be a way to make fun of politics and people.

Thus concluding that political memes can be used to spread fake news and faulty statements, but memes are only the least of it. They usually just make fun of something showing a different side of the candidates and their beliefs. Political memes can become a mockery if and only if they are taken to an extreme and are pushed to offend someone. These types of memes can range from the presidential election, to certain officials, and even all the ways towards certain actions our government takes. In this sense, memes necessarily pose as power or empower citizens rather they can provoke people.

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## Micro Finance: An Alleyway to Financial Inclusion

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### ABSTRACT

India is popular for its intellectual workforce around the world. However, due to lack of finance available to these eggheads, their intellect truncates and left themselves with no other option except to compromise with the life they live. On the one hand, poor people cannot provide the necessary collateral security often demanded by the banks as they are not well endowed and on the other hand, the banking institutions find it difficult to recover the high cost involved in dealing with initiators due to high risk involved. As they strive to satisfy their basic investment needs, they sometimes rely on informal sector money lenders whose loans attract exorbitant interest rates thereby putting borrowers in perpetual debt traps. Lack of access to finance is a key reason why poor people remain poor. Concept of Microfinance was thus developed by Muhammad Yunus, a Nobel Prize winner as an alternative to provide loans to poor intellects with an aim to create financial inclusion. The paper focuses on an explanation of concept of microfinance as a key driver of financial inclusion. It also focuses on a detailed explanation of models of micro financing and their growth. "The Poor stay poor, not because they are lazy but because they have no access to capital." - Laureate Milton Friedman.

### Source of Data Collection

#### Secondary Source

- Evolving landscape of microfinance institutions in India- EY
- Bharat Microfinance Report 2016 -2017
- The Status of Microfinance India 2016-2017 by NABARD

**Keywords:-** Eggheads, Micro finance, Financial Inclusion

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### CONCEPT OF MICRO FINANCE

"Microfinance is an idea whose time has come." **Kofi Annan - Former United Nations Secretary-General**

The term microfinance was developed by Muhammad Yunus in 1970s when organization like Grameen Bank of Bangladesh were starting and shaping the modern industry of micro financing. Concept of Microfinance in India can map out its origins even back to the early 1970s when an association named as Self Employed Women's Association ("SEWA") in the state of Gujarat formed an urban cooperative bank, called the Shri Mahila SEWA Sahakari Bank, with an objective to provide banking services to poor women employed in an unorganized sector in Ahmadabad City, Gujarat.

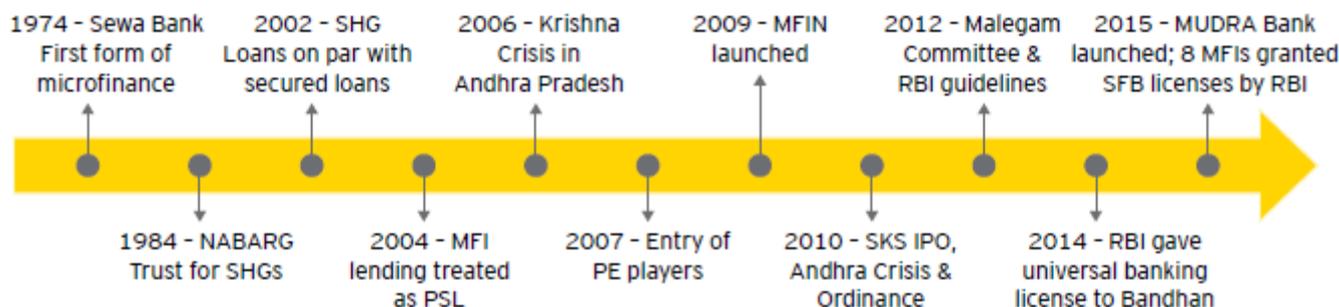
Microfinance refers to a provision of financial services such as loans, savings, credit and insurance, available to poor and small entrepreneurs who aren't well endowed and have no collateral security to be provided and therefore are not qualified for a standard bank credit. The goal of micro financing is to provide individuals with money to invest in their cerebral pursuits to help get them out of poverty.

According to **Otero (1999, p.8)**, Microfinance, is "the provision of financial services to low-income poor and very poor self-employed people". **Schreiner and Colombet (2001, p.339)** defined microfinance as "the attempt to improve access to small deposits and small loans for poor households neglected by banks." According to **Ledgerwood (1999)**, financial services include savings, credit and other financial services such as insurance and payment services. Kofi Annan (Sec.General of UN) defined "Microfinance recognizes that poor people are remarkable resource of energy and knowledge and while the lack of financial services is not just a sign of

poverty. Today it is looked as an untapped opportunity to create markets, bring people in from the margins and give them tools to help themselves.”

### Evolution of Micro Finance

#### Evolution of MFI sector in India



(Source: - ey-evolution-landscape-of-microfinance-institutions-in-India)



Evolution of MFI sector in India happened mainly in four phases:

#### Initial period

- ▶ **1974:** Shri Mahila Sewa Sahakari Bank owned and managed by women to provide financial services to women in the unorganized sector.
- ▶ **1984:** NABARD advocated SHG linkage as an important tool for poverty alleviation. Other government agencies followed.

#### Change

- ▶ **2002:** The provisioning norm for the unsecured lending to SHG brought on par with other secured loans.
- ▶ **2004:** The RBI included MFI lending within the priority sector and recognized MFIs as a tool for financial inclusion.
- ▶ **2006:** The Government shut down branches of some microfinance companies due to allegations of high interest rates, unethical recovery practices and poaching clients from SHGs.

#### Growth and crisis

- ▶ **2007:** Favorable regulations, economies of scale and significant growth drew PE players into the market. MFI loan book stood at INR35b.
- ▶ **2009:** Microfinance Institutions Network (MFIN) was started, all NBFC-MFIs are eligible for membership.
- ▶ **2010:** Andhra crisis unfolded – allegedly coercive debt collection practices led poor borrowers to suicide. This led to an Ordinance from the Government and significant clamp down on MFI activities.

#### Consolidation and maturity

- ▶ **2012:** The Malegam committee recommended significant changes in the sector and the RBI issued final notifications. The MFI loan book reduced to INR209b from INR216b.
- ▶ **2014:** The RBI issued universal banking license to Bandhan, the largest microlender in India in terms of assets. MFIN was formally recognized by the RBI as a self regulatory organization (SRO).
- ▶ **2015:** The Government launched MUDRA Bank to help finance small businesses.

(Source: - ey-evolution-landscape-of-microfinance-institutions-in-India)

## **INTRODUCTION**

### **Micro finance is the step towards achieving Financial Inclusion**

Financial inclusion means accessibility of financial services which further means financial services to be available at affordable costs to disadvantaged and low-income segments of society. The term "financial inclusion" has gained importance since the early 2000s, as a result of identifying financial exclusion and its direct relation with poverty. One of the goal of financial Inclusion defined by The United Nations – "Access at a reasonable cost for all households to a full range of financial services, including savings or deposit services, payment and transfer services, credit and insurance."

In India, the term was used for the first time in April 2005 in the Annual Policy Statement presented by Y.Venugopal Reddy, The Then Governor of The Reserve Bank of India. With the time, this concept gained ground and came to be widely used internationally as well. In January 2006, the Reserve Bank permitted commercial banks to make use of the services of non-governmental organizations (NGOs/SHGs), micro-finance institutions, and other civil society organizations as intermediaries for providing financial and banking services. As said by Murali Ramakrishna Regional Manager of Reserve Bank of India (RBI), "There is no banking facility present in remote areas and therefore, micro financing companies can play a major role in providing financial services in these areas and to the last man in the society." Micro finance is therefore one of the key drivers of financial Inclusion. Therefore, the main aim of financial inclusion is to make the financial services accessible to lower income group people with new imagination and that is where the role of micro finance alleyways. This is made possible by the various Micro Finance Institutions (MFIs) which strives to provide very small amount of loans to groups with lower income at a nominal interest and without any collateral securities. Thus, MFIs through the various models like Self Help Groups are helpful for the development of low income boffins, thereby fulfilling the purpose of financial inclusion. Financial inclusion through the medium of Micro finance is just one drive to achieve financial inclusion. However, this one aspect is very important as it plays very crucial role in the social as well as economic development of poor polymaths. Many traditional banks provide finance exclusively to privileged people who are well endowed and can provide with sufficient collateral and therefore, banks find a high risk of default in case of low income people.

Micro finance has achieved success as a tool in providing financial inclusion. In addition, it has also lead to social and economic empowerment for bluestocking ladies by encouraging them to carry out their dreams, leading to their overall growth. Therefore, Micro finance is an alleyway towards achieving financial inclusion.

## **MODELS OF MICROFINANCE WIDELY USED IN INDIA**

### **Associations or self help groups in India**

SHGs are the most popular model in India. SHGs are voluntary association of 15-20 people who come together in order to solve a common problem of finance availability, these groups are commonly formed by the poor people, largely women who do not have access to formal financial institutions for the sake of startups and other entrepreneurial activities. Government of India have also been taking initiatives in implementing various programmes for the upliftment of the society, the most popular is 'SWARNA JAYANTI GRAMA SWAROJGAR YOJANA' (SGSY). This programme was launched on 1st April, 1999, with the cost sharing of Central and State Government in the ratio- 75:25. The main objective of SGSY is to provide Bank Credit & Government Subsidy to the rural poor through the establishment of SHGs. NABARD also took the initiative and launched SHGs- Bank Linkage Programme in 1992, a way to link the unorganized sector with the formal banking sector. Under this, banks open the saving accounts for SHGs and provide loan against group guarantee. The three different models of SHGs- BLP have emerged on the basis of the recommendation of SK Kalia Committee.

MODEL 1: SHGs promoted, guided & financed by banks.

MODEL 2: SHGs promoted by NGOs/ Government agencies & financed by Banks.

MODEL 3: SHGs promoted by NGOs & financed by banks using NGOs/formal agencies as financial intermediaries.

Out of which the first two models are popular in India.

### **GRAMEEN MODEL**

Grameen model emerged from the very popular Grameen Bank, started by Prof. Mohammed Yunus in Bangladesh in 1976, and has now become a well known and most widely used model in the world.

It was formed onliest to serve the poor, primarily women to impart small and non- collateralized loans. Five people come together voluntarily to form a group, in order to receive loan from Grameen. Borrowers meet weekly with centre manager regarding training, saving payments and loans. Grameen objective is to promote financial independence among poor.

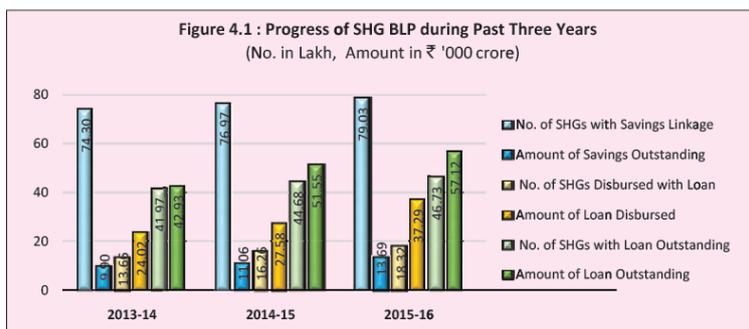
### MICROFINANCE INSTITUTIONS

The inception of the Microfinance institutions can be traced in the late 1980s. They emerged as Not-for-Profit-MFIs, but later due to NGOs-MFIs limitations they transformed into 'for-profit- MFIs. In India, 'for-profit- MFIs are referred to as 'NON-BANKING FINANCIAL COMPANIES, NBFCs are regulated by Reserve Bank of India. NBFC is registered under Companies Act, 1956. NBFCs are not just engage in loans and advances but also attracts equity investors, bonds hire-purchase, insurance business, chit business but does not includes the institutions whose principal business is agriculture activity, industrial activity, purchase or sale of any goods or providing any services and sale/purchase/construction of immovable property.

### Growth of Micro Financing

#### 1. Progress of Self-Help Groups

As per the following figures, it is clearly shown that Self- Help Groups have shown improved performance over the three years. Number of SHGs with saving linkage has increased from 74.30 lacs in 2013-2014 to 79.03 lacs in 2015-2016 with an increased amount of outstanding savings. During the year 18.32 lacs SHGs disbursed a loan 37,290 crores which has been widely increased from last three years. During the year 2015-2016, NABARD and NRLM/SRLM coordinated with an agenda to cover 7 crore rural poor households across the country with sustainable livelihood and ensured loans availability to SHGs and the table gives an account of savings , credit outstanding and credit disbursement of total SHGs under NRLM during past three years showing positive move to achieve their agenda. Over the years percentage of women's participation has been increasing which shows a strong intervention in financial inclusion. SHG is a positive intervention in financial inclusion for financially backward which can be proved through the following figures showing increasing banking services amongst the poor and promoting poverty alleviation.



(Source-Status of Micro finance in India (2015-2016))

(Numbers in lakh/Amount ₹ crore)

Particulars		2013-14		2014-15		2015-16	
		No. of SHGs	Amount	No. of SHGs	Amount	No. of SHGs	Amount
SHG Savings with Banks as on 31 <sup>st</sup> March	Total SHG Nos.	74.30 (1.53%)	9897.42 (20.45%)	76.97 (3.59%)	11059.84 (11.74%)	79.03 (2.68%)	13691.39 (23.79%)
	All women SHGs	62.52 (5.27%)	8012.89 (22.99%)	66.51 (6.38%)	9264.33 (15.61%)	67.63 (1.68%)	12035.78 (29.92%)
	Percentage of Women Groups	84.15	80.96	86.41	83.77	85.58	87.91
	Of which NRLM/SGSY	22.62 (10.46%)	2477.58 (36.01%)	30.52 (34.92%)	4424.03 (78.56%)	34.57 (13.27%)	6244.97 (41.16%)
	% of NRLM/SGSY Groups to Total	30.45	25.03	39.65	40.00	43.74	45.61
	Of which NULM/SJSRY	NA	NA	4.33	1071.81	4.46 (3.00%)	1006.22 (6.12%)
	% of NULM/SJSRY Groups to Total	NA	NA	5.63	9.69	5.64	7.35
Loans Disbursed to SHGs during the year	No. of SHGs extended loans	13.66 (12.02%)	24017.36 (16.67%)	16.26 (19.03%)	27582.31 (14.84%)	18.32 (12.67%)	37286.90 (35.18%)
	All women SHGs	11.52 (11.02%)	21037.97 (17.83%)	14.48 (25.69%)	24419.75 (16.07%)	16.29 (12.50%)	34411.42 (40.92%)
	Percentage of Women Groups	84.3	87.6	89.05	83.53	88.92	92.29
	Of which NRLM/SGSY	2.26 (24.56%)	3480.60 (57.67%)	6.43 (28.45%)	9487.69 (27.26%)	8.16 (26.91%)	16785.78 (76.92%)
	% of NRLM/SGSY Groups to Total	16.52	14.49	39.54	34.40	44.54	45.02
	Of which NULM/SJSRY	NA	NA	1.05	1871.55	1.11 (5.71%)	2620.22 (40.00%)
	% of NULM/SJSRY Groups to Total	NA	NA	6.46	6.79	6.06	7.03
Loans Outstanding against SHGs as on 31 March	Total No. of SHGs linked	41.97 (-5.71%)	42927.52 (9.02%)	44.68 (6.46%)	51545.46 (20.06%)	46.73 (4.59%)	57119.23 (10.81%)
	No. of all Women SHGs linked	34.06 (-9.34%)	36151.58 (10.08%)	38.58 (13.27%)	45901.95 (26.97%)	40.36 (4.61%)	51428.91 (12.04%)
	Percentage Of Women SHGs	81.2	84.2	86.35	89.05	86.37	90.04
	Of which NRLM/SGSY	13.07 (9.55%)	10177.42 (18.38%)	18.46 (41.24%)	19752.74 (94.08%)	21.91 (18.69%)	26610.16 (34.72%)
	% of NRLM/SGSY Groups to Total	31.1	23.7	41.32	38.32	46.89	46.59
	Of which NULM/SJSRY	NA	NA	3.18	3462.62	3.13 (-1.57%)	3979.75 (14.93%)
	% of NULM/SJSRY Groups to Total	NA	NA	7.12	6.72	7.00	6.97

(Figures in parentheses indicate increase/decrease over the previous year)

(Source:- Bharat-Microfinance-Report-2016)

## 2. Client's outreach by MFIs

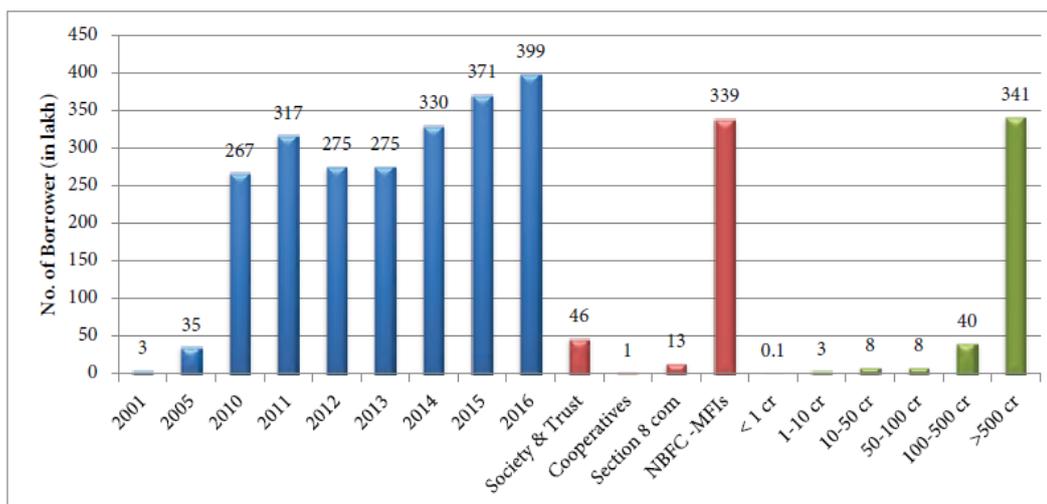
MFIs served 399 lakhs clients as on 31 March, 2016.

**2005-2011-** Client outreach of MFIs had reached at a level of 317 lakh, showing substantial growth. **2012-2013-** Trend slowed down and the number of clients slumped to 275 lakh.

**2014-** A reversal of trend was shown with a growth and reached a level of 330 lakhs.

**2014-2016-** The growing trend of 2014 continues till 2016 with a huge rise in clients/borrowers to an all-time high of 399 lakh.

Figure 2.5: Outreach to Borrowers: Yearly Trend and Category-wise Breakup for 2016



(Source:- Bharat-Microfinance-Report-2016)

Majority of these clients (84.94%) are being served by NBFC-MFIs .

## CONCLUSION

Many of Indian intellects squander due to lack of availability of cheap finance. Even after successfully arrangement of finance through money lenders, many of ideas go unprofitable because of an exorbitant interest payable on such finance. In this backdrop, models of micro finance offer a ray of hope to increase finance availability. An impressive and positive gain made by SHG-BLP in coverage of rural population with financial services and an increasing client's coverage by Micro finance institutions shows an alleyway to financial inclusion. However, microfinance is not an end of the problem but beginning of a new phase, which if not effectively handled, can create a chaos and disturbance among public due to high risk of nonpayment of regular installments and interest. However, if it is effectively handled, it can create miracle in the field of financial inclusion and poverty alleviation.

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## **Public Private Partnership: A profitable venture for both Public and Private Sectors**

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### **ABSTRACT**

*Public Private partnership (PPP) has been emerged as an perfect solution for the infrastructure development of the nation. It is now well accepted globally as well that PPP can serve as the remedy for the development in every sector. This model not only benefits the public sector but both the entities like public and private sectors can earn profits with the collaboration. This paper will focus on how PPP is becoming successful in various sectors and how India is implementing this model in various spheres. These papers will also lays emphasis on the benefits and the difficulties associated with Public Private Partnership venture.*

**Keywords-** *Public Private Partnership, Infrastructure Development*

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### **INTRODUCTION**

Public Private Partnership (PPP) is not a new phenomenon in the country but it is operating from before Independence but it has gained popularity after 1990's i.e. after LPG (Liberalization, Privatization and Globalization). Public Private Partnership (PPP) now a days operating in every field in the country whether it is agriculture sector, infrastructure sector, health sector etc. With the collaboration of both Public and Private sector both are gaining the advantages. As we know the public sector is always there in the resource crunch but with the help of private sector it can take the advantages in gaining the financial resources, Research and Development, which is very difficult for the public sector. The collaboration of both public private sectors not only beneficial for them but for the general public as well. When any type of construction or manufacturing takes place in the country it provide various employment opportunities to the people as well. It is the problem of every sector that how to utilize the scarce resources and how to distribute these resources with equality. In this direction, various economic reforms initiated in the country towards creating the congenial environment regarding public-private partnership (PPP) model in various sectors. Sector-specific policies have also been initiated from time to time to enhance the PPP in infrastructure building. This paper will focus on how PPP is helping both public and private sectors and to the nation in economic development.

### **RESEARCH METHODOLOGY**

The aim of the research is to find how PPP model is befitting with public and private entities and we have shown the steps taken by the government in this context. Beyond that the study also focus the difficulties they are facing while executing their plan and to make further suggestions in improvement of that. The paper is based on Secondary data collected from various viz., Journals, books, internet and from Government of India official websites and the material published by the authorized govt. departments. The data available on these websites are regularly updated and the website is directly under the control of Ministry of Finance, Government of India.

### **Why PPP?**

The study is focusing on PPP model as it serves as a mechanism for the government to carry out the essential activities of development, especially rural development through infrastructure construction, while at the same time minimizing the risks and heavy drain on government budgets. The private sector can invest heavily as it has the resources to do so, and since these projects are for social good, the government plays a role in providing incentives for the private sector to invest, while at the same time ensuring that it is in a position to supervise and regulate the project. As part of the incentives, the government has also resorted to viability gap funding for private entities who take up development projects, especially in rural areas. This means that the government funds a part of the project so as to incentivize it for the private entity to find it attractive enough to take up.

Hence it seems amply clear that the government would like to harness private sector resources and channel it into ensuring economic growth.

### Types of PPP models

As PPP is an arrangement between the public and private sector and it has two important characteristics; Firstly, the main importance on providing services as well as investment by the private sector. Secondly, substantial risk is transferred from the Government to the private sector. The PPP model is very flexible and discernible in variety of forms.

- **Service Contract:** In this arrangement the government (public authority) hires a private entity to carry out one or more specified tasks or services for a period, generally 1–3 years. The government pays the private partner predetermined fee for the service, which may be one-time fee, unit cost, or other basis according to the contract.
- **Build–operate– transfer (BOT) (including BTO, BOO, DBO, DBFO):** BOT is the common model which is particularly used in India. In BOT and its related arrangements, a private firm develops a new infrastructure project in accordance with the performance standards set by the government. The private partner used to provide the capital required for building the new facility and at the end of the contract the ownership is transferred to the public sector.
- **Joint venture:** In joint venture public and private sector partners can either form a new company or enters into the joint ownership of an existing company through a sale of shares to one or several private investors. Both public and private partners invest in the company and share risks as well in respective proportions as decided in agreement.
- **Affermage or Lease contracts:** In affermage or in a lease contract, the ultimate and final responsibility is of the private partner and it also undertakes obligations relating to quality and service standards, except for new and replacement investments which used to remain the responsibility of the public authority. The private operator provides the service at his own expense and risk. The duration of the leasing contract is usually for 10 years.
- **Management contract:** A management contract includes the services to be contracted of the management and operation of the public service (i.e., utility, hospital, port authority, etc.). The obligation for service provision remains with the public sector, while daily management control and authority is assigned to the private partner or contractor.
- **Concession:** A concession makes the private sector operator (concessionaire) responsible for the full delivery of services in a specified area, including operation, maintenance, collection, management, and construction and rehabilitation of the system. The operator is responsible for all capital investment. The public sector is responsible for establishing performance standards and ensuring that the concessionaire meets them. A concession contract is typically valid for 25–30 years.

### V PPP Development in India

A concession makes the private sector operator (concessionaire) responsible for the full delivery of services in a specified area, including operation, maintenance, collection, management, and construction and rehabilitation of the system. The operator is responsible for all capital investment. The public sector is responsible for establishing performance standards and ensuring that the concessionaire meets them. A concession contract is typically valid for 25–30 years

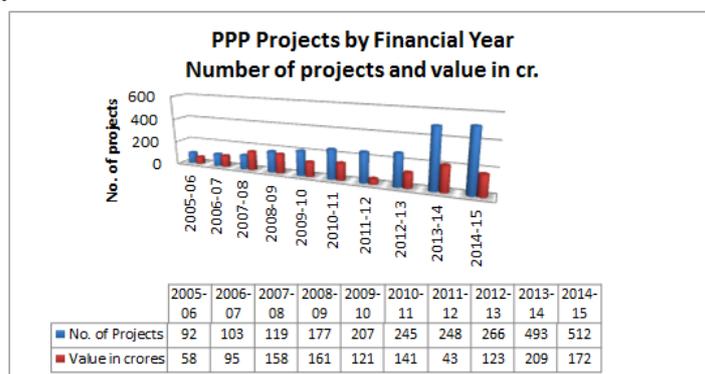


Figure 5.1: Source(Department of Economic Affairs, Govt. of India, 2018)

Above Figure clearly shows that projects are increasing year after year in India as in 2005-06 only 92 projects are there which rose to 512 in 2014-15 and the value has also increased from Rs58 cr. to 172 crores.

**Private Sector Contribution in various sectors**

The contribution of the private sector in every infrastructure area is increasing manifolds as it would be about 36 per cent as compared to 30 per cent originally projected for the Eleventh Plan which is much higher than 22.04 per cent realised in the Tenth Plan. The achievement was not uniform across all sectors. While Telecommunication, Oil and Gas Pipelines, Roads and Bridges sectors exceeded their investment targets, investment in Ports, Railways, Water Supply and Sanitation and Storage was much below expectations.

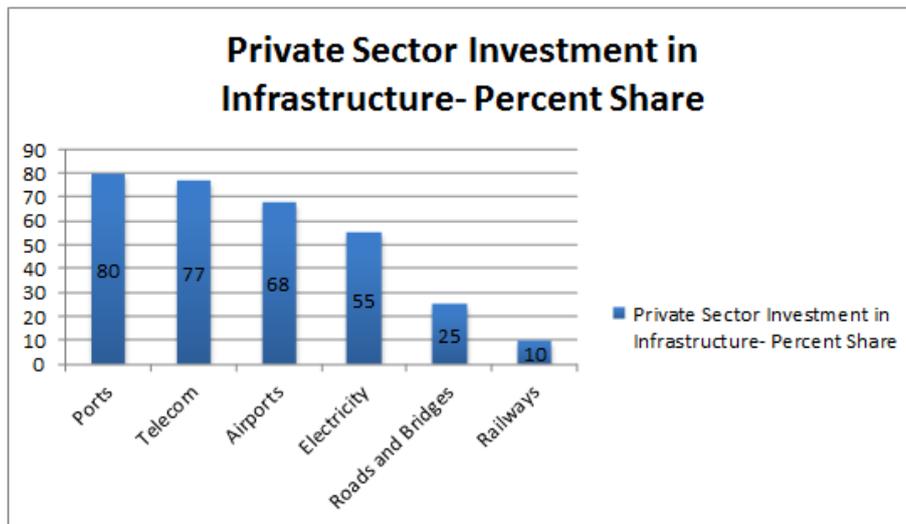


Figure 6.1: Source (Planning Commission, 2012)

The above chart shows that how the GoI is taking steps towards the development of infrastructure in various spheres. In ports development private sector share is maximum while in railways its is the least. The strategy for the Twelfth Plan is to encourage private sector participation directly as well as through various forms of PPPs, wherever desirable and feasible. The share of private sector in infrastructure investment will have to rise substantially from about 36.61 per cent anticipated in the Eleventh Plan to about 48 per cent in the Twelfth Plan. It is expected that competition and private investment will not only expand capacity, but also improve the quality of service, besides minimizing cost and time overruns in implementation of infrastructure projects. The graph shows how the participation of both public and private sector is increasing every and how in totality it is increasing with reference to GDPmp.

**PPP in Various Sectors**

PPP is playing a very important role in India in developing the infrastructure sector in India whether it is in developing airports, seaports, railways or urban transit. It has created various success stories in developing these sectors. This section will discuss how PPP is helping in the development of these sectors:

- Transportation:** This sector comprises of Roads, Airports, Sea Ports, Railways and urban transit. A country is said to be developed when it is having good transportation facilities as with transportation only they can have developed industrial sector. Without proper transport mechanism a country cannot attract tourism and moreover it cannot have flourished industrial sector. India being the fourth largest country in the world but lags in infrastructure quality. Various initiatives has been taken by the govt. in this context and one of the initiative is PPP.

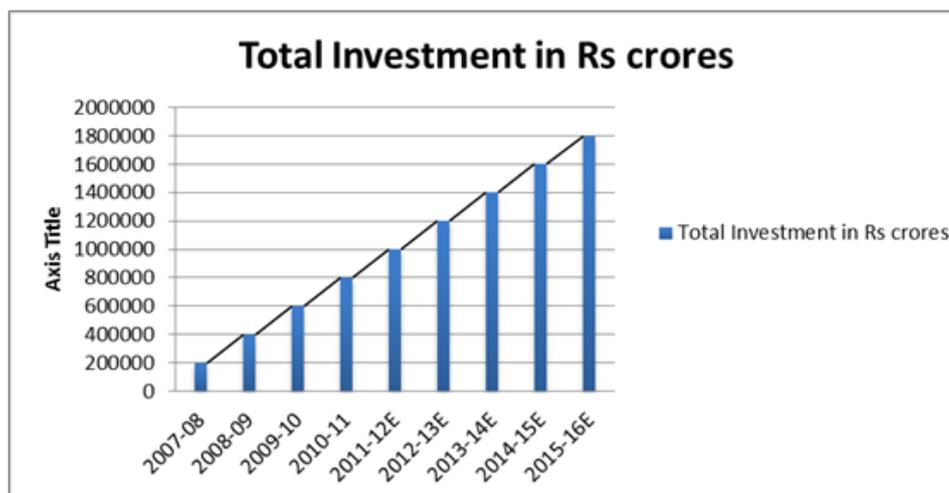


Figure 7.1- Source: (Planning Commission, 2012)

Above figure shows that GoI has tremendously increased the investment in transportation sector from Rs200000 cr. to Rs1800000 cr. just doubled the amount from 2007-08 to 2015-16 (less than 10 years). During the Tenth and Eleventh Five Year Plans, significant investment has been made in infrastructure by way of private participation. PPPs are increasingly becoming the preferred mode for construction and operation of commercially viable infrastructure projects in various sectors such as highways, airports, ports, railways and urban transit systems. A huge corpus is set up for the various infrastructure projects in India. GoI has set various authorities to check the compliance of the working of the PPPs in India.

- Agriculture Sector:** Since Independence the main source of livelihood of the Indian population is agriculture sector. As 60% of the Indian population is still dependent on agriculture sector so it is the utmost priority of the Government to develop this sector. Various reforms has been taken in this sector as well and one those reforms are involving PPP in agriculture sector. Various schemes has been launched in PPP in this sector are Rashtriya Krishi Vikas Yojna (RKVY), Kisan Call Centres etc. Various infrastructure projects are also launched under this sector like Integrated Rural Development Programme (IRDP), PURA (Providing Urban Amenities to Rural Area), Bharat Nirman, Watershed Development etc. Various statewise schemes are also launched under PPP model like Hariyali Kisan Bazaar at Delhi, aAQUA at Pune (Maharashtra), Tata Kisan Kendra at Uttar Pradesh, Haryana and Punjab, e-choupals at Madhya Pradesh, Haryana, Uttarakhand, Karnataka, Andhra Pradesh, Uttar Pradesh, Maharashtra, Rajasthan, Kerala and Tamil Nadu, India Rural World at Andhra Pradesh. These schemes not only help in the development of agriculture sector but it also help the private sector in revenue generation like in the projects of contract farming etc.
- Health Sector:** As due to the various defects in the public sector health system in providing health care services to the whole population are very well acknowledged. The incompetence of the public health sector has forced the poor and deprived sections of the population to seek health services from the private sector. It has been very much evident that in many parts of country, the private sector provides a large volume of health services. The services that are provided by private sector are untapped and unregulated. To tackle the incompetence and inequality in the health system, many state governments have undertaken health sector reforms. The main reform that has been undertaken by State Governments to collaborate with the private sector is through Public/Private Partnership (PPP) (Raman, 2009). Over the last two decades the private sector in India has gradually grown and enhanced its quality of operations and services to emerge as the leading provider of the entire array of healthcare services. The private sector provides majority of health care institutions with a major concentration in metros, tier II and tier I cities. Large investments by private sector players are likely to contribute significantly to the development of India's hospital industry and the sector is poised to grow to \$120 billion by the year 2015 and further to \$280 billion by 2020. Private sector's share in healthcare delivery is expected to increase to 81% by FY 2015. Private sector's share in hospitals and hospital beds is estimated at 74% and 40%, respectively. (Aarti Dawra, 2016)

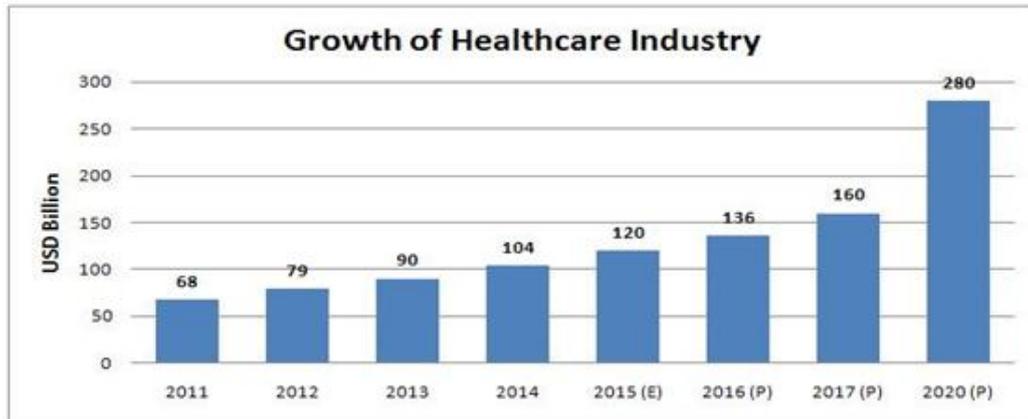


Figure 7.2- Source: (India, 2015)

Various schemes has been launched in health care industry via PPP are Yeshasvini Health scheme in Karnataka, Arogya Raksha Scheme in Andhra Pradesh, Telemedicine initiative by Narayana Hrudayalaya in Karnataka, Emergency Ambulance Services scheme in Tamil Nadu, Urban Slum Health Care Project, Andhra Pradesh, Rashtriya Swasthya Bima Yojana.

- Energy Sector:** Power is crucial for economic growth and is one of the most important paspects of infrastructure, which is very crucial for the economic growth, and welfare of nations. It helps in the development of all sectors like industrial, rural and agriculture. It helps in linking rural population with the fast changing technological world. India’s power sector is one of the most diversified in the world and India is the fifth largest economy in production and consumption of energy. GoI is focusing on paradigm shift from nonconventional energy to conventional energy. For this purpose GoI launching various initiatives which is boosting the private players in this sector. Various companies like Reliance, Tata etc. are providing electricity in various cities in India. The below figure is showing the installed capacity of power stations in center, state and private sector.

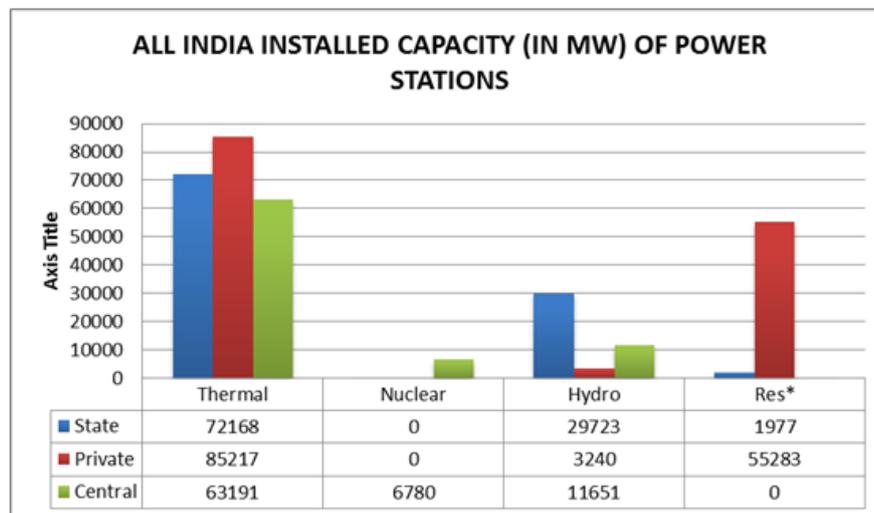


Figure 7.3- Source: (CEA, 2017)

**Potential Benefits of PPP**

PPP is a world-renowned phenomenon for the development of infrastructure. It is now entering into another spheres as well like social security and other schemes. In India maximum big-ticket projects are undertaken with PPP model only. The potential benefits of PPP are:

- As the responsibilities are decided in advance that’s why PPP provide better infrastructure solutions than an initiative that is wholly public or wholly private.
- PPP result in faster project completions and reduced delays on infrastructure projects by including time-to-completion as a measure of performance and therefore of profit.

- The ROI is also maximum in PPP projects rather than traditional projects that are wholly owned by public or private entities. Innovative design and financing approaches become available when the two entities work together.
- Risks are known in advance at the time of determining the feasibility of the project. The private sector will get the opportunity to calculate the risks in advance and they can take preventive measures and it can offer a break on unrealistic government promises or expectations.
- The operational and project execution risks are transferred from the government to the private participant, which usually has more experience in cost containment.
- The greater efficiency of PPP reduces government budgets and budget deficits as well.
- High-quality standards are better obtained and maintained throughout the life cycle of the project.

### **Challenges while implementing PPP in India**

There are various benefits for implementing PPP as it provides adequate resources as well as it provides the opportunities for Research and Development which is not possible for a single entity only. But both the entities also face the various challenges while implementing PPP like:

- There is no independent PPP regulatory environment as of now. This affects the PPP projects implementation, as to attract more domestic and international private funding of the infrastructure, a more robust regulatory environment, with an independent regulator is essential.
- The PPP program also lacks a comprehensive database regarding the projects/studies to be awarded under PPP. An online data base, consisting of all the project documents including feasibility reports, concession agreements and status of various clearances and land acquisitions will be helpful to all bidders.
- The project development activities such as, detailed feasibility study, land acquisition, environmental/forest clearances etc., are not given adequate importance by the concessioning authorities. The absence of adequate project development by authorities leads to reduced interest by the private sector, mispricing and many times delays at the time of execution.
- The limited institutional capacity to undertake large and complex projects at various Central ministries and especially at state and local bodies' level hinder the translation of targets into projects.
- The private sector is dependent upon commercial banks to raise debt for the PPP projects. With commercial banks reaching the sector exposure limits, and large Indian Infrastructure companies being highly leveraged, funding the PPP projects is getting difficult.

While most of the above issues are being analyzed and solved by the GOI, the inadequacy of sources of funding is the worst hindrance for the success of the PPP model. (S.Sudhan, 2017)

### **CONCLUSION AND RECOMMENDATIONS**

PPP model has proved that it can shape the nation with world class infrastructure facilities and with PPP any nation can attract FDIs and it also provides various employment facilities to the local concessionaires. It can be a profitable venture for both of the entities. If the various advantages are associated with PPP, there are various challenges as well that need to be overcome while implementing a successful PPP model. The suggestions made by this paper are:

- It is the utmost requirement for any country to investigate the new ways of technology and innovation in providing better public services through improved operational efficiency by the private sector.
- Incentivizing the private sector to deliver projects on time and within budget prescribed in advance.
- Imposing budgetary certainty by setting present and the future costs of infrastructure projects over time.
- Utilizing PPPs as a way of developing local private sector capabilities through joint ventures with large international firms, as well as sub-contracting opportunities for local firms in areas such as civil works, electrical works, facilities management, security services, cleaning services, maintenance services.
- Using PPPs as a way of gradually exposing state owned enterprises and government to increasing levels of private sector participation and structuring PPPs in a way so as to ensure transfer of skills leading to national champions that can run their own operations professionally and eventually export their competencies by bidding for projects/ joint ventures.
- Supplementing limited public sector capacities to meet the growing demand for infrastructure

development

- Extracting long-term value-for-money through appropriate risk transfer to the private sector over the life of the project – from design/ construction to operations/ maintenance. (World Bank Group, 2016)

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## **Green HRM and Environmental Sustainability: Practices Adopted By Business Organizations**

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### **ABSTRACT**

*As the population is soaring to greater heights across world, the natural resources are fast attenuating. We are now witnessing an era where tensions over environmental degradation, generation of waste, ever-elevating pollution levels, and depletion of resources are the subject matter of discourse from schools to colleges to business houses to countries and to continents. Bringing environmental sustainability has not just emerged and spread widely as a matter of concern to restore a greener earth, but is also being materialized through strategies, policies and practices adopted by business organizations. This paper discusses some such practices adopted by different business organizations especially in the context of green human resource management.*

**Keywords:** *Green Human Resource Management, Environmental Sustainability, business practices.*

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### **INTRODUCTION**

The incidences and concerns of environment seem to be echoing from all across the globe such as scientists from university of California found that by the year two thousand three hundred the ice around Antarctic region would melt so badly that it will have the most adverse effect on the survival of aquatic food chains and the fish production in different regions across the world will drastically fall by fifty-sixty percent [1], in South Jordan it was reported by scientists that, the carbon die oxide emissions are as much a concern arising out of the growth of population in suburban areas as in the urban areas [2], the increasing temperatures near the Arctic Circle have resulted in extremely cold winds and heavy snowfall in Europe especially UK. Many other disasters such as life and property threatening storms have also been forecasted due to this climate change [3]. Recently, the ministerial office for environment in Germany found that nitrogen oxide emissions happening from diesel cars has resulted in manifold unnatural deaths happening at a very young age since 2014 [4]. One of the Swiss firms upon calculating the economic loss caused due to the catastrophes like cyclones, earthquakes, wildfires etc. resulting due to augmentation in global temperature came to a figure of three hundred and six billion dollars in 2017 [5]. According to the world wildlife fund, around one lakh thirty thousand sq km. of forest area is cleared by burning every year resulting in lowering of the oxygen level and carbon die oxide being emitted at a tremendously higher rate. It has also indicated recently that human beings are exhausting more than thirty percent of the natural resources that our planet can restock every year and it has also projected at the UN meet that if nothing is done to reverse this then by the year two thousand and thirty the human race would be in dire need for at least two planets to survive [6, 7]. Not only the forests, but the groundwater depletion is also a major concern. Human beings are using ground water at almost double the rate and the groundwater lost is almost as much as one hundred and twenty six to two hundred and eighty three cubic kms per annum. It is projected that in the next almost eighty years it would completely be used up and dried up[8]. In a recent study by national physical laboratory to understand the effects of climatic change and global warming on the health of people living in India, they found that, the rate of disease or sickness in population due to rising temperature is increasing this is evident in terms of the cardio related diseases and too many incidences of cold related sickness. The incidences of the diseases resulting from virus and bacteria are also increasing especially malaria, dengue etc. [9]. The social statistics division under the government of India has also issues a similar report where it highlighted that the climate change may have economic costs and benefits for India. On one hand it may result in augmentation in the rate of tourism in India as people from other countries may want to visit places in India with high or low temperatures as the case may be or the farming may become more yielding. However these advantages are far too short in comparison to the disadvantages that this climate change is bringing with itself such as extreme floods, torrential downpours, storms and tornados etc. which especially

happening in coastal areas can result in business related activities, agricultural produce etc. all getting adversely affected [10]. Another study that happened in the Southern part of Asia, showed that that climate change is going to create so much of heat and dampness that it will be next to impossible to work during the daytime in open fields for people. The most adversely affected areas according to this study include Bangladesh, Northern part of India and South Pakistan. Discussing further the effects of this phenomenon, the study highlighted that it will result in widespread food shortage or famine resulting in hunger and malnutrition. It highlighted that due to this dearth of food the number of kids who are half-starved is going to increase to seven million in South Asia by the year two thousand and fifty [11]. World Economic Forum has been time and again warning the world about different types of risks that the world faces. In its global risks report in 2018 it very clearly listed down these perils or threats to humanity. Not very surprisingly, highest risks were intense weather conditions, natural calamities, failure to deal with climate change, fast water depletion etc. and then came risks like weapons of widespread destruction, nuclear war etc. And while this report was being discussed at the WEF meet, a series of storms rocked different parts of the world such as the ones in Florida, Caribbean and Puerto Rico [12]

On one hand where the problems have been reported, solutions to environmental issues have also been forwarded across the world. Such as University of York has put forth that plastics that are oxygen based or plant based can help to a good extent in solving the environmental degradation issue. These plastic bags are not oil based products rather they are plant based and they are pretty eco-friendly, green and recyclable. They can not only be used as portable bags, but also to can be used to make water and other fluid containers, containers for edible items etc [13]. UN also recognized certain efforts being done in different parts of world to conserve natural resources to make a better and greener earth. Such as it pin pointed that, in India farmers are utilizing solar powered pumps so as to make fuller and efficient use of groundwater for watering the seeds. Similarly, in Nairobi people have started making use of a purification system to help get purest clean drinking water and it is not made of environmentally degrading plastic materials but is made out of plant related materials [14]. Efforts have also been made by Indian government to bring together around one hundred and twenty one nations so as to make a coalition or agreement towards generation of renewable energy [15]. Some solutions suggested by World economic forum include that all sorts of leaks or spillovers need to be dealt more pragmatically and logically; these leaks could be of oil or radioactive material and in order to avoid them to have a devastating effect on environment appropriate computerized detection and control system should be created. According to the forum, the nations all over the world should try to decrease as much as possible their reliance on plastics, the business houses should aim at producing such plastics that are not bio-degradable and must also make appropriate arrangement to deal with the waste plastics. Heavy penalties and taxes also need to be levied on plastics use and production. A complete stop also has to be ensured on the dumping of these plastics in rivers, oceans and other water bodies [16] Though solutions to environmental issues are being offered by countries and governments across the globe, what is of paramount importance is to also understand the contributions by business sector towards helping in environmental sustainability as it is one of the most important stakeholder and trustee to the society which depends heavily on the natural resources for running its multifaceted activities. Some of the duties that business organizations can be said to have been discharging with respect to environmental protection and its betterment include: strictly and obediently abiding by the laws of the land on environmental protection and not finding ways to breach them, one most important solutions that has been taken care of and pursued by business organizations has been the utilization of green energy like for e.g. wind, solar and electrical vehicles etc. Another important contribution of companies towards environmental cause also includes promoting the idea of environmental protection whether it is in the form of helping in setting up or establishment of the public parks, running green consumption campaigns, including such ideas in their TV commercials to increase awareness among masses etc. Companies also take special pains and make incessant efforts in helping out waste disposal in the most safest and efficient manner. Whether it is giving discounts to clients and consumers when they make use of recyclable containers or levying extra amount on customer's bill for use of plastic so that it can act as a deterrent [17]. Another dimension of the company's contribution towards environmental protection and betterment is the corporate social responsibilities that they discharge. These Corporate social responsibilities are the bountiful, generous, humanitarian activities that have become important part of every business around the world. These activities not only help business discharge social objectives and payback what they have taken from the society and community at large. Some such initiatives by business include use of green technology, best possible and fuller utilization of the unprocessed materials, tying up with environmentalists and NGO's to device agenda for contribution towards environmental protection and so on.

## LITERATURE REVIEW

Sustainability has been defined as the capability or skill to fulfill the needs and requirements of presently existing human race without compromising the capability of future cohort or generations to fulfill their own requirements (World Commission on Environment and Development, 1987 as cited in Bakos, 2014). Some may define it in terms of safeguarding and conserving the resources and not exhausting them completely or creating a dearth of them, others usually define it as making policies so that such conservation of resources can take place in a more effective and efficient way (Uddin & Islam, 2015)(Attah, 2010). Environmental Sustainability is consistent of making such decisions which are in favor of safeguarding the nature and planet. It is about indulging into such activities which will decrease the adverse effects of business and people on environment. It simply involves generating much less waste or utilizing less of energy. Environmental sustainability compels the companies to see much further than their own vested self interests of short term and consider the long run effects that the companies might have on nature [21]. Green ideas, programs and projects have become very prominent with all business organizations in today's globalised era. Green Human Resource Management consists of taking up nature-friendly human resource tasks and activities. It also is inclusive of raising the employees' knowledge and dedication towards environment related issues. It really works wonders by supporting the organization through acts like e-documentation of records and minutes, sharing of vehicles by employees while travelling, sharing of tasks and activities to better use scarce resources, video conferencing instead of travelling, e-interviews, conducting training and developmental programs over internet and so on (Uddin & Islam, 2015)(Jain, 2016). The essence of this Green HRM is that the companies or business houses need to culminate into vigorous force by combining or bringing in line the human resource practices with the environmental sustainability objectives and aims of the company. It is the incorporation and amalgamation of environment management and personnel management and hence it provides a new dimension to the area of HRM. Being more nature friendly or developing a green attitude usually becomes evident from activities of employees like utilizing both sides of a sheet of paper for taking print-outs, if laptops and other gadgets at work are switched off for some time when they are not being used, use of power-saving lights and other electrical appliances at the workplace, tying up with local NGO's and make a contribution by giving away office equipment that is old but can be reused etc(Ahuja, 2015)(Jain, 2016). The Green HRM practices can be seen in terms of the HRM activities itself. In case of the recruitment, organizations include environment and nature conservations messages i.e. that the organization stands for resolving this concern and takes serious steps towards it and that it is in the culture of the organization to go green. This gets conveyed from the employer brand of the organization. It also includes pursuing a more virtual recruitment process wherein the e-soliciting of application is done by firms to prepare their talent pool. Internet is widely used for taking face to face interactive sessions with candidates etc. Hiring employees specifically for handling the nature or environment related activities of the organization has been made a part of recruitment policy of the firm. In case of selection of human resource for the firm also green criteria can be included by firms such as hiring candidates who have been involved in some way in environment-friendly activities or projects. Also, selecting such candidates, who, in their personal lives, are into consumption of green products and services (Arulrajah et. al., 2015)(Uddin & Islam, 2015)(Jain, 2016).

Apart from the green human resource recruitment and selection, performance appraisal and management is also an important HR activity where again the green criteria can be applied successfully. In this case firms usually collect information regarding the environment related aspects of the performance of the executives working in the organization at various levels. The standards against which the green performance of executives is to be measured may include occurrences of environment problems and issues while performing work and how it was resolved by the executive; indulgence of the executive in activities related to environmental protection; how did the team they are a part of, fared in the environmental assessments or inspections etc. Another way of doing this can be including a green dimension or environmental management as one criterion in firm-wide performance management system and then departmental performance goals and objectives can also include green aims and target (Arulrajah et al. , 2015)(Uddin & Islam, 2015)(Jain, 2016).

Renwick et al. (2012); Giovannoni and Fabietti (2014);Ahmad (2015); Cherian1 and Jacob (2012);Sunita and Sharma (2017); Kaur and Gupta (2016); Revill (2000);Jackson et al. (2011); Jabbar and Abid (2015); Sharma (2016) have further highlighted and demonstrated some more crucial aspects of green human resource management. These scholars and researchers talk about training and development of employees conducted by organizations the objective of which is to acquaint them and increase their knowledge about environmental protection through training and education programs. They talk about green projects being taken up by firms as a green initiative and work groups being established in each every division or department of the firm and training

of these work groups on these projects. Induction programs include information for new incumbents regarding the green policies, activities and projects being run by the organization and how they will be made a part of the same as soon as they assume duties. Some organizations even provide green training wherein the employees of the organization may be taught how to decrease or drastically cut down the waste produced at work, effective and efficient use of energy and other resources, organizations also hold conferences and seminars to generate awareness among employees regarding waste management, recycling and other aspects.

### **OBJECTIVE OF THE STUDY**

The objective of the present study is to understand the practices adopted for environmental sustainability by different business organizations in India and abroad especially with reference to green HRM domain.

### **RESEARCH METHODOLOGY**

An exploratory research study has been conducted. Foremost secondary data has been used, collected from books, journals, e-journals, websites, magazine and newspapers to study the various activities, practices and initiatives of different companies that have been declared by Forbes [20] and other such renowned platforms as having best approaches towards environmental sustainability. The paper also discusses a few cases of companies following Green HRM practices.

### **FINDINGS**

Many companies have been working towards environmental sustainability. Some major efforts include like that of Siemens AG which helps in battling the environmental challenges through their three way agenda of “decarbonization, environmental portfolio and product stewardship”. This company is working towards strengthening Germany’s aspirations of environmental protection by substituting the traditionally used technologies which are high on Co2 emissions with the low on Co2 generating technologies. Their environmental portfolio of products and services consists of smart grids, electronic vehicles etc. around sixty percent of their offices and working sites consist of heavy usage of green technology. Siemens have also been on their toes to give compliance training to their employees with respect to environmental laws and regulations of different countries in which they work for Siemens. There is also pretty low forbearance and acceptance of transgression and breach of these laws at Siemens [21].

Storebrand ASA is another organization ranking quite high in various global lists when it comes to environmental sustainability. They have been a staunch supporter of and have shown strict adherence to various environmental guidelines issued by United Nations. Since 1995 they have following the environmental up gradation agenda and have in the year 2008 incorporated environmental sustainability reporting and green audit report into their annual report .They, as a part of their sustainability initiatives, launched fossil free funds, created green mortgages etc. Apart from this they have been working towards ground water consumption reducing alternatives [22].

Cisco Systems have drastically reduced the green house gas releases from their supply chain. In order to help environment they have rigorously and aggressively adopted energy saving cloud technology for their information technology customers. Not only this but in order to preserve wildlife and some species that are getting extinct at tremendous speed the company has been helping organizations working towards this purpose by investing into drone cameras, seismic sensors etc. so as to keep a check on poachers. Around eleven thousand four hundred metric tons of products have been given back to company for recycling, renovate, modernize and revamp [23].

Dell is another firm that accepts used laptops, Tablets, desktops and other peripheral devices like printers, scanners etc for efficient and harmless discarding and disposal. Google is another example of one such firm that has created energy conservative information and data hubs. Google has also invested heavily into environment friendly plans and initiatives by purchase and setting up of large number of windmills and solar panels [24]. IBM through its IBM Watson initiative has helped in effective and efficient water conservation by allowing mapping of areas through analytics, imagery etc. where water is severely wasted and how it can be digressed to to areas where there is water deficiency. The company has also developed IT solutions to predict or forecast blustery weather and solar power [25]

Johnson & Johnson is no way behind in efforts to protect environment and help in fighting climate change. Just a small example can explain its contribution i.e. the environmental friendly packaging of its products wherein PVC has been completely removed from the packaging of products. It has conducted rigorous research on the purity of water being provided in different countries in USA and Europe and have brought into light the issue of

high amounts of pharmaceutical content in the water which is affecting under water food chains and have suggested solution for the same [26].

Exemplary performance among firms can also be seen specifically in reference to Green Human resource management practices. Companies like BHEL, Power Grid corporation Ltd. Etc. are some government organizations that rely on heavy use of video conferencing instead of employee travel for meetings and seminars resulting in reduced use of vehicles. They also have articles and write-ups or dedicated columns in their in-house magazines or newsletters to generate green awareness among employees of the co., several times they have also organized managerial development programs with one of the agendas being going green at workplace (Mishra et al., 2014). Du Pont is another company where the executive level compensation plans very clearly state high perks and incentives for rigorously selling environment friendly products. The Du Pont co. also has another major initiative involving the board and all top level executives called the "climate change steering team" this team has implemented green house gas lessening or cut-down as one of the major criteria in the performance evaluation of all departmental heads of the co. Patagonia is another firm that has created a corporate culture where environmental concerns are deeply ingrained into everyday working of the employees. The executives of the company first worry of the environmental consequences of their actions more than hard selling of their products and services (Henry, 2008). Rolls Royce under its sustainability efforts also as a part of its training policy, trains its executive in ensuring environmental friendly approach at work. This training includes generating green awareness among senior executives, production and factory managers' training regarding adherence to environmental and anti-pollution laws and use of environment friendly equipments, Bistol Myers Squib also conducts training for its senior executives and managers on environmental issues and solution to the same in day to day work life [27]. Suzlon Energy also has such practices for its employees such as providing green education to employees through short movies on environmental concerns shown to them, carpooling is rigorously encouraged etc.

## CONCLUSION

Environmental Sustainability is looming as a big challenge to the entire world today. In the face of this problem, all stakeholders of the world whether it is government, environmentalists and NGO's, citizens, business houses all are at the brunt of destruction if this challenge remains unresolved. The above discussion has brought us to conclude that one way of environmental sustainability is; if the human resource management rigorously takes up this agenda. Though the initiatives like green recruitment and selection, training and development, performance management and compensation exist and the companies are working further on solutions like creation of human resource information systems for data maintenance of employees, reducing use of paper, employees using eco-friendly laptops and tablets, making weekends off so as to save electricity, offering telecommuting or work from home arrangements to reduce car travel, flexi-time etc. in future more innovative solutions need to be worked out by HR domain to further contribute heavily to this universal cause.

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## A Comparative Study of DHFL and India Bulls Housing Finance Company on the basis of Financial Performance

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### ABSTRACT

Housing is important for every human being and with the rise in demand for housing in India, the need for housing finance arised. The government of India introduced several reforms to promote housing finance which leads to increase in the number of housing finance companies in India. Apart from Banks which have been financing this segment, HFCs have also been able to grow and establish their position in the housing finance sector. India bulls housing finance company has a loan book of ₹540.22 billion (US\$8.3 billion). And it has cumulatively disbursed loans of over ₹1 trillion (US\$15 billion) as of June 30, 2015. The company's average ticket size for home loans is ₹2.4 million (US\$37,000) and average tenure is 15 years. The Company has the highest long term credit rating from CARE and Brickwork ratings and AA+ from CRISIL and ICRA. As per data published by DHFL, the revenue from Operations was Rs. 1, 95,828 lacs, while the profit before tax was Rs. 30,290 lacs and the net profit after tax was Rs. 20,140 lacs on quarter ended 30 June 2016. The housing loans sanctioned were up by 12 percent for the quarter ended June 30, 2016, and disbursements showed an increase of 26 percent, clearly indicating a growth in business. Top private housing finance companies such as DHFL and India Bulls housing finance company has witnessed growth in their market share. Keeping this facts, an attempt is made in present paper to compare the financial performance of DHFL and India bulls housing finance company.

**Keywords:** Housing, Housing finance company, Financial performance, Financial Parameters

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### INTRODUCTION

Housing is the one of the basic needs for every human being. In order to strengthen a housing sector, a need for strengthening the housing finance sector arises automatically. Keeping this in mind and cope up with the rising demand for housing in India, the Government introduced several reforms to promote housing finance in India and each of these reforms has contributed to the rise in the number of Housing Finance Companies in the country. Many new Housing Finance Companies with a focus on affordable housing have started operations. In spite of banks dominating the housing finance space in India through their extensive reach and access to lower cost funds, HFCs continue to mark their presence with their focus, systems, customized products and specialization in their target segment. The housing finance industry has grown at a buoyant pace in the last few years. The main factors influencing this phase include growing demand from the populace due to economic and social development, consistent focus of the government to promote housing and benign regulatory environment encouraging growth in this segment. Over the last few years the share of HFCs in the total housing finance business has steadily increased and accounted for roughly 44% of total market share as of March 31, 2015 and 40% of the total housing finance industry as of Mar 2017. The total housing loan portfolio stood at Rs.14.4 Lakh Crore as of Mar 2017 according to report prepared by Credit Analysis & Research Limited (CARE).

### HOUSING FINANCE COMPANIES

**Definition:** The **Housing Finance Company** is a form of non-banking financial company which is engaged in the principal business of **financing of acquisition or construction of houses** that includes the development of plots of lands for the construction of new houses. The Housing Finance Company is regulated by the **National Housing Bank**. As per the NHB Act 1987, "A Housing Finance Company is a company which mainly carries

on the business of housing finance or has one of its main object clause in the Memorandum of Association of carrying on the business of providing finance for the housing”

### **NATIONAL HOUSING BANK**

National Housing Bank (NHB), a wholly owned subsidiary of Reserve Bank of India (RBI), was set up on 9 July 1988 under the National Housing Bank Act, 1987. NHB is an apex financial institution for housing. NHB has been established with an objective to operate as a principal agency to promote housing finance institutions both at local and regional levels and to provide financial and other support incidental to such institutions and for matters connected therewith. NHB registers, regulates and supervises Housing Finance Company (HFCs), keeps surveillance through On-site & Off-site Mechanisms and co-ordinates with other Regulators.

### **HOUSING FINANCE**

Housing finance is a broad topic, the concept of which can vary across continents, regions and countries, particularly in terms of the areas it covers. For example, what is understood by the term “housing finance” in a developed country may be very different to what is understood by the term in a developing country.

“Put simply, housing finance is what allows for the production and consumption of housing. It refers to the money we use to build and maintain the nation’s housing stock. But it also refers to the money we need to pay for it, in the form of rents, mortgage loans and repayments.”

### **LITERATURE REVIEW**

Many studies have been undertaken in the field of housing finance companies. As some of them are directly or indirectly related to the present study to analyze the financial performance of housing finance companies, a review is made of such studies, which have greater relevance to the subject matter of the present study.

Soniya Mohil (2013) in her study states that the HFCs are performing quite well but they still need to focus on getting more and more public deposits which are being gradually captured by banks. So HFCs need to study the strategy of banks and come up with better practices if they want to be the leaders in housing finance. They are again steadily losing their share in outstanding housing loans. To regain their market portion in this area they should bring more flexibility but within affordable risk area especially for lower income groups. Data was collected for only 3 year from 2009 to 2012.

Pankaj Chadha and Vanitha Chawla (2013) in their study observed that majority of HFCs are not able to score well in terms of corporate governance. Only two HFCs namely HUDCO & HDFC has corporate governance score over 90%. The paper also concludes that parameters like Size, Net Profit Margin, and Leverage is not significantly related to Corporate Governance score of selected HFCs. On the basis of this study, it can be argued that Indian housing finance companies should start focusing on corporate governance themes. As the competition intensifies in the Indian housing finance markets, HFCs should not look at corporate governance simply as a code of doing business but must utilize it

Dr. P.S. Ravindra, Dr. P. Viswanadham, Ch. Trinadha Rao (2013) in their paper studied the operational and financial performance of HDFC and LICHL. For the purpose of study, period 1997-98 to 2011-12 was taken into consideration. They concluded that the success of the LICHL and HDFC in the housing finance industry is in its marketing network. Even though, these two housing agencies are good in sanctioning loan disbursement and delivery of service to the customers, they have to modify and differentiate their services from other financial companies, which assure maximum benefit to the customers. Study concluded that the consistency is observed in financial parameters of LICHL and HDFC over the years, and LICHL has performed well in comparison with HDFC in both financial and operational aspects during the study period.

Parish Wang Piyush, Himanshu Negi, Navneet Singh(2016) tried to study the customers` satisfaction levels towards housing finance banks in India and To understand why customers preferred the HDFC and LIC Housing Finance Ltd. for home loan in India. The average level of satisfaction to customers is more than neutral state with respect to all the aspects except the service quality, cooperation of staff, documentation, guarantee, security, rate of interest, EMI. Therefore these aspects need more attention and shows good scope of improvement.

Jasmindeep Kaur Brar and J.S. Pasricha (2005) in their study examined the perception of the customers regarding housing loan offered by five main institutions (HDFC, LICHL, SBOP, PNBHF and Housefed) in the state of Punjab. It covers the period from 1990-91 to 2002-03. The study revealed that the customers of 3 out of 5 institutions were satisfied with the services provided by the institution, but the customers of other institutions

were indifferent with regard to the services rendered by the institution. The customers of all the institutions were of the view that despite the falling interest rate regime, all the institutions charged high rate of interest.

**OBJECTIVES OF THE STUDY**

To study and compare the financial performance of Dewan Housing Finance Corporation Limited and Indiabulls Housing Finance Limited.

**RESEARCH METHODOLOGY**

The database for the study consists of secondary data. The annual reports of Dewan Housing Finance Corporation Limited and Indiabulls Housing Finance Limited are the secondary sources of data for the study. The analysis of financial performance was done on the basis of accounting ratios. For the purpose of study, period 2012-13 to 2016-17 was taken into consideration.

**LIMITATIONS OF THE STUDY**

Though a no. of Housing Finance Companies are operating in the Indian market but for this study only two private Indian housing Finance Companies are selected. Further this study will be done for only 5 years from 2012-13 to 2016-2017. The study will not use sophisticated statistical tools such as factor analysis, cluster analysis and other multi variant techniques.

**DATA ANALYSIS AND RESULTS**

**Financial Parameters:**

**SHORT TERM SOLVENCY ANALYSIS**

**Current Ratio:** The current ratio is a liquidity ratio that measures a company's ability to pay short-term and long-term obligations. The current ratio is mainly used to give an idea of a company's ability to pay back its liabilities (debt and accounts payable) with its assets (cash, marketable securities, inventory, and accounts receivable). As such, current ratio can be used to make a rough estimate of a company's financial health. The current ratio can give a sense of the efficiency of a company's operating cycle or its ability to turn its product into cash. Companies that have trouble getting paid on their receivables or that have high inventory turnover can run into liquidity problems if they are unable to alleviate their obligations.

From the table it can be seen the current ratio of DHFL varied from 3.40 to 5.73 whereas current ratio of India bull housing finance company varied from 1.62 to 2.02. When compared with DHFL, the ability of Indian bull housing finance company to meet the short term financial commitments is less.

**Quick Ratio:** The quick ratio is an indicator of a company's short-term liquidity, and measures a company's ability to meet its short-term obligations with its most liquid assets. Because we're only concerned with the most liquid assets, the ratio excludes inventories from current assets.

From the table it can be seen that the quick ratio of DHFL varied from 5.55 to 6.85 whereas the quick ratio of India bull housing finance company varied from 3.99 to 5.08. The overall view on the quick ratio is that both company are maintaining an ideal ratio but DHFL in a better position to meet its short term obligations with its most liquid assets.

**Table 1: Short term solvency of DHFL and India bulls**

YEAR	CURRENT RATIO		QUICK RATIO	
	DHFL	INDIABULLS	DHFL	INDIABULLS
2012-13	5.73	1.84	6.85	3.99
2013-14	5.26	1.66	6.61	4.25
2014-15	3.99	1.69	5.55	5.08
2015-16	3.40	1.62	5.87	4.04
2016-17	4.18	2.02	5.87	4.56

(Sources: Annual Report of DHFL and India Bulls housing finance company)

**CAPITAL STRUCTURE RATIO ANALYSIS**

**Debt-Equity Ratio:** The debt-equity ratio is another leverage ratio that compares a company's total liabilities to its total shareholders' equity. This is a measurement of the percentage of the company's balance sheet that is financed by suppliers, lenders, creditors and obligors versus what the shareholders have committed. The real use of debt-equity is in comparing the ratio for firms in the same industry. If a firm's debt-equity ratio varies significantly from its competitors or the averages for its industry, this should raise a red flag. Companies with a

ratio that is too high can be at risk for financial problems or even a default if they can't meet their debt obligations. From the table it is observed that the debt equity ratio of DHFL was 8.48 in the year 2012-13 and it ranged from 8.48 to 10.54 whereas the debt equity ratio of India bull housing finance company varied from 4.65 to 6.03. The overall view on the debt equity ratio is that the debt equity position of India bull housing finance company is of high quality as compared to DHFL.

**Interest Coverage Ratio:** The interest coverage ratio is used to determine how easily a company can pay their interest expenses on outstanding debt. The ratio is calculated by dividing a company's earnings before interest and taxes (EBIT) by the company's interest expenses for the same period. The lower the ratio, the more the company is burdened by debt expense. When a company's interest coverage ratio is only 1.5 or lower, its ability to meet interest expenses may be questionable. Greater the ratio means better the capacity of the firm in making the payment of interest as well as greater the safety and vice versa. Lesser the times the ratio means meager the cushion of the firm which may affect the solvency position of the firm in making payment of interest regularly.

From the table it can be seen that the interest coverage ratio of DHFL varied from 1.19 to 1.21 and was lowest in the year 2013-14 with 1.19 whereas the interest coverage ratio of India bull housing finance company varied from 1.58 to 1.66. The overall view on interest coverage ratio is that India bulls housing finance company is in better position to meets its interest obligations.

**Table 2: Capital Structure Analysis of DHFL and India bulls**

YEAR	DEBT EQUITY RATIO		INTEREST COVERAGE RATIO	
	DHFL	INDIABULLS	DHFL	INDIABULLS
2012-13	8.48	5.10	1.20	1.62
2013-14	9.48	5.19	1.19	1.59
2014-15	8.74	6.03	1.21	1.66
2015-16	10.54	4.65	1.20	1.63
2016-17	8.88	5.86	1.21	1.58

(Sources: Annual Report of DHFL and India Bulls housing finance company)

## PROFITABILITY ANALYSIS

**Gross Profit Ratio:** Gross profit margin is a financial metric used to assess a company's financial health and business model by revealing the proportion of money left over from revenues after accounting for the cost of goods sold (COGS). Gross profit margin, also known as gross margin, is calculated by dividing gross profit by revenues. Also known as "gross margin. From the table it can be observed that the Gross profit ratio of DHFL varied from 90.04 percent to 90.94 percent whereas in case of India bulls housing finance company Gross profit ratio varied from 87.50 percent to 89.29 percent. While comparing DHFL with India bulls housing finance company, DHFL showed better stability in gross profit ratio.

**Net Profit Ratio:** Net profit margin is the ratio of net profits to revenues for a company or business segment. Typically expressed as a percentage, net profit margins show how much of each dollar collected by a company as revenue translates into profit. From the table, it can be observed that the net profit ratio of DHFL varied from 9.97 percent to 32.72 percent whereas the net profit ratio of India bulls housing finance company varied from 26.36 percent to 31.66 percent. As compared to India bulls housing finance company, DHFL showed better stability in net profit ratio except in the year 2016-17 with 32.72 percent.

**Operating Profit Ratio:** The operating profit margin ratio indicates how much profit a company makes after paying for variable costs of production such as wages, raw materials, etc. It is also expressed as a percentage of sales and then shows the efficiency of a company controlling the costs and expenses associated with business operations. From the table, it can be observed that the operating ratio of DHFL varied from 90.12 percent to 91.21 percent whereas the operating profit of India bulls housing finance company varied from 87.03 percent to 89.49 percent. While comparing DHFL with India bulls housing finance company, DHFL showed better stability in operating profit ratio.

**Return on Net worth:** Return on Net worth is a measure of profitability that calculates how many dollars of profit a company generates with each dollar of shareholders' equity. From the table, it can be observed that DHFL return on net worth ranged from 13.40 percent to 36.22 percent and it was lowest at 13.40 in 2014-15 whereas return on net worth of India bulls housing finance company ranged from 21.84 percent to 30.47 percent and it was lowest at 21.84 percent in 2015-16 and highest at 30.47 percent in 2014-15. As compared to DHFL,

India bulls housing finance company showed high return on net worth except DHFL showed 36.22 percent return on net worth in 2016-17.

**Table 3: Profitability Analysis of DHFL and India bulls**

YEAR	GROSS PROFIT (%)		NET PROFIT (%)		OPERATING PROFIT (%)		RONW (%)	
	DHFL	INDIA BULLS	DHFL	INDIA BULLS	DHFL	INDIA BULLS	DHFL	INDIA BULLS
2012-13	90.04	89.29	10.96	26.36	90.25	89.49	13.95	25.44
2013-14	90.90	89.16	10.64	28.90	91.12	89.31	14.79	27.61
2014-15	90.31	87.50	10.39	31.66	90.12	87.79	13.40	30.47
2015-16	90.09	88.07	9.97	28.91	90.42	88.31	14.90	21.84
2016-17	90.94	86.82	32.72	28.33	91.21	87.03	36.22	23.94

(Sources: Annual Report of DHFL and India Bulls housing finance company)

**Earning Per Share (E.P.S):** Earnings per share (EPS) is the portion of a company's profit allocated to each outstanding share of common stock. Earnings per share serves as an indicator of a company's profitability. From the table, it can be observed that the Earning per share of DHFL was lowest at Rs.25.69 in 2015-16 and highest at Rs.95.76 in 2016-17 whereas the Earning per share of India bulls housing finance company was lowest at Rs.40.19 and highest at Rs.68.80. However, the EPS of India bulls housing finance company is high when it was compared to the DHFL during the study period. It was further observed that the trend of EPS of India bulls housing finance company was continuously increased form 2012-13 to 2016-17 but in DHFL it was gradually increased upto 47.82 for three years thereafter in the year 2015-16 it was decreased to 25.69 and in next year 2016-17 it again increased to 95.76.

**Table 4: Earning Per Share of DHFL and India bulls**

YEAR	DHFL	INDIABULLS
2012-13	38.47	40.19
2013-14	41.23	47.96
2014-15	47.82	54.95
2015-16	25.69	59.84
2016-17	95.76	68.80

(Sources: Annual Report of DHFL and India Bulls housing finance company)

## CONCLUSION

It can be concluded that the consistency is observed in financial parameters of DHFL and India bulls housing finance company but India bulls has performed well in comparison with DHFL in Financial aspect during the study.

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## Financial Inclusion as a Medium for Sustainable Development

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### ABSTRACT

*Financial Inclusion is one of the current instruments utilized by budgetary elements with a specific goal to give appropriate instruction to potential customers from sections of society that have a low level of instruction and no money related, specifically. Financial inclusion activities aims at disclosing to bring down the educated section of individuals and the components of the financial instruments that they can access with a specific goal to enhance their everyday life. This paper is focused towards individuals that are presented to the danger of neediness and social prohibition. As indicated by Universal Financial Access 2020, around 2 billion individuals from the worldwide workforce don't utilize any type of financial administrations. Therefore, the World Bank and the Universal Finance Corporation set the objective to incorporate 400 million grown-ups in exchanges by giving specialized and financial help on account of the World Bank and help 600 million grown-ups to be incorporated into ventures and warning administrations on account of the Worldwide Financial Corporation. The most elevated effect of budgetary consideration projects will be made in rising nations with low financial proficiency. As maintainable improvement turned into the feature of these days motivation, financial inclusion might be seen as an essential instrument to advance supportable improvement in minimum created nations and creating ones. As financial consideration turned into an objective for controllers and worldwide advancement offices, numerous nations around the globe made responsibilities and a few were creating national systems to advance it. The improvement of financial incorporation may go up against numerous structures, so the field is available to money related and non-budgetary establishments, which can develop and investigate new types of monetary administrations, similar to the instance of microfinance that turned out to be extremely utilized as a part of numerous creating and created nations as an apparatus to lift individuals from neediness.*

**Keywords:** Financial inclusion; Sustainable development; Micro-finance; UFA 2020

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### INTRODUCTION

Financial Inclusion is a way towards giving access to monetary items to the whole population of a nation. A comprehensive financial framework permits an effective repartition of assets which prompts a diminishment of the cost of capital. Another impact of financial inclusion is the decrease in the informal credit suppliers like cash loan specialists. Thus the impact of financial inclusion can be an impetus towards budgetary framework productivity, guaranteeing a protected and secure approach to get to a palette of budgetary administrations.

En route the significance of financial inclusion turns out to be increasingly engaging for policymakers and progressed to a need strategy in numerous nations which look to ease destitution and motivate their economy to the following level of improvement in a economical way. The activities for financial inclusion have originated from budgetary controllers, the administrations and the finance industry (Sarma and Pais, 2010). Arrangement has been started by the administration in various nations like: US – Community Reinvest Act, France – Law of Exclusion, UK – Financial Inclusion Task Force; or by the managing an account division like: The German Bankers Association, The South African Banking Association what's more, The Reserve Bank of India; or the microfinance suppliers and self improvement gatherings with the part to give financial administrations to prohibited gatherings or remote parts of the nation.

### LITERATURE REVIEW

Reviewing the literature on financial inclusion we can observe that there is a typical ground between scientists as it is generally concurred that monetary incorporation advances financial development. The level of financial development that is accomplished through money related consideration varies from nation to nation and area to area. The part of money related consideration is to make an extension between untapped group of individuals

and banks. The most concerning issue of rising nations is to persuade the monetary framework performing artists to complete their part and advance the monetary consideration activities keeping in mind the end goal to grow their activities to the barred gatherings of individuals. In the past, the portion in monetary development in the industrialized world was credited to the state, also known as formative state (Marglin and Schor, 1990; Wade, 1990). The developing world of the past is cutting an edge to its genuine status under the indication of state mediation in fields like strategy and financial improvement and comprehensive reasonable development (Epstein and Grabel, 2007).

Among the principal that recognized the link between financial inclusion and poverty is decreasing. Likewise economies with strong financial structure saw a speedy poverty reduction (Deininger and Squire 1998; White and Anderson, 2001; Bourguignon, 2003)

Most recent reviews on financial inclusion revealed a major scope of purposes behind not utilizing money related instruments, yet three of them are basic to any study, for example, no money to save, account expenses and charges and trust in formal institutions (Chakravarty and Pal, 2010; Desmond and Sprenger, 2007; Demirgüç-Kunt and Klapper, 2012; Dobbie et al, 2009). As indicated by these investigations there are a great deal of variables that join to produce the choice of a person to hold or not an account offered by financial organization. These variables can be ordered in four categories: monetary, financial, infrastructure, inequality and social trust. There are two ways by which financial inclusion can be accomplished by supply-driven where financial advancement aims at development or demand following when development creates interest for financial related items. Whenever poor individuals have simple access to reasonable financial instruments, it leads to feasible development. Additionally by guaranteeing similar chances to get a practical financial framework to all and permits a snappier joining of socially excluded individuals to achieve financial combination. Another issue that is suffered by the financial inclusion is the expansion of the versatility before natural disaster events or economic stuns using financial instruments like insurance policies. The people and socio economic groups tend to respond to external shocks and in addition to their versatility.

### Promotion of Financial Inclusion through Initiatives by International Institutions

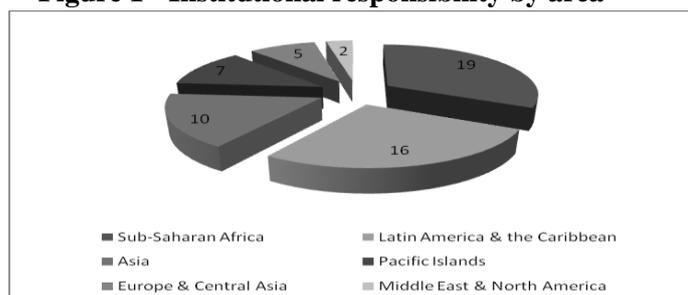
As just about 2 billion people are unbanked on this planet, the requirement for worldwide initiatives in the field of financial inclusion are required the most. Despite the fact that particular requirements for every region must be addressed, the lessons learnt in different parts of the world demonstrate time and cost reduction for the usage of appropriate financial projects and instruments with a specific end goal to accomplish a worldwide financial incorporation. There is a great need of associations that have the role to investigate and promote supportable improvement by diminishing poverty through financial incorporation. Two of the most vital of them are The Union for Financial Inclusion (AFI) and The World Bank

### Alliance for Financial Inclusion

The AFI is one of the world's most progressive associations with the part to promote sustainable policy and controls on the issue of financial inclusion. The association is made out of a system of individuals with the role to investigate and propose answers for making life simpler for poor people through methods which utilize financial instruments so as to produce a sustainable improvement through financial inclusion.

The AFI is made out of individuals, partners, commercialized banks and other financial regulatory establishments from developing nations. Their role is to contribute in the development of financial inclusion by advancing innovative financial inclusion approaches. The AFI incorporates individuals and members from more than 90 nations. The AFI depends on two key needs of nation driven methodologies and peer to peer engagement.

**Figure 1 - Institutional responsibility by area**



Source: AFI Maya Declaration 2016 Fact Sheet.

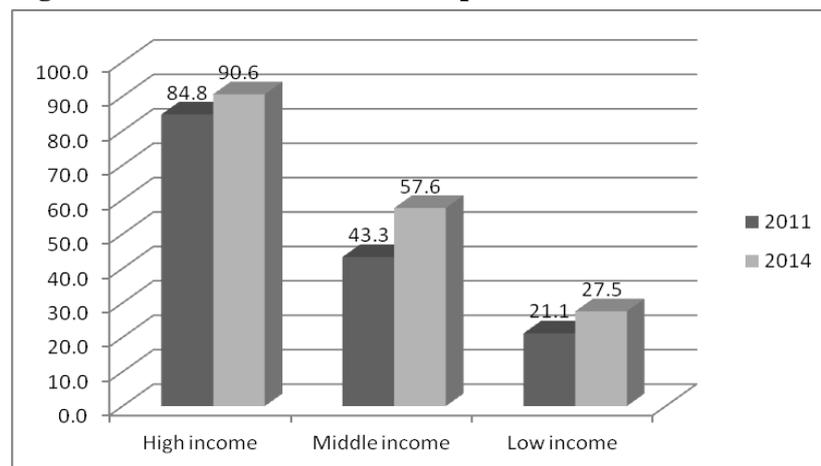
The fundamental instrument by which AFI is working towards achieving the financial inclusion is the Maya Declaration which was propelled in the year 2011 at the Global Policy Forum. The Maya Statement was the primary commitment platform with the role of enabling AFI individuals and members to set financial inclusion targets to create nation level policies. There are three center values in the focal point of Maya Declaration, that is, self-assurance, peer to-peer learning exchange and new type of collaboration among members.

About 59 Maya Affirmation Commitments have been made and at this point 32 AFI individuals set objectives for themselves and around 9 individuals effectively achieve them. The AFI Financial Inclusion Information Working Group is an arrangement of center indicators divided into three mainstays of financial inclusion: access, utilization and quality.

**World Bank**

The World Bank is a standout amongst the most imperative drivers of improvement around the globe on account of financial inclusion as it gives an arrangement of more than 100 indicators that takes into consideration a superior examination and assessment of the advancement of financial inclusion in the world gathered in The Global Financial Inclusion (Global Findex) database. This database enables interested individuals to look into themes like the way individuals save and attain cash, make installments and oversee risk. As the World Bank states, the estimation is the way to understand the scheme of financial inclusion. Likewise this offers the vital instruments to identify the opportunities and solve the issues that are enabling the individuals from financial administrations. As indicated by Global Findex since it began to gather information, in 2011 around 700 million people progressed toward becoming bank account holders. At a world level around 62% of grown-ups have an account in 2014, on a rising pattern from 51% out of 2011. This pattern has been seen in relatively every nation, except this changes the world over where the high wage OECD nations are on top with shares up to 94% of the grown-ups owning a record in 2014.

**Figure 2 - Share of individuals that possess a record matured 15+**



Source: World Bank Global Findex Database.

As shown in Figure 2, there is a rising pattern with respect to the quantity of represents each sort of salary division. The most elevated development can be seen in the case middle income countries with an expansion of 14.2 pp, trailed by the low income nations with 6.4 pp, and high income nations with 5.9 pp. This can be explained in the way that the greater part of the middle income nations are developing nations whose population investigate the utilization of financial instruments as the nation grows. The low income nations still need direction in the part and presence of financial inclusion items and how they can be of assistance their future sustainable development. With respect to the high income nations they nearly accomplish global financial inclusion and just a little portion of the population does not utilize financial instruments for various reasons, not necessarily financial driven.

**Financial Inclusion and Sustainable Development**

Since the scheme of financial inclusion is thought to be a part of social inclusion driver and social inclusion is a driver for sustainable development, thus we can presume that financial inclusion is a driver for sustainable development. The primary role of financial inclusion is to promote financial instruments to people who didn't know about their existence or didn't comprehend them or thought of them as excessively risky, making it impossible to utilize. The financial inclusion advances sustainable development through numerous channels like the utilization of microfinance to advance development for excluded group of individuals or remote groups;

giving training to a superior comprehension of financial instruments and proficient approaches to utilize them; financial training and so on. The instance of microfinance is a standout amongst the best approaches to advance financial inclusion and create a practical advancement in the particular group. There are numerous types of microfinance however the most critical are:

1. Affiliations models, made out of a gathering, in light of religious, social or political foundation that structures a relationship through which microfinance is started to make microenterprises;
2. Bank Guarantee models – an internal or external bank guarantee used to get to the credit;
3. Group banking models – more often accomplished with the assistance of NGOs, this model sees the group as whole and all formal or semi-formal organizations are utilized to enable access to microfinance;
4. Cooperative models – are made up of group of people with a similar social, cultural and financial needs who begin an undertaking with the end goal to finance the scheme of financial inclusion.
5. Grameen Model – one of the best models utilized by Grameen Bank proposed by Prof. Mohammed Yunus in Bangladesh comprises of setting up of a Bank unit with a field manger and banking specialists who covers a region of around 15-22 villages. The specialists go to the villages and disclose to the general population about the benefits of the products they have in their portfolio and how they work. At that point, a group of around five conceivable borrowers are arranged and just two of them end up qualified to get a loan. After that they are evaluate whether they are eligible to the standards of the bank. If principal individuals reimburse their loan along with the interest over a time period of fifty weeks the next individuals from the group can be qualified for a loan.
6. Pivoting Savings and Credit Associations (ROSCA) Model – is another commonly utilized model which is made up of group of individuals who makes a regular deposit to a reserve which is given to one member in each cycle. After he gets the entirety from the bunch he reimburses it with the normal commitments.
7. Small Business Model – as the small and medium undertakings (SMEs) is gaining more significance in the financial life by creating jobs, giving specialty benefits and expanding incomes, microcredit. This is a part of more extensive policies that give training, specialized advices and management information for a superior and supportable improvement of SMEs.

Microfinance demonstrated its productivity in low-income and middle income nations. It is particularly used to give financial instruments to poor individuals with a specific goal to lift them from poverty and give them the tool for sustainable development of their family, village, community and so on.

## CONCLUSION

The objective to eradicate poverty can be accomplished through numerous ways but, financial inclusion can be most efficient because it enables individuals with the instruments to self concentrate from poverty and not anticipating that someone else should take the necessary steps for them.

As a global concern about this topic is so all around to discuss and the patterns appear a positive development, we expect a great advancement on the indicators that measures the level of financial inclusion.

The global activities have the responsibility to investigate into the most effective approaches to advance financial inclusion and by working together in spreading the most productive models so as to accomplish financial inclusion through quickening up of the procedure.

Digital advancement of remote and poor areas will advance an increasing expectation to absorb information on financial instruments which in addition accelerate the procedure of financial inclusion.

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## Insight into Work Life Balance in Business Organizations for Sustainable Human Resource Management

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### **ABSTRACT**

*The expression "work-life balance" was first used in the United Kingdom in the late 1970s to describe the balance between an individual's work and personal life.<sup>[5]</sup> In the United States, this phrase was first used in 1986. This paper deliberates upon work life balance and its potential for creating a Cordial and friendly personality of the individuals which ensures that they imbibe values in their professional as well as personal lives. Employees learn different kinds of behavior not exclusively at the workplace, but also in personal & family life. It is proposed that sustainable human resource development can occur only when there is a reasonable work-life balance for individuals. This paper focus on the various changes taking place in the business world i.e. (trends) and how the employees achieve that ever-elusive goal of work life balance & how sustainable HRM is concerned with the HRM practices that lead to the financial growth of the organization. In any business and industrial activities, it is of utmost importance to have well trained, well-groomed and emotionally balanced workers available to take up employment challenges.*

**Keywords:** *Work Life Balance, Human Resource Sustainable Management, Emerging Trends*

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### **INTRODUCTION**

#### **Work life balance**

Work life balance encourages employees to divide their time on the basis on priorities and maintain a balance by devoting time to family, health, vacations etc along with making a career, business travel etc. It is an important concept in the world of business as it helps to motivate the employees and increases their loyalty towards the company. It involves balancing career demands with personal & family needs. As Alan Felstead and his colleagues note (Felstead *et al.*, 2002, p. 56), work-life balance can be defined as 'the relationship between the institutional and cultural times and spaces of work and non-work in societies where income is predominantly generated and distributed through labour markets'.

Some things people deal with on a daily basis:

- Getting ahead at work
- Spending quality time with peer groups, family, etc.
- Caring for elderly parents
- Doing chores at home
- Taking care of children commuting to & from work

#### **Theoretical approaches to work life balance**

Most recent views about work life balance can be classified as

- Overall appraisal approach: It refers to an individual's general assessment concerning the entirety of his or her life situation. Work life balance is assessed with general questions (e.g., "All in all. How successful do you feel in balancing your work and personal/family life"?)
- Components approach: It emphasizes balance as a direct formative latent construct which means work life balance consists of multiple facets that precede balance and give meaning to it. The advantage of this approach is that one can use conceptually based measures of work balance that can tap into different aspects of work life balance.

### **Importance of work life balance**

- Lesser health problems: Study conducted by UCL of more than 10,000 participants stated that white-collar workers who worked three or more hours longer than required had a 60% higher risk of heart-related problems than those who didn't work overtime.(source: OE WEDGWOOD JANUARY 19, 2018 BEST PRACTICE).
- More engagement of employees: By helping people to find the perfect balance between work and home, there is a need to increase their engagement levels. This has many positive effects: According to Tower Perrin's 2006 global survey; "Companies with highly-engaged employees had a near 52% gap in performance improvement in operating income." Additionally – "Companies with high levels of employee engagement improved 19.2% in operating income while companies with low levels of employee engagement declined 32.7%."
- Less burnouts: Due to work pressure we all get stressed so it is important to manage the work accordingly and the organizations should give them off from time to time and should encourage them to leave work at work place only.

### Human resource sustainable management

Increasing popularity of sustainable human resource management (HRM) among academics, practitioners and researchers is because of its positive consequences not only for the organizations but also for the society, economy, and environment. It makes the internal HR systems last long so that the HR managers can provide a better balance between work and personal/family life.

### **OBJECTIVES**

- To find out the emerging trends taking place in business world keeping the view of work life balance
- To understand the practices used by employees to achieve work life balance

### **RESEARCH METHODOLOGY**

The paper is based on secondary data and the data is collected from journals, e- books, articles, internet and government of India and other recognized national & international association/institutions/organizations/official website. The data available on these websites are regularly updated and the website is directly under the control of recognized authorities.

### **Work-Life Policies as Strategic Human Resource Management Decisions**

There are some motives for applying work-life practices by organizations: to increase participation of female personnel and make use of their capacities, to keep employee motivated and well performing, to make the organization more attractive to employees, to have a better corporate social responsibility. During the last decades there have been dramatic changes in the field of Human Resource Management. The focus has been broadened from the micro level to more macro- or strategic perspective, known as strategic human resource 206 European Research Studies Volume XIII, Issue (1), 2010 management. The basic promise of this perspective is that organizations that achieve congruence between their human resource practices and their strategies should enjoy superior performance. The strategic human resource management perspective emphasizes that a workforce strategy should fit an organization's business goals, culture and environmental circumstances and that human resource management practices should be interrelated and internally consistent.

### **What's the Issue?**

As it might be difficult to judge the employee's problem relating to poor work life balance but the business organization needs to find out the major issues or hindrances which makes them feel stressed. Some of the issues or problems are as follows:

- Decrease in productivity
- Employees doing a lot of overtime
- Employees taking a lot of time off to deal with 'emergencies' involving children or other dependants
- High levels of employee stress
- High rates of absenteeism or staff sickness
- High levels of staff turnover
- Poor working conditions
- Dissatisfaction due to lower wages or salaries

### **Emerging trends to deal with challenging work life balance of employees in business organization:**

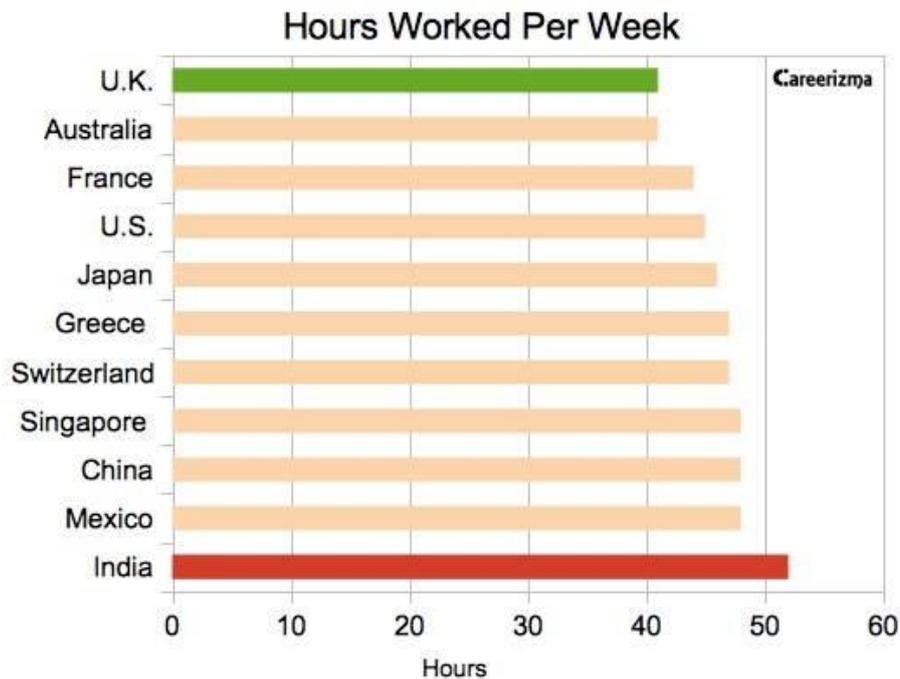
In a recent study by Workplace Trends, 75 percent of employees listed work-life balance as their top priority. In the war for talent, many companies are using it as sword to recruit skilled employees.

- **Flexible work arrangements:** Flexi time is an arrangement where employees work a full day but they can vary their working hours. These arrangements are usually established with specific guidelines so that a —corell working day exists. Eg-7.00 a.m-3. 30p.m Monday-Friday (half hour lunch) 9.00 a.m-6. 00p.m Monday-Friday (one-hour lunch)
- **Compressed Work Week:** This option allows employees to work a 40-hours week in less than the traditional 8-hour day, 5-day work week. For e.g.- An employee works four 10-hours/day 8.1.
- **Job Sharing:** Job sharing is a work arrangement in which two people work part time and share the responsibilities of one full time job. For e.g.-Half or spilt days, e.g.-one employee works in the morning and the other employee in the afternoon. Half or spilt weeks.
- **Telecommuting:** It is a work arrangement in which an employee carries out all or some of the duties of the job at home or another alternate work location. For e.g. an employee works in the office Monday-Thursday and telecommutes from a home office on Friday. An employee works in the office 6.30a.m.to12.30p.m.and telecommutes from a home office for two hours each afternoon.
- **Reduced time/Part time:** A part time working arrangement means working fewer than 40 hours per week. Salary is calculated for the actual number of hours worked. Eligibility for benefits, vacation and sick leave may be affected. For e.g. - An employee on a 50%-time appointment works Monday-Friday from 8.00 am – 12 pm.
- **Work-from home option:** Some companies now days are offering this option for their employees. They are assigned specific work-at-home days of the week. From 360 days they can opt to work from home for 240 days. So, in this way the person can able to maintain a work life balance.
- **Empathy:** It means the ability to understand and share the feelings of another. Now a day's employers are boosting their employees to travel to new places to experience other cultures and perspectives, to learn new skills, to have deep conversations, to read new books that explore emotions & relationship, to examine the personal biasness.

### **Recent Studies & Surveys on work life balance**

Leaders of prominent companies are setting examples by prioritizing themselves, their families and their health over spending long hours in the office.

- Recently, after the birth of his second daughter in August, **Facebook co-founder and CEO Mark Zuckerberg** revealed that he would be taking advantage of the company's generous paternity leave policy by checking out of the office for two months.
- YouTube **CEO Susan Wojcicki** makes sure that she gets home by 6 p.m. every night to have dinner with her five children.
- A solid work life balance means having a meaningful participation in all the aspects of a wholesome life – family, work, friends and yourself. According to a study on millennials everywhere, ManPower Groups has gathered data showing the number of hours worked by country. The report says **Indian millennials put** in the longest number of working hours per week. 52 hours to be exact. Compare that to China's 48, USA's 45 and UK's 41 hours.



Source: Manpower Group

With an average of over 10 hrs.' at work and sometimes a six-day work week, there can be very little time left to stop and relax. Fierce competition, and the fear of losing your job, can make the chance, at having home and job satisfaction, thinner than your desired waistline. Add to this the grim situation of a boss from hell, with managerial qualities learned from a guy named *Lucifer*, with two horns.

It isn't uncommon to hear employees speaking fondly of their *untaken* leaves, with a forlorn look of vacations never taken and trips never had.

- **72% women in India expect better work-life balance compared to 53% in Asia Pacific: Survey**

Women are more realistic about their promotion, as they are able to communicate their challenges better. While searching for a new job, salary is not as important for women as it is for men. They prefer matching their life priorities with their career," said Sebastien Hampart zoumian, Senior Managing Director, Michael page India in a statement.

- **A Survey done on April 9 ,2017, in Mumbai:** 62% of Indian employees are satisfied with their working conditions

The survey done by global specialist reveals that the aspirations to acquire new skills and better work life balance are the driving force for satisfaction.

The Job Confidence Index Q1 2017 analyzed the responses of 650 employees in India and 4,700 across the Asia-Pacific region and found that only 39 % of the employees are seeking for better work life balance.

According to the study, a sizeable number of employees in India (53 per cent) have responded that they consider the state of the current national economy as "good to excellent" as opposed to only 33 per cent of employees in the Asia-Pacific region.

The findings further show that 62 per cent of Indian employees are "satisfied or very satisfied" with their working conditions as compared to 53 per cent of employees in the Asia-Pacific.

In a city by city comparison, job satisfaction levels of employees in Delhi, Bengaluru and Chennai saw a downfall whereas Mumbai was in line with the survey findings in the previous quarter.

### Companies promoting work life balance

Companies are fast picking up on this trend and attempting to provide for the series of benefits that guarantee a culture that promotes a great work-life balance.

**A recent study by Fidelity Investments** has found that a large quotient of millennials would take an average pay-cut of \$7,600, it meant that if they could improve their career development, help them find more purposeful work, better work-life balance, or a better company culture. At the same time, it also says that when asked how

they would evaluate a job offer, 58 percent of millennials ranked the quality of the work environment they would be joining over the financial benefits being received from the same.

- **Wegmans:-** A leading American supermarket chain, Wegmans is a great champion for providing a series of benefits to its employees, in order for them to achieve a greater work-life balance. This includes yoga programs to encourage fitness and mental health, subsidized weight watchers at meetings, and discounts for employee on fitness programs. By doing so, the company strives to ensure its employees' health—both physical and mental— which works in the favour of both the employers & employees involved.

"We understand the relationship between work experiences and physical and mental health. Work-life balance is a key differentiator why people choose to work and stay at Wegmans," says a spokeswoman for the company.

- **Nike:-** For NIKE, the benefits that employees receive from the company are based on their position, experience, and location. However, most of the common benefits that they owe include paid sabbaticals, assistance with tuition fees, and discounts on fitness programs. According to employee reviews on Glassdoor, the company provides for a 'fantastic work-life balance'.
- **Cisco:-** Cisco encourages the use of social-networking software, which allows its employees to work from home or other remote spaces, including rooms offered by the plethora of collaborative spaces present across the country. At the same time, the company also offers its employees a 'Fun Fund', which they can spend on celebrations and other enjoyable activities, at their own leisure.
- **American Express:-** Despite working at a company as popular and busy as American Express, its employees enjoy a series of benefits such as flexible hours, the option to work remotely, and create their own schedules—all helping them execute a greater work-life balance. Working through and around their own schedules gives a sense of creative freedom, inspiration, and renewed dedication within the employees of the company.
- **Starbucks:-** Starbucks is one of the greatest promoter of its employees having a great work-life balance. This is probably why so many of its staff are students who are yet to graduate, alongside making good money, also have time enough to keep up with their studies and other academic responsibilities. The company also offers a 'Starbucks College Achievement Plan', where employees who work more than 20 hours a week are given the opportunity to complete a bachelor's degree with full tuition coverage for every year of the college course, through Arizona State University.
- **H&R Blocks:-** The famous American tax preparation company offers flexible hours to both its full-time and part-time employees. In fact, the company hires more than 70,000 part-time associates during tight schedules of the year, and due to the flexibility of their schedules, they return and choose to work with H&R Block, according to spokesman Gene King. Other than a series of other health and welfare benefits, the company provides its workers with tax preparation services, legal services, and tuition assistance.

## CONCLUSION

Achieving the balance between work and personal/family life is becoming increasingly difficult due to the pressure the current scenario has placed on individuals. This paper attempts to focus on what work-life balance is and what emerging trends taking place in maintaining the better balance between work and personal/family life. The paper makes recommendations for human resource professionals in implementing successful work life balance policies on their organizations to gain a competitive advantage in the market place. There is a need to make more conducive environment in the organizations so that the employees feel less stressed and are able to make out a balance between their work life and personal life. Many of the company's have arranged for the recreational programmes for their employees as discussed earlier. Even surveys, studies have shown that there is a great need for the better work life balance and moreover the percentage of improving work life balance has been improving year by year too. So, it is very important for an individual to be stress free so that he can enjoy his/her work at office and also could be able to spend quality time with his /her family.

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## Raising Peoples Voice: An Insight

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### **ABSTRACT**

*From the ancient time we had system of public hearings where there were "Panchs & Sarpanchs" who used to conduct the public meetings to discuss problems of their village. This was the earliest system of settling the disputes through public hearing but with the colonial system we lost our local governance mechanism and started their own governance systems. Now again we are moving towards grassroot level of governance. Social audit is an approach towards that only. "Social Audit is a process in which, details of the resource, both financial and nonfinancial, used by public agencies for development initiatives are shared with the people, often through a public platform. Social Audits allow people to enforce accountability and transparency, providing the ultimate users an opportunity to scrutinize development initiatives." The paper consider social audit as insufficiently developed field in our country. The research methodology is a qualitative one. The objective of the paper consists theoretical development of social audit concept and problems faced by the social auditor through the case of past experiences of India.*

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### **INTRODUCTION**

Government implement many policies for the welfare of the general public but how these policies are implemented? Who are accountable for their non implementation? how much benefit do they provide to common man? In every budget including Union and State budget more than 50% of the fund is invested in welfare schemes, but how much money actually reaches to the end recipient. Funds are allocated by government but it doesn't reach the common man who is entitled for that fund. In india we have RTI (Right to information) law which was enacted in june 2015. RTI enable us to have information access. Under the provisions of the Act, any citizen of India may request information from a "public authority" which is required to reply expeditiously or within thirty days. Social audit is an extension of this. In simple words mathematics terms RTI plus public hearing is equal to social audit. Social audits serve as a better monitoring tool for these schemes.

### **Meaning**

"Social Audit is a process in which, details of the resource, both financial and nonfinancial, used by public agencies for development initiatives are shared with the people, often through a public platform. Social Audits allow people to enforce accountability and transparency, providing the ultimate users an opportunity to scrutinize development initiatives." Broadly, the process of Social Auditing involves three steps starting from availability of information, then organising people in groups, at last screening of information by end users. This information includes both financial and non financial information. Social audit is also similar to financial audit only the focus of the two is different. Just as a financial audit verifies is how money was spent, a social audit verifies how programs and services were carried out. Purpose of social audit is to make the implementation of policies more effective and more reflective about the social n environmental scenario. 'Social' term in "Social Audit" itself make the point that they were concerned with the 'social' and not the 'economic' impact of a policy.

### **Origin of social audit**

"The word 'audit' is derived from Latin, which means 'to hear'. In ancient times, emperors used to recruit persons designated as auditors to get feedback about the activities undertaken by the kings in their kingdoms. These auditors used to go to public places to listen to citizens' opinions on various matters, like behaviour of employees, incidence of tax, image of local officials etc." "Charles Medawar pioneered the concept of Social Audit in 1972 with the application of the idea in medicine policy, drug safety issues and on matters of corporate, governmental and professional accountability. According to Medawar, the concept of Social Audit

starts with the principle that in a democracy the decision makers should account for the use of their powers, which should be used as far as possible with the consent and understanding of all concerned.”

### **Origin of social audit in India**

Due to resistance and illiteracy it took a long time to establish the roots of social audit in India. It is a contribution of many events taken together. Sardar Sarovar Project where Massive displacement took place due to construction of a large dam and entry for journalist was prohibited in that area. It raised the question regarding the kind of development we are moving towards and what is the cost for such projects.

The Bhopal gas tragedy was another such case which focus on mandatory provisions for all type of organisation to give information on issues affecting the health and environment. “Bhopalgastragedy was a gas leak incident on the night of 2 December 1984 at the Union Carbide India Limited pesticideplant in Bhopal, Madhya Pradesh. It was considered as of 2010 to be the world's worst industrial disaster.” Thousands of people lost their lives and many became handicapped for at least the next three generations. Government allocated funds which are not reaching in right hands. Government on their part has refused to make the information available to public regarding the monetary settlement between government and the union carbide limited. Tata Iron and Steel Company (TISCO), Jamshedpur, was the first company in India which organised implemented Social Audit in 1979 and is the first company in India to perform social audit. Social Audit gained significance after the 73rd Amendment of the Constitution relating to Panchayat Raj institutions.

“Social Audits are mandatory as per the 73rd Constitutional Amendment in 1993, through which the Village communities are empowered to conduct social audit of all development work in their respective villages and the concerned authorities are duty bound to facilitate them.”

### **LITERATURE REVIEW**

“An activity such as this social audit was unimaginable in the past, but now villagers demand answers from the responsible authorities on how the money earmarked for development projects for them has been spent. It is, however, also evident that despite laws on paper and support from the top government authorities, many officials at the district and block levels continue to obstruct transparency at the grassroots level in order to further their self-interests.” “The state government’s support in organizing the jansunvais demonstrates its interest in bringing more transparency and accountability to the administrative system. This is a positive sign for the future. There are indications that social activists in other Indian states, such as Maharashtra, are also demanding implementation of the Right to Information. Such efforts at the state level are also strengthening the demand for the implementation of the Right to Information Act at the federal level.” Some of the reports are focusing that initiating a law is not sufficient there are other things to be taken care of “The ministry should not just fund the setting up of a directorate of social audit, but ensure that the directorate is independent and able to carry out its task in the manner that Andhra has done,” said Aruna Roy, member of the central employment guarantee council in her recommendation to the ministry.

### **Past experiences of India**

“Social Audit was brought into Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) through Mahatma Gandhi National Rural Employment Guarantee Audit of Schemes Rules, 2011 notified by Government of India. State Governments are required to establish an independent organisation, Social Audit Unit (SAU), under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) to facilitate conduct of Social Audit by Gram Sabhas.” It focus on three pillars Information, participation and accountability. Audit unit set up is responsible for conducting social audit, prepare social audit reporting formats, create awareness amongst the labourers about their rights and entitlements under MGNREGA and facilitate verification of records by primary stakeholders. Despite the mandatory provision, Andhra Pradesh (AP) is the only state government that has conducted social audits regularly and at scale. Since 2006, the state has conducted over six rounds of audits in 21,000 *gram* panchayats (village councils). An independent Social Audit Unit "M.P. State SamajikSamparikshaSamiti" (MPSSSS) has been also been established in January 2013 under M.P. State Society Registration Act 1973. In Telangana social audit took place physically digitally monitored scheme MGNREGA is physically audited through a system of Social Audit and the images of worksites were captured and uploaded online.

### **Case of Rajasthan**

Mazdoor Kisan Shakti Sangathan is one of the organisations working for poor people’s right. The organisation is formed of farmers working at small scale and landless labourers. The organization has been involved in initiatives to ensure transparency and accountability at grassroot level, such as ensuring the payment of

government-approved wages for workers. It has involved people at the community and village levels, and also conducted jansunvais, which it has been organizing since a long time in Rajasthan. Organising such events is an attempt on part of state government to bring more transparency and accountability to its administration system. There were indicators that show other Indian states are also started demanding implementation of the Right to Information. Such efforts at the state level are also strengthening the demand for the implementation of the Right to Information Act at the federal level. This is a positive sign for growth and better future. In December 1994, MKSS organized the first jansunvai. Under this process it demanded copies of the financial records as evidences regarding the expenditures incurred by the local government. People gave individual and collective reports on the work done by their officials. This social auditing carried out by the team of rural people. This was the first time when local people got a chance to held the government accountable and demand transparency. The chief minister of Rajasthan passed into law the "Right to Information" in the State Assembly during 1995. According to this Right to Information, on payment of a prescribed processing fee, citizens could demand and receive details of expenditures on the work done in the last five years in their villages, and all the documents could be photocopied for possible use as evidence in the future. However, after the law was passed it was not implemented MKSS went on an indefinite strike in the town of Beawar in April 1996, demanding implementation of the Right to Information. As a result, the panchayats issued an order for implementation, but without mentioning the right to photocopy documents. Public was allowed to see the documents and copy the details by hand. Because of Rajasthan has low literacy level in the state it was difficult for villagers to read and copy the document. MKSS continued strike remains continued and finally, panchayat rules were amended in 1997, and the government implemented the Right to Information with the provision to photocopy documents.

### Problems faced during social audits

The objective of Social Audit of Schemes was not fulfilled mainly due to severe human resources shortage at State level and field level. There was shortfall of 98 per cent in conducting social audits with reference to prescribed frequency of social audits during 2012-13 to 2014-15 The objectives of social audit were to maintain the records properly Which was not fully satisfied. As per Rule 61 of ZP (Accounts) Rules, 1999, physical verification of all the items of stores/dead stock would be carried out on a periodic basis and at least twice in a year by the General Administration Committee. This verification was not carried out and reported in records.

Lack of awareness and knowledge about the scheme also create hindrance in applying the concept. To have access of records and understand them they need to be literate and aware about them.

### CONCLUSION

On a regular basis we read news about some or other scam that funds were not used the way it should be. This is the first time ordinary rural people got a chance to stand united and confident against corrupt authorities and speak out fearlessly about their experiences of extensive corruption in the machinery of government, and public officials were invited to defend themselves. The people gained an unusual level of access to information. For example they can have access to names of workers on the salary rolls, the amounts of money stated to have been paid to them as wages, and details of various materials claimed to have been used in construction became available. But there is always problems in implementation we can see Innumerable cases of false practices by local officials and elected representatives which came to light through the social audit practices, for example less wages were paid in real than shown in records. Social auditing has lead to improvement in social services and ensure fundamental rights are respected and adhered.

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# Green Human Resource Management: Policies and Practices

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## **ABSTRACT**

India is well thought-out as the world's biggest booming economies. Modernization has led to the development in the lifestyle and the basic needs are no more just food, cloth and shelter. It had also led to the degradation of environment and the environmental conditions, the flora and fauna in different ecosystems, extinction of the rare species of animals, plants and birds and the depletion of natural resources. So this is a time People need to use Green practices to save the environment and most important resource of the planet i.e. Human. Today, Green Human Resource Management (GHRM) has become a key business strategy for the significant organizations where Human Resource Departments play an active part in going green at the office. The paper focuses upon the GHRM, various Green Human Resource Practices and explains the role of green human resource process in going green.

**Keywords:** Green HRM, Green HRM practices, Green environment.

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## **INTRODUCTION**

### **Green**

The Green has different meanings for a different person, but for an environmentalist or nature - lover "green" as an area or land that surrounded with grass, herbs, plants, trees, fresh air and natural resources but somehow, it means something relevant to nature or natural environment. There is a growing awareness within organizations of the significance of "green" issues. A Green Workplace is environmentally sensitive, resource efficient and socially responsible (Sathyapriya et al., 2014). In order to achieve environmental sustainability goals, most firms can use suitable human resources management (HRM) practices to stimulate their employees (Paille et al., 2013).

### **Go Green**

Going green means Conservation of earth natural resources as well as supporting the "Preservation of your personal resources" i.e. your family, Friends, lifestyle, communities. So that we called Green HRM is the Conservation of Human resource their work life and Family life. It means implementing determined lifestyle changes that will help individual to live in an eco-friendly way. For this every individual should be a more aware about the environment and changing their behavior, attitude and lifestyle to minimize the practices or activities that cause the degradation of the environment. Any action that you take by keeping the sustainability of the resources it contributes a positive impact on the environment. Every small change by every individual in their lifestyle makes a Green work-life and green environment for us and for future generations.

### **Green HRM**

Green HRM incorporate environment-friendly HR commencement and practices for sustainable use of resources that resulting in more efficiencies, Less wastage, Improved Job Related Attitude, Improved Work/Private life, lower costs, Improved employee performance and retention which help organization to reduce employee carbon footprints by the mean of Green HRM practices i.e. Flexible work scheduled, electronic filing, car-sharing, job-sharing, teleconferencing, virtual interviews, recycling, telecommuting, online training, energy efficient office space etc (Margaretha and Saragih, 2013). Marhatta and Adhikari (2013) and Zoogah, (2011) refer its use of HRM policies and Practices for sustainable use of resources within business organizations and generally promotes the cause of environmentalism. Opatha and Arulrajah (2014) refers that Green HRM is the use of policies, practices, and systems in the organization that make green employees for the benefit of the individual, team, society, natural environment, and the organization. Different researchers describe Green HRM in different ways, but somehow their intentions are same for sustainability of Human resources and their environment.

The HR function has been renowned as the motorist of organizations green culture by place or arrange its practices and policies with the goal of sustainability (Mandip, 2012; Cherian and Jacob, 2012). Callenbach et al. (1993) has Intricate that in order to switch green management, employees must be arising from some external creative impulse, give the authority or power to do something. Literature surveys have underlined the relationship of HR practices and organizational consequences such as productivity, flexibility and financial performance (e.g. Ichniowski et al., 1997; Mendelson and Pillai, 1999; Collins and Clark, 2003), Yet Laursen and Foss (2003) have disclosed that not much special importance or prominence has been given on relating these outcomes to revolution performance and environmental management initiatives (Renwick et al., 2008). Fayyazia et al. (2015) said that there is a requirement for the amalgamation of environmental management in Human Resource Management (HRM) because it is essentially or very important rather than just desirable. Successful environmental management in an organization needs special efforts of human resource management (Rothenberg, 2003). Similarly Jabbour and Santos (2008) also stated that effective environmental performance results need human resource practices that support the whole execution and preservation of environmental management systems in the organisations.

### **Green Practices**

Renwick, Redman, and Maguire's (2008) introduce a comprehensive compartmentalization of Green HRM practices that can be clearly understood, starting at the point of an employee's organizational entry and proceed until the point of the employee's exit. To be ecological, economical and practical at the same time is possible through by adopting Green Practices. Here are some environmentally-friendly solutions to stay Green.

1. Green Printing
2. Green Manufacturing and Disposal of Staff ID card
3. Job sharing (sharing a full-time job between two employees)
4. Teleconferencing and virtual interviews
5. Recycling
6. Telecommuting
7. Online Training
8. Reduce employee carbon footprints by the likes of electronic filling, Green HR involves reducing carbon footprint via less printing of paper, video conferencing and interviews etc.
9. Energy efficient office spaces
10. Green Payroll
11. Car Pooling
12. Public Transport
13. Company Transport
14. Flexi-Work
15. e-filing

## **RESEARCH METHODOLOGY**

### **OBJECTIVES**

The main purpose of this study is to:

- Provide with a basic understanding of green HRM to the readers,
- Highlight different significant works on green HRM by other workers, and
- Elaborate on various green practices that can be incorporated for building a Green workplace.
- Attempts to suggest some green initiatives for HR.

### **METHODOLOGY**

The study is primarily based upon the secondary data. For this extant literature related to the topic from different databases, websites and other available sources were collected. A systematic review of collected literature was done in detail.

## **DISCUSSION AND ANALYSIS**

**Recruitment (entry);** Induction for new recruits is seen to be needed to ensure they understand and approach their corporate environmental culture in a serious way (Wehrmeyer, 1996). Therefore sustainable development issues must be integrated into the recruitment process. In the U.K., environmental issues have an impact on recruitment, as survey data show that high achieving graduates judge the environmental performance and reputation of a company as a criterion for decision making when applying for jobs (Wehrmeyer, 1996 as cited in Renwick, et al., 2008). The latest CIPD/KPMG survey of 1000 respondents states that 47% of HR professionals feel that employees would prefer working for firms that have a strong green approach and 46% stating that having one would help attract potential recruits (Phillips, 2007).

### **Green performance management**

Performance management is an ongoing process of communication between supervisor and an employee that occur throughout the year, in support of accomplishing the strategic objectives of the organization. Green performance management includes the issues related to policies of the organization and environmental responsibilities. Integration of environmental management into performance management system improve the quality and value of environmental performances (e.g. Jackson et al., 2012; Renwick et al., 2013). It act as safeguard to protect environmental management against any damage (Epstein and Roy, 1997). Green performance management plays very important role in the effectiveness of green management work over passage of time because they guide employee performance to the environmental performances need by the organization (Jabbour and Santos, 2008). Mandip (2012) identified in their study that effective way of successful implementation of Green performance management is the linkage between performance management and green job description.

### **Training and Development**

Employee training and development programs should include social and environmental issues at all levels, from technical health and safety considerations on the shop floor, to strategic sustainability issues at executive management and board level (Mandip, 2012). Green orientation programs for the newly higher employees should be an integral part of the training and development process. Examples of company environmental training in Britain include those at Carson Office Furniture Systems, Ready-Mixed Concrete, RollsRoyce, Albion Group, and Bristol-Myers Squibb, who include induction training for new staff, awareness training for more experienced employees, and training on specific green topics for staff specifically associated with environmental operations and co-ordination (Bird, 1996). At Adam Opel AG in Germany, environmental issues are integrated within the training programs given with all new projects and processes (North and Daig, 1996). Training by U.S. organizations in environmental management often involves regulatory requirements, employee awareness, and training on environmental quality management (Milliman and Clair, 1996, Weise, 1992). Results from the Green teams program at KCC have seen only in 500 staff being trained effectively, green teams viewing other staff abdicating their responsibilities, some staff giving a token response or rejecting such environmental issues aggressively (perhaps because Green options were not well defined and difficult to quantify), and this initiative being difficult to maintain in the face of other managerial priorities. However, the Green teams at KCC have scored some successes, like establishing environmental management on departmental agendas, plans, and projects and seen KCC embrace a green agenda, i.e. towards culture change, and is achieving cost savings, helping departments gain access to corporate funds, and to implement programs in environmental management too (Beard and Rees, 2000).

### **Green Compensation**

Rewards and compensation are the major HRM processes through which employees are rewarded for their performance. These HR practices are the most powerful method which links together an individual's interest to that of the organization's. We also assert that incentives and rewards can influence employees' attention to the maximum at work and motivate them to exert maximum effort on their part to achieve organizational goals.

In the context of Green HRM, rewards and compensation can be assumed as potential tools for supporting environmental activities in organizations. In accordance to a strategic approach for reward and management, modern organizations are developing reward systems to encourage eco-friendly initiatives embarked upon by their employees. The statement is supported by a survey conducted in the UK by CIPD/KPMG that estimated that 8% of UK firms were rewarding green behaviors with various types of awards and/or financial incentives (Phillips, 2007, p. 9), and these practices can be effective in motivating employees to generate eco-initiatives (Ramus, 2002). In a similar study by Forman and Jorgensen (2001) on the importance of employee participation in environmental programs, it was observed that employee commitment to environment management programs

was increased when they were offered compensation to take up duties in relation to environmental responsibility. The efficacy of green rewards and compensation was best observed in a study conducted by Berrone and Gomez-Mejia (2009) on 469 US firms operating in high-polluting industries. They found that the firms having eco-friendly performance paid their CEOs more than non-eco-friendly firms. They also concluded that long-term company results in accordance to pay were associated with greater pollution prevention success.

Exit means voluntarily or involuntarily leaving the organization. As the last task of the green HRM process, the HR manager will carry out exit interview to those who are leaving. The results of the exit interview, if the exit is environmental related, need to be improved. Moreover, arrangement of outplacement counseling shall be made to those who are fired for their bad environmental performance. The goal of outplacement counseling, in this context, is to provide the leaving employees the knowledge base particularly about the environment so that they might be able to find a job elsewhere. In terms of staff exits, where accounting and other works to achieve short-term results and enrich themselves (Benz & Frey, 2007; Denis, Hanouna, & Sarin, 2006). Though compensation and rewards increase green initiatives in organizations, it can never be completely free from some malpractices. Developing effective monetary incentives can be challenging due to the difficulty of accurately and fairly evaluating environmental behaviors and performance (Fernández, Junquera, & Ordiz, 2003). Hence, we agree with Gupta (2008) that companies need to design energy-efficient products and processes, and devise incentives to accelerate their acceptance (p. 4). It is suggested that if green rewards and compensation system are aligned to the process of HRM, then a green culture in organizations can be encouraged. By incorporating elements of green management in the compensation program, managers can promote the green behaviors among the employees. Further, managers can ask employees to bring specific green ideas pertaining to their individual jobs which can be through mutual decisions included into the objectives to attain in for the upcoming year. Attaining these objectives would be the basis of receiving incentives. displayed Environmental sustainable development policy, key objectives and environmental practice boards at all sites. They encourage employees to come up with new ideas that reduce the

### **Employee participation in green HR practices**

Every company is a mixture of employees with different characteristics, interests, Perspectives and due to this they follow the different practices in their everyday life, which have different effects on the environment (Reusswig, 1994; Soderholm, 2010). Some followed the practices that cause the degradation of environment and some followed the environmentally friendly practices in both the life sphere. It is to be recognized that employees who are energetic, vigorously involved in environmental management fundamental may play a crucial role in arriving at more desirable or effective environmental strategies to be implemented. Employees may feel the authority or power to adopt specific environmental management fundamental as a resulted of promoting human resource policies which present more desirable or satisfactory opportunities for enhancement related to depletion of waste (Cherian and Jacob, 2012). Employee participation in Green initiatives strengthens the possibility of effective green management. Employee participation in Green HRM practices has result a improving Environmental management systems within the work place such as effective and efficient usage of resource (Florida and Davison, 2001); depletion of wastage (May and Flannery, 1995) and minimize the presence of pollutants which has harmful or poisonous effects from workplaces (Kitazawa and Sarkis, 2000) without the effective participation of employee the policies and practice are not implemented successfully, so employee participation is very necessary to every organization for effective implementation policies and practice, for this employee new innovative green idea, Green awareness steps, eco-friendly ideas should be welcomed that will inspire their interest in environmental issues and make best use of their practices and it will encourage or increase willingness of employees and their families to take participation and involvement in local environmental project (Wehrmeyer, 1996). This means the green outcomes done successfully with effort, skill, or courage and its procurement will largely depend on employees" willingness to collaborate (Collier and Esteban, 2007). Employee participation is crucially influenced by identifying value, awareness and actual reap recognized by the consumers (Sandra Rothenberg, 2003; T. Ramayah Elham Rahbar, 2013). Forman, M and Jørgensen, MS, (2001) deals with framing the participation of employees in environmental work within the organization. The cases contribute to the recognition of those situations during the shaping of environmental work in an organization where alternative concerning employee participation are made:

- (1) The requirement of management to take individual in the environmental work;
- (2) The proficiency building among individual and
- (3) The stabilization of the environmental work into practice and structures.

## **CONCLUSION**

The aim of this paper is to provide a knowledge how Green HRM can help or affects the employee and their organization practices and behavior against environment. Employees learn so many things either from work life and private life and due to these learning individual behavior varies toward environment. This is only possible by the effective implementation of green HRM within the organization. It makes intuitive sense that offering Green HRM practices would attract individuals to an organization and by implementing these practices would result in improving employee attitudes and behaviors within the organization. Future research needs to provide empirical evidence while the Green HRM deliver the positive outcomes. Human resource play very important role in managing employee from entry to exit. Now the corporate are focusing on greening the business, so the Human resource department have the additional responsibility of go green along with HR policies. The green human resource management has the responsibility to create green awareness among the new talent and the existing employee working for the organization, encourage their employees for helping the organization to reduce the causes of environmental degradation through green movement, green programs and practices, retain the resources for future generation. Green HRM can develop willingness, inspiration and commitment to employees to contribute their efforts, ideas to the greening of their organization. The green HRM efforts results in increased efficiencies, sustainable use of resources, Less wastage, Improved Job Related Attitude, Improved Work/Private life, lower costs, Improved employee performance and retention which help organization to reduce employee carbon footprints by the mean of Green HRM.

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## A Case Study on Application of Artificial Intelligence in Food Technology for a Sustainable future

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### **ABSTRACT**

*This research paper is based on comparative study of how artificial intelligence technology helps the global food insecurity problem by using groundbreaking method that can recreate animal-based foods and various ingredients using nothing other than plant products, how Artificial intelligence helps to understand food at a structural level using machine learning. With the help of machine-learning and new technology, the future looks hopeful to deal with world hunger problem. Artificial Intelligence is creating sustainable methods of food production that are both healthy and affordable.*

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### **INTRODUCTION**

According to latest reports the estimated 9 billion people will exist by 2050, we will have to nearly double the current output of food, feed and fiber. A Chilean start-up is tackling the global food insecurity problem by using groundbreaking artificial intelligence technology that can recreate animal-based foods and various ingredients using nothing other than plant products. Giuseppe, as the computer software is known, combines science and technology to produce plant-based versions of traditional foods that try to remain as closely linked to people's eating habits as possible. It is made possible by using neuroscience and artificial intelligence together. Scientist started with one profound question that what makes meat, meat..? How do you get and associate it with actually eating meat, even though it hasn't come from an animal. Basically, making a vegetarian patty that you can eat and experience as eating a beef patty. This all about how it started. According to Neuroscientist Richard Brown : A non-vegetarian patty will send all sort of information to our sensory organ or ear nose your eyes and tongue. It's only one of those tense organs sends information to the brain and they get integrated that we can ever become aware of the fact that we are experiencing a non-vegetarian patty. The goal is to create that same sensory experience so the brain can't tell the difference which takes us back to the question what makes meat, meat..? So, now the beef patty is breaking down molecule by molecule and there trillions of them.

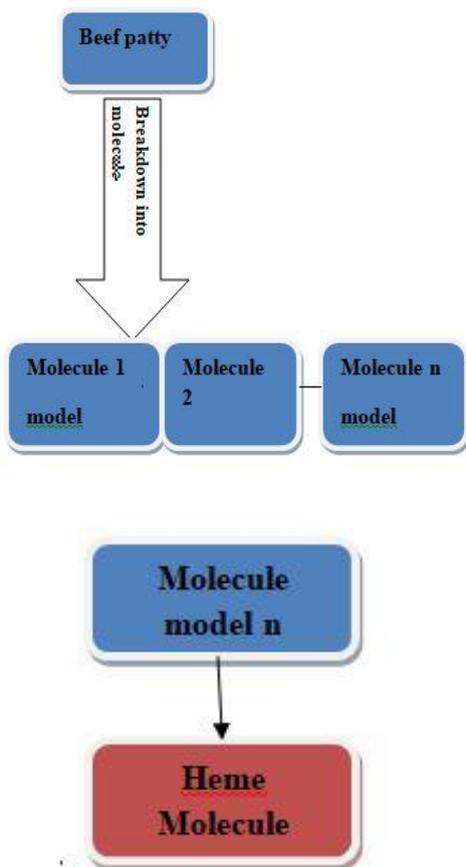
### **MECHANISM**

Machine isolates every single aroma molecule present in a beef patty. An algorithm that studied the molecular makeup of different foods and plants. It would then use machine-based learning to ascertain which combinations of plants would produce the desired foods while maintaining natural tastes and textures, based on an extensive molecular database collection.

#### **• Machine Learning**

A computer program or algorithm is said to learn from experience 'E' with respect to some class of tasks 'T' and performance measure 'P' if its performance at tasks in 'T', as measured by performance 'P' improves with experience 'E'.

- **Gathering Data**

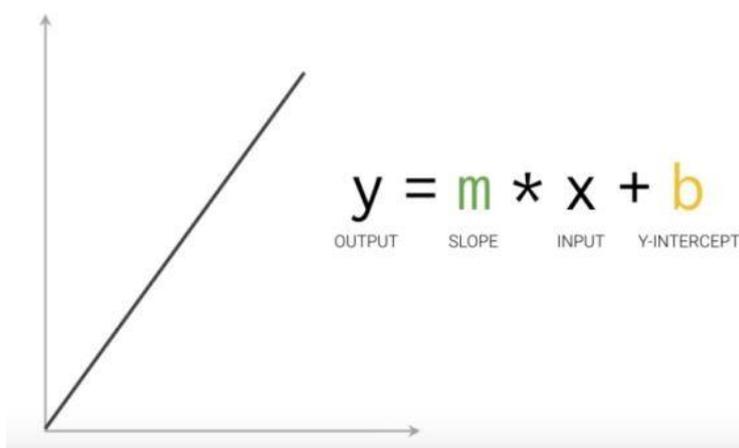


Extract information about molecule of heme as follows:

- Bright red in color
- Looks and tastes etc.

Same goes for different molecules. Basically, here we are choosing a model of a particular molecule with the help of data extraction.

**Training**

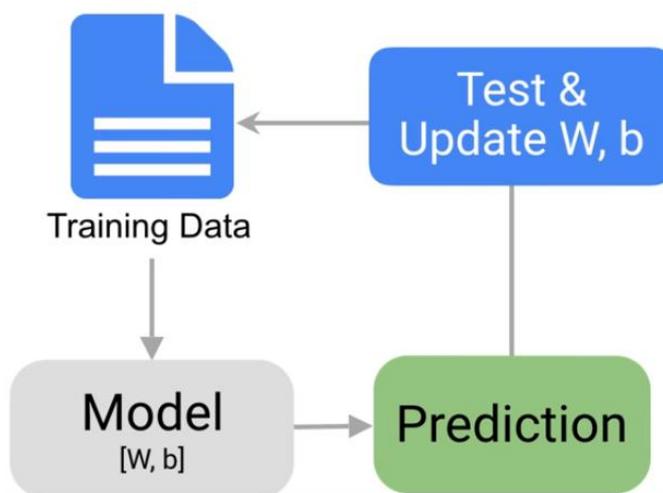


The values we have to adjust or train are just m and b, where m is the slope and b is the y-intercept. In machine learning there are many m's since there may be many features. The collection of these values are usually into a matrix that is denoted w for weights matrix. Similarly for b, we arranged them together, and that's called biases.

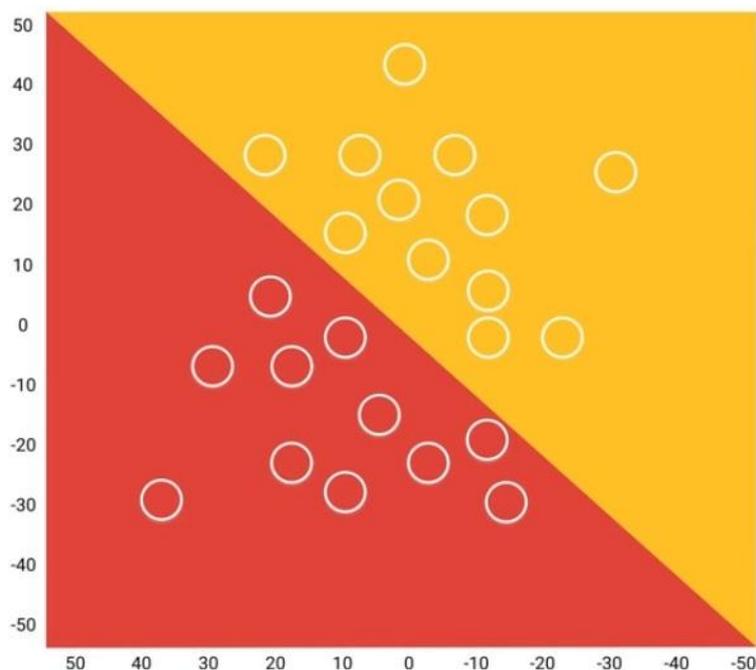
$$\text{WEIGHTS} = \begin{bmatrix} m_{1,1} & m_{1,2} \\ m_{2,1} & m_{2,2} \\ m_{3,1} & m_{3,2} \end{bmatrix}$$

$$\text{BIASES} = \begin{bmatrix} b_{1,1} & b_{1,2} \\ b_{2,1} & b_{2,2} \\ b_{3,1} & b_{3,2} \end{bmatrix}$$

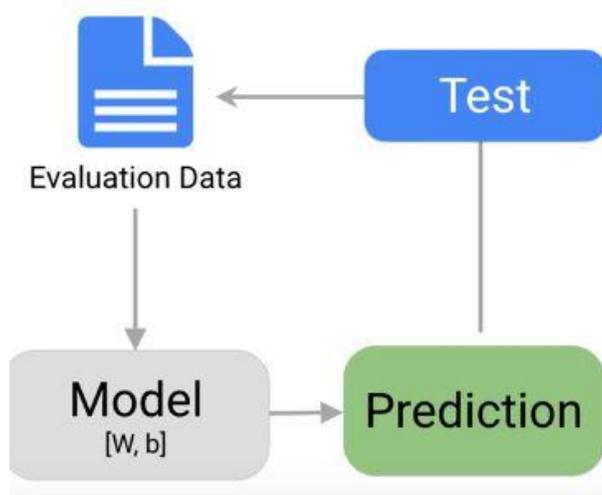
The training data involves initializing some random values for w and b and attempting to predict the output with those values. As we might imagine, it does pretty poorly at first, but we can compare our model's predictions with the output that it should have produced and adjust the values in w and b such that we will have more accurate predictions.



This process is repeated many times called training step. Then as each step of training progresses, the line moves step by step closer to the ideal separation of different molecules.



- **Evaluation Data**



Using evaluation, this is where that dataset that we set earlier comes into play. Evaluation allows us to test our model against data that has never been used for training. This metric allows us to see how the model might perform against data that it has not yet seen. This is meant to be representative of how the model might perform in the real world.

### **Parameter Tuning**

Parameter tuning involves that how many times we run through the training set during training we can actually show the data multiple times so by doing that we will potentially lead to higher accuracies. Once we are done with training and parameters we go to next step.

### **Prediction**

Finally time to use your model to do something useful. Machine learning is using data to answer questions, so prediction or inference is that step that where we finally get to answer some questions. This is the point of all of this work where the value of machine learning is realized. We can finally use our model to predict whether a given molecule is similar to heme or not. The power of machine learning is that we are able to determine how we can construct a heme molecule with the help of plants.

### **FUTURE SCOPE**

Social entrepreneurs are leveraging AI and other forms of technology to transform the food industry to solve the world's largest social problems: climate change, world hunger, animal exploitation, and poor health. With the latest technology trends accelerating plant-based food solutions, there will be no excuses left for consumers who currently supports. For the first time in decades - and long overdue - the food industry is experiencing a slow, but significant transformation empowered by a rise in social entrepreneurship and modern technological advancements. Can we really transform the food industry from its destructive state to an agent of good that simultaneously promotes healthier living, feeds more people, and preserves the environment? With the help of machine learning and new technology, the future looks hopeful.

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- [www.youtube.com](http://www.youtube.com)

# **Structuring Conscientious Competitiveness: The Proposed Goal for A Thriving Business Setting in a Nation of Youth**

## **(A Study on the Prospects of a Sustainable Entrepreneurial Ecosystem of India)**

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### **ABSTRACT**

*India has been ushered into the paradigm of a veritably serviceable demographic dividend, while there remains a large ratio of its great population that is in dire need of attaining education and acquiring capital to turn themselves as valuable assets for the national economy as entrepreneurs. Also, there is a gradual degradation of environment in India, which, as a rapidly developing country, has swerved from the path of industrial growth to development of manufacturing and endemic entrepreneurship. The article, in this light, examines the need in India for a painstaking development of entrepreneurial competitiveness and responsible social development, so that India may develop as a whole, and not in parts and parcels. The environment and the society have been considered as the greatest stakeholders in the future Indian entrepreneurial development story outlined succinctly in this article.*

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India, is a global powerhouse of economic opportunities, business talent and manufacturing growth, and is currently a nation bubbling with raw technological and entrepreneurial talent. For a green signal and a rapid onset on the path of economic development, that happens in consonance with environmentally conscious community, there is a requirement for a gradual adaptation to the new global economic fabric and its synergy with the Indian economy. In order to better grasp how our entrepreneurial ingots must be configured, we must first cognize the circumstances the Indian entrepreneurial economy is in, so that the nature of the direction our entrepreneurial development must take is best understood.

Concentrating on India as a whole, it must be recognized that India is primed to turn into globally the third largest economy within two decades from now. In terms of GDP adjusted for purchasing power parity, India is even now among the topmost three. Also, within the same duration, India is prepared to appear on the global front as the most populated nation with the largest proportion of working age people, outstripping China of the ingloriously graceful epithet in the process [1, 2].

Various studies by economic and social experts has shown that our youthfully vivacious work-force, if employed prolifically, is competent enough to multiply our GDP by a supposed factor much greater than singularity. That is a pretty optimistic prediction, but not wholly unachievable, considering our huge 'youth bulge' [20]. Apart from these analyses, there is another finding that India will have an exceptional prospect to realize this demographic dividend spread over to about a twenty-five-year perspective [3].

Unleashing a growth impetus to utilize the promise of India's demographic dividend can shape a new vista of success for India. And as an outcome, it can kindle a quantum jump for the nation, converting it from a developing country wedged in esurient exiguity to a developed economy that demands an international stature [4].

This predilection toward the expectation of a bright future for the nation can by many be termed as erroneous sanguinity. After all, the complexity of socio-economic challenges that the nation is tackling are so weighty that it might be impracticable to foresee for Indian economy in such a majestic manner [4, 8, 9, 10]. There have been a number of nations that have begun from opposing conditions to transmute as economic powerhouses. Indonesia, Japan and China are conspicuous examples [5, 6, 7]. Citing these exemplars, a lofty idea for the India of future can be correspondingly rousing. Unwavering leadership, healthy, reliable and sustainable macroeconomic approaches and their painstaking implementation, assisted by an unconquerable life-force of entrepreneurial spirit, might be seen as the agency that will spearhead the nation's developmental revolution.

These economic challenges are definitely towering, considering India's large geographical and populational extent, and even more profundity of poverty. According to estimates, about a fourth of Indian population is in the direst straits as far as poverty is concerned and face the need of acute support to be brought out of their destitution. Effectively rewarding job opportunities have to be generated for the ten to twelve million who, through their willingness to be employed and their age, become a part of the workforce each year. [4, 8, 9] This requires a gargantuan effort, taking into account that the current pace of job creation has scarcely been two to three million a year [10]. Then, requiring equal if not of higher judicious scrutiny, is the challenge of provisioning the availability, accessibility and affordability of food, water, energy, education, health and an all-inclusive social security to the one and a half billion people who will dwell India by the end of the next decade. [11] Coupled with this is the problem of social inequality and discrimination.

India is a developing nation [4]. And developing nations are known to face several challenges. One of the leading issues is that of sustainability. The mightiest impediment for ushering in a sustainable economic growth in developing nations is their dilemma, wherein they pursue a national development aiming toward eradication of ravenous poverty, socio-economic discrimination against certain groups and individuals by others, and the challenges of unemployment and social injustice, without producing a negative bearing upon the environment any more.

The principal issue here lies in the challenge of growth that is seen to be associated with the risk of climate change. The complexities connected with economic development are multifarious. Being witnessed is a gradual transformation in the global economy, which is going to undergo a framework shift in the next ten to fifteen years [12]. It is likely to multiply by one and a half times in that time. An eighth of global population is poised to be emancipated from extreme poverty. And, combined with this, there will be a large-scale migration toward the cities.

Technological progression will go on impacting business and lifestyles. And it is projected that about US\$90 trillion will be potentially employed in infrastructure development in the global urban, land use and energy arenas, by the end of the next decade [13]. This purports that our planet will be required to stomach the humongous weight of a prodigious exploitation of its natural resources, including the mineral reserves, so that the growing international requirements for food, energy, and water can be sated.

In the prevalent state how our lifestyles run, the world utilizes the equivalent of 1.6 Earths to provide the resources we use and absorb our waste [14]. We would need twice the size by 2030 to meet our consumption demands of resources; and temperature rise could surpass four degrees by the end of this century, with almost irrevocable effects due to an extreme rise in carbon emissions. Every action initiated now and in next fifteen years will, therefore, determine the future of the world's climate system, the issues related with Paris Climate Deal show [15].

India, as an emerging economy, faces much deeper issues. Its landmass is three per cent of the total land area of the world and supports about seventeen per cent of the global population. The environmental resources are even more scarce and are getting rapidly utilized by the socio-economy of the nation. This greatly effects our forest cover, our carbon sinks, and creates a propensity for generating more waste and pollution, all of which contributes to climate change, indirectly supporting the increased frequency of el-nino and other global climatic aberrations, and a shift in the pattern of monsoon, resulting in calamitous effects on our agriculture-dependent society, where more than half the farmers still depend on rains for their crops.

The twin issues of concern, thus, that India is facing, are the two Es – employment and environment. And the enterprises which take care of both of them can be termed as resident crusaders. Resident crusaders create substantial value for the nation by keeping the miscellaneous challenges faced by the nation to the forefront and working in tandem with national priorities. They invest in an area that requires investment, that has immense advantageous spillover effects for the vast nation, its society and environment, be it substantially profitable for them or not. Rural agricultural communities, particularly small and marginal farmers, and the smorgasbord of dearth-ridden tribals, are currently facing the tribulation of overwhelming vulnerability, with the snowballing menace of climate change. They need the medicine of self-employment opportunities and developing entrepreneurial spirit that will combat the problems of unproductively small agronomic landholdings in India resulting in non-profitability in agriculture, the alike quandaries of disguised unemployment in farming and the ominous necessity to develop the food processing sector in India (where the newly created entrepreneurs can gainfully invest) to address the farmer's and the poor man's food security challenges, and the issue of environmental sustainability and inclusive growth.

The politico-economic strategies of eras bygone cannot be expected to take in hand these insistent issues. A paradigm shift in strategy is required to foster a macroeconomic ecosystem which can advance new prospects that are germane and up-to-date with the nation's necessities of future.

The generation of economic opportunities, that can be the stimulus to large-scale sustainable livelihoods over the complete economic value chain; sustainable livelihood creation through entrepreneurial development, that will deliver to even those marginalized with the outlook to earn the maximum income, save for the future, spend it wisely and fruitfully and, most importantly, effectively invest the savings for long-term personal gains and national growth, revitalizing a continuous cycle of progress; and, of course, lucrative economic activity and business, that can curlicue by encouraging the protection of the environment rather than the despoliation of it – is the immediate need of the nation.

When all's said and done, such structural economic shift must empower a coordination of public and private endeavor which can fuel sustainably elevated national growth rates and, at the same time, qualify a greater value capture for the society. In order to stimulate national development that can invigorate this intensified entrepreneurial surge, conscientious competitiveness needs to be infused in the economy of the nation.

With the copious social challenges that India faces, there is a need that conscientious competitiveness must be attained with the environment as an important shareholder as is the dignity of labor. Competitiveness in India has ailed from the impact of an outmoded policy framework that was intended in an era bygone, and that now must be given away to be stored in the annals of history. Now, our focus must be to reach the vista of conscientious competitiveness.

With the beginning of the current millennium, there has been a multitude of fresh and promising developments on the business front. What can be with optimism said is that a newfangled narrative of business has materialized in these years. This fresh narrative stations and establishes the business industry comfortably within the societal ossature. It is a known adage that a business is a creator of value. But it should also be seen that in the same manner it is also a destructor of value. Almost all businesses produce or destroy value for its clients, its backend suppliers, the ones to whom they provide employment opportunities, the community (when viewed from a comparatively narrower lens), and, of course, the society at large. That said, this knowledge can be employed to devise an assortment of fresh corporate ideas and business models. These models may comprise, apart from others, corporate social responsibility, corporate environmental responsibility, philanthropy, shared value and sustainability. The last model, that of a sustainable environment-meliorating business, is what we have to focus on, in this era of precipitous population boom, reckless exploitation of resources, focus on comfort and wants rather than need, and ludicrously little regard for societal impacts of our actions, collective as well as individual.

Profits and stakeholder value go together. The theory of stakeholder value suggests that all-out satisfaction of its customers, employees, shareholders, and the society, its stakeholders, is the foremost intent of a business, apart from earning the maximum profit. [16] Can an entrepreneur become a stakeholder-oriented businessman to fashion a business that makes not just profit but also makes the earth a better place to thrive, both at the same time? Yes.

An industry has to acquire land in order to establish itself, and in doing so, it can potentially displace multiple kinds of dependents on land like peasants and tribals, killing their traditional livelihood can acquire forest land or farmland (the twin Fs) in the process, and have an impact on either the environment or employment. In other words, it has an impact on the sustainability of the society.

When such businesses start running and churning out profits, therefore, they have a responsibility toward those whose lives it affected and the environment it damaged. This is corporate social responsibility.

One of the most notable examples of corporate social responsibility in India is the Tata group, who have commenced several socially beneficial initiatives over time. Associated with the corporate group, there are about five hundred self-help groups functioning at the moment, and over two hundred of these self-help groups are engaged in profit-making micro enterprises, another promising turf for the new Indian entrepreneurs.

A project that targets empowerment of the marginalized from improved agricultural techniques was initiated by the Group in three tribal blocks in India. They have proudly stood hosts to about twelve lifeline expresses in association with the Indian railways ministry, and other agencies including a state government and a non-governmental organization for provision of affordable healthcare. Apart from this, various projects have been taken up by them in areas of pollution control, ecological balance restoration in environmentally vulnerable regions of India, education and vocational training for the youth and agricultural development.

The Sustainability performance of ITC, another exceptional example of a sustainable and socially responsible enterprise, is internationally commended. In 2015, ITC concluded 10 carbon positive years. Being water positive for 13 straight years, and solid waste recycling positive for 8 complete years, they are the only large enterprise globally to have accomplished with excellence these three international environmental standards.

As an outstanding example in sustainable innovation, HameshaON, an Indian startup, has released a product in the market that promises zero power loss from theft and commercial reasons. And there are various entrepreneurs in India working in a variety of areas, notably the fields of cost-effective renewable energy and agronomy, which have immense spillover effects on the society and environment in India.

The role and impact of sustainable development in erecting a globalized business society is not just a guide to the businessmen. It is an important resource for each one of us, be it an office-goer, a housewife, a student, a professor, or a person who runs a nonprofit organization for social welfare. Every person is a functionary of the international socio-economy. And every person alive and functioning in the economy is a businessman, and entrepreneur. Business is the reluctant business of all of us. This behooves that Indians do more and more business to foster the growth of our economy, which will lead to entrepreneurial growth in India [17].

Sustainability was first defined by Brundtland as economic development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs [18]. ‘Sustainable businesses’ has become a buzzword, an unrelenting topic of ponderance in global corporate conversations, that once centered principally around boosting and capitalizing on moolah. The cornerstone sponsors of the krummholz of corporate boardrooms have begun acknowledging that environmental conservation, labor and reliance on limited finances are the solemnest and the most fundamental questions in the generation of the outcome of an enterprise, highlighting the essentiality of robust, practicable, supportable, socially-workable and environment-friendly business solutions [19].

Busticating all the skepticism and myths about the present generation of India, most of us today are genuinely concerned about ‘standing sustainable.’ We are a generation that absolutely appreciates that entrepreneurial success is no more gauged around the currently démodé bottom line of market forces of demand and supply, but homes in on accomplishing the “triple bottom line”, which takes into account the social, environmental and financial facets of an enterprise [3]. This triple bottom line has become the new bottom line for the Indian entrepreneur.

The new Indian entrepreneur can potentially work in the areas like access to healthcare, public transportation, rural sanitation, urban and rural waste management, accessibility to quality education, safety of women, access to clean drinking water, and curbing crime, all of which can effectively serve the various socio-environmental needs India faces. For instance, in the area of women safety and control of crime, Shruti Dixit, an Indian entrepreneur, is one among many sweating it out. With rising concern toward the incidents related to molestation and rape in school buses, she chose to develop mySafeBus, a device that can be used for real-time reconnaissance in a school bus.

Strategies for sustainable industrial development, as outlined by the Brundtland Commission of 1987, includes a mighty list. These aphorisms are a grandiloquent lot for us, some of whom are aspiring entrepreneurs. The smaller things, the more minute and the more fundamental ones, that enable each one of us, as a stakeholder, make a difference to the world, are for ourselves to find out and implement. The entrepreneurial aptitude of Indians cannot be termed average. India is a blooming nation of budding enterprises, of promising businessmen, and of sprightly innovations. The individual innovations, when looked at combinedly, will showcase the competitive and sustainable Indian business environment in all its glory. This strength is still latent in India. It is time that it is unleashed to thrust the nation toward a new vista of enhancing development and multiplying prosperity.

A journey of a thousand miles has to begin with strongminded steps.

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## **Green Consumer Behaviour- Demographics & Psychographic Impact on consumer disposition to behave Pro-Environmentally**

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### **ABSTRACT**

*Several demographical and psychographical variables affect a consumer and his intention or willingness to adopt environmentally safe products or services. Consumer's inclination towards conserving or preserving resources i.e. water, electricity, fuels and their awareness about environmental impacts of products definitely has a say in sustainable moves they will take to contribute towards resource preservation. This study identifies and describes most important demographic and psychographic factors that serve as strong motivation for customers to adopt green products or services. Some beliefs strongly held by consumers also determine consumer's environmental attitudes. Because attitudes have always been considered as powerful determinants of behaviour (Allport, 1935), marketers often assume that when someone has a favourable attitude toward a particular product/services/beliefs, he or she will be relatively likely to avail/buy that service/product. Models of green consumer buying behaviour have been used to find out consumer's willingness to go for green products or services. The models also help to explain how sense of obligation to adopt pro-environmental actions becomes a green consumer motivation. In addition, the article also emphasizes on 3R's, reducing, reusing, and recycling (compare, e.g. Inami, 2001) and also explores that some of the situational factors such as economic rewards and legislation also lead to green consumer behaviour. In this descriptive research study, the characteristics of demographics and psychographic factors have been portrayed, and green consumer models, 3R concepts, situational factors of green behaviour have also been explained. For this study, secondary data has been used from several available secondary sources such as websites, journals, and books.*

**Keywords:** *Green Consumer Behaviour, Demographic, Psychographic, 3R.*

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### **INTRODUCTION**

Green Marketing takes into account all effective strategies that ensure the best of service to the customers and at the same time it ensures that the environment is not under threat or deterioration in any manner due to the conduct of business. Some of the synonymous terms of green marketing are ecological marketing, sustainable marketing which can be used interchangeably. There has been an increased concern at international level regarding environmental and natural protection. Thus sustainable marketing practices are gaining attention worldwide, as a result consumers are also responding to these strategies depending on their own demographic and psychographic attributes. Green marketing is technically a way of producing and marketing goods and services that make sure their positive impacts on the environment and benefits to the society. The goods that are produced are considered harmless to the environment and safe for consumption and thus they are appropriately termed as Green Products. The deterioration of natural resources caused by human beings in an attempt to enjoy a comfortable life, increases the importance of the responsible role of every player, such as consumers, governments, institutions, companies and media. UNESCO Conferences have highly focussed on the necessity of a population or consumers that will take care of the environment. Various protocols i.e. Kyoto Protocol, Montreal Protocol etc highlighted the role of every nation and their business organization play in safeguarding the environment. Urbanization has brought numerous environmental challenges and demands in developing countries like India. It is critical for business firms, which are striving to compete with their competitors based on green messages or appeals, to understand and adequately meet the needs of consumers in these developing countries.

### **Conceptualization of green consumer behaviour**

Various terms, such as environmental behavior, green behavior, ecological behavior, environmentally friendly behavior, and sustainable behavior, have been used interchangeably for the favourable behaviour of consumers

towards environment. Corral-Verdugo and Pinheiro (2004) suggested that pro-environmental and ecologically friendly behaviors gained wide use from the middle 1980s to the late 1990s. Ecologically responsible behavior involve actions undertaken by a person, on a individual level or in a collective group manner, in favor of the conservation or preservation of natural resources and with the intention to obtain a better environmental quality (De Castro, 2001). Pro environmental behavior is also defined as the group of deliberate actions in response to social and individual requirements that originate from the protection of the environment (Corral-Verdugo, 2001, p. 37).

## **LITERATURE REVIEW**

Research studies conducted previously have focused on examining the important factors affecting environmental eco-friendly purchasing behavior for instance, attitude, knowledge and value. And these factors have been accepted by many researchers as an important or deciding determinant of environmental purchasing behavior, but none has focused or investigated the importance of environmental friendly marketing strategies or activities as a determinant to influence consumers' purchase of environmental friendly products. Green marketing activities are increasing manifold in many developing and developed countries, and these strategies have an important lasting influence on increasing consumer knowledge base on green products and in shifting consumer's mind-set into purchasing environmentally safe green products (Cohen, 1973). Marketers should emphasize on imparting environmental knowledge to each and every one associated with organization so that they can educate every stakeholders in this aspects. After referring to the existing literature, it is thus hypothesized that a significant and positive relationship exists between green marketing strategy, tools and customer's real purchase behavior. It can also be believed that a significant and positive relationship exists between eco-labelling of products/services and customer's real purchase behaviour. The products/services which are branded ecologically (eco-branding) has a significant and positive relationship with actual purchase behavior. Environmentally safe advertising strategy also has a significant and positive relationship with customer's actual purchase behavior.

## **METHODOLOGY**

This is a theoretical or descriptive research paper, where secondary information produced by various websites, books, journals etc and interview method was used. For acquiring necessary information different types of secondary sources of data has been used. This methodology offers a theoretical and fundamental understanding of the aspects that determine the green consumer behavior.

### **Demographic Variables of Green Consumer Behaviour**

Ecologically concerned behaviour has always been related with several demographics variables. Such variables are very significant part of marketers strategy, as they can easily segment the whole market and take better advantage of green consumer attitude.

**Age-** There is a common perception or general belief that younger individuals are more likely to be more sensitive to environmental issues. A number of fundamental theories have been offered in support of this belief or perception, but the most common argument is that those who belongs to the era or period in which there is growing environmental concerns are more inclined to have a green attitude and are more likely to be sensitive to these environmental and natural resources issues. Many a research has been conducted with this regard and attempts have been made to relate green consumer behaviour and age of consumers, however, the findings have been somewhat equivocal. Some of the researchers explored that age cannot be correlated to green attitudes and behaviour and thus have arrived on a non-significant relationships (e.g. Kinnear et al., 1974; McEvoy, 1972; Roper, 1990; 1992). Other researchers have found the relationship to be significant and negatively correlated with environmental sensitivity and/or behavior (e.g. Aaker and Bagozzi, 1982; Anderson and Cunningham, 1972; Anderson et al., 1974; Hume et al., 1989; Kinnear et al., 1974; Leonard-Barton, 1981; McEvoy, 1972; Murphy et al., 1978; Roberts, 1995; 1996b; Roberts and Bacon, 1997).

**Gender-** The next demographic variable to be looked into is gender (e.g. Arbuthnot, 1977; Brooker, 1976; Hounshell and Liggett, 1973; MacDonald and Hara, 1994; McEvoy, 1972; Roberts, 1995; 1996b; Roberts and Bacon, 1997; Roper, 1990; 1992; Samdahl and Robertson, 1989; Stern et al., 1993; Tognacci et al., 1972; Van Liere and Dunlap, 1981. Most researchers argue that women are more likely to behave in a pro-environmental friendly manner than men to hold attitudes consistent with the green movement. Fundamental or theoretical justification for this comes which is given by Eagly (1987), who holds that women will, as a result of social development, their inherent caring nature, more carefully consider the impact of their actions or behaviour on others. But it is far from conclusion that gender is positively related to green consumer behaviour. Several

research studies conducted previously have found the relationship not to be that significant (e.g. Arbuthnot, 1977; Brooker, 1976; Samdahl and Robertson, 1989; Tognacci et al., 1972). Other researchers have found support for the theoretical and fundamental justification given (e.g. Hounshell and Liggett, 1973; Roberts, 1996b; Roper, 1990; 1992; Stern et al., 1993; Van Liere and Dunlap, 1981). Still other most regarded researchers have found the opposite of the predicted or said relationship (e.g. MacDonald and Hara, 1994; McEvoy, 1972).

**Income-** Income is generally accepted or thought to be positively related to environmentally responsible behaviour or green consumer behaviour. The most acceptable common justification for this belief is that individuals having higher income can bear the marginal increase in costs associated with supporting green causes which are environmentally safe and thus favoring green product offerings. A number of research studies have addressed the role of income as a predictor of ECCB or a related construct (e.g. Anderson and Cunningham, 1972; Anderson et al., 1974; Antil, 1978; Kasarjian, 1971; Kinnear et al., 1974; McEvoy, 1972; Newell and Green, 1997; Roberts, 1995; 1996b; Roberts and Bacon, 1997; Roper, 1990; 1992; Samdahl and Robertson, 1989; Van Liere and Dunlap, 1981; Zimmer et al., 1994).

**Education-** Level of education is another important demographic factor or variable that has been linked to environmentally favourable attitudes and behavior (e.g. Aaker and Bagozzi, 1982; Anderson et al., 1974; Kinnear et al., 1974; Leonard-Barton, 1981; McEvoy, 1972; Murphy et al., 1978; Newell and Green, 1997; Roberts, 1995; 1996b; Roberts and Bacon, 1997; Roper, 1990; 1992; Samdahl and Robertson, 1989; Schwartz and Miller, 1991; Tognacci et al., 1972; Van Liere and Dunlap, 1981; Zimmer et al., 1994). Specifically, education is considered to be positively correlated with environmental concerns and related consumer behaviour. Results of various research studies examining relationship between education and environmental or ecological concern are found to be somewhat more consistent than the other demographic variables such as age, income, gender etc. But a concrete relationship between the two variables has not been established yet.

**Place of residence-** Place of residence has been another important variable that could determine green consumer behaviour. Many researchers have found that those living in urban areas are more likely to show more favourable/ positive attitudes towards environmental issues. Hounshell and Liggett found no significant relationship between these two variables in their research.

### **Psychographic factors affecting green consumer behaviour**

Many research studies has been conducted to identify how psychographic characteristics co-relates with green consumers behaviour.

**Political Orientation-** In 1991 Hine and Gifford conducted a research to investigate the effect of a fear appeal relating to the anti-pollution movement by government and NGOs on several different pro environmental green behaviors. Amongst many significant findings, the researchers found that political orientation was significantly correlated with one of the green consumer behaviour. Specifically, their findings suggest that those with more liberal political beliefs are more likely to exhibit strong verbal commitment towards environmental friendly moves of government than those with more conservative political views.

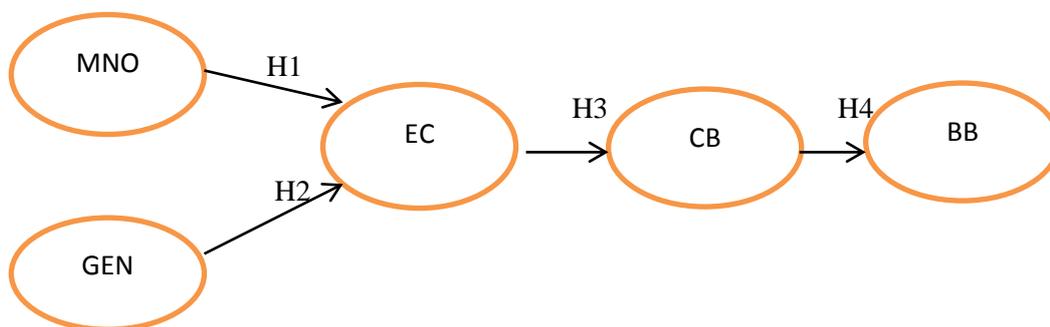
**Unselfish Concerns:** Stern et al. (1993) explored the role that social-altruism and egoism played in influencing green consumer behavior. Specifically, their discussion focuses on whether social altruism, a concern for the welfare of others, is the sole driver or determinant of environmentally friendly consumer behavior, or whether the positive effect of social-altruism is countered by the negative influence of egoism, which focuses on willingness to incur extra costs associated with environmentalism. Their research also explored bio sphere-altruism, a concern for the non human or non living elements of the environment. Their findings suggest that all three of these constructs social-altruism, biospheric-altruism, and egoism influence willingness to take green behaviour.

**Perceived consumer effectiveness:** consumers' attitudes and responses to environmental appeals of business organizations are a function of their belief or perception. This attitude or belief is referred to as perceived consumer effectiveness (PCE). Several research's Findings have been fairly conclusive that PCE is positively correlated with ECCB. Recently, Roberts (1996b) found that this was the single strongest predictor of ECCB, surpassing all other demographic and psychographic variables.

### **Model of Green Consumer behaviour-**

GCB model in general, is a theory indicates that an individual's vision of the natural and ecological environment can be ordered into a cognitive hierarchy consisting of values, attitudes/norms, intentions and behaviours. In addition, more general value orientations of a customer affect attitudes regarding specific

contexts, and attitudes, in turn, influence behaviour (Vaske and Donnelly, 1999). Thus, the value-attitude-behaviour hierarchy model has proven its reliability in explaining how individual values affect ecological attitudes in relation to specific aspects (e.g. ecologically harmless food, recycling) which in turn again influence particular behaviours (Homer and Kahle, 1988; McCarty and Shrum, 1994). In this model it is demonstrated that a causal effect of values on attitudes that in turn affect behaviour. According to Homer and Kahle's (1988) structural equations results, and Milfont et al. (2010) which emphasize that values had no significant direct influence on BBs, which indicates that attitudes play a relevant mediating role between values and behaviour. A conceptual model has been proposed in the following Fig. to depict graphically the hypothesized relationship among the constructs MNO and GEN with EC. In the below explained model sequence, two particular relationships will be tested: the one that shows the link between EC and CB and then between CB and BB. The relationships between these important constructs were developed by following to the sequence of value-attitude-behaviour defended in the hierarchy models. In the specific area of green marketing, the present model was conceived based on some of the ideas of previous researchers and their models' purposes, such as those deployed by Chan (1999, 2001) and Chan and Lau (2000)



(GCB-Green Consumer Behaviour Model)

Man–nature orientation (MNO), Generatively (GEN)], Attitudes (EC) and behaviours conservation behaviour (CB), environmental friendly buying behaviour (BB)]

In brief, the model hypothesizes that an individual consumer behavior values, such as the MNO and GEN, will give a positive influence his or her affective responses and reinforce the individuals' ECs which, in turn, will lead to environmentally friendly conservationist and BB. Thus, four significant major hypotheses were formulated as follows:

- H1: Individuals with a higher MNO will have a stronger EC.
- H2: Individuals with a much higher level of GEN will have a stronger EC.
- H3: Individuals with a stronger EC will present a more conservationist behaviour.
- H4: Individuals with a CB will have a more friendly environmentally BB.

### 3R's, reducing, reusing, and recycling

One of the significant concept environment-protecting actions involves the so-called 3R's, reducing, reusing, and recycling (compare, e.g. Inami, 2001). In this hierarchical taxonomical structure, reduction refers to minimizing or eliminating the amount of materials/ resources used to produce or manufacture a product/service and reducing the use of power or natural resources water, air, etc. Reusing suggests the magnificent idea of giving a second useful life to an object/product/services. And recycling denotes the application of a process to wastage or old materials in order for them to be used again. This 3R concept can be used in all stages of supply chain, and sustainable consumption behaviors can be expected from customers and actions by defining actions favorable to the preservation of the environment in clear-cut terms can be taken.

### FINDINGS

After a descriptive research on green consumer behaviour the following results or findings were arrived at;

- Various demographic variables i.e. age, education, income etc plays a deciding role determining green consumer behaviour of customers.
- Psychographic variables such as political orientation, unselfish intention, perceived customer value also determine customer's readiness level to adopt green products/services.

- Green consumer behaviour model is effective in analysing inherent factors which affect green consumer behaviour.
- 3R concepts which encompasses reducing, reusing, recycling can be used to devise an effective green marketing program or strategy to elicit green consumer behaviour.

## **CONCLUSION**

Implicit attitudes of customers which are psychographic can have a positive or negative tendency toward environmentally friendly products. This imply that implicit attitudes or psychographic attitudes are sometimes related and some othertimes unrelated to purchase intention. Demographic variables also sometimes co-relate with green consumer behaviour. After this descriptive study it was we found that respondents intending to buy real ecological product(s) held more positive psychographic attitudes toward the ecological product(s) than the traditional or conservative products.

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## Role of Marketing in Public Administration

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### ABSTRACT

*The concept of marketing affects all, whether it is public services, administration or governance. Marketing in the public administration implies; better use of market in providing goods and services, organization and development of the public administration activity for the public conveyance, the process of public administration in carrying out all the public activities with a maximum of efficiency, a new view over the relationships between the public administration and marketing activities used towards the study of the beneficiary and the satisfaction of all the requirements of the citizens. This paper is an attempt to find out the answers through relationship between public administration and marketing activities. For this purpose a general interaction has been done with the senior executives of public administration as well as private sector using unstructured interview methods. Efforts have also been made to find out how marketing principles can be applied in the public administration.*

**Keywords:** *Integration, Community Structure, Interventions, Complicated Bureaucracy, Public Guardians*

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### INTRODUCTION

As the role of marketing is increasing in recent times, be it on the personal front or the societal arena, public administration is not the exception. The marketing concept affects all, whether it is public services, administration or governance. To provide better services to the public, there is need of marketing the policies and plans of the government. This would increase the level of awareness and utilization of those policies and plans in effective way. However, the requirements of the public needs to be understood before administering them. The concept of marketing in the public administration implies marketing and management of related activities for the development of the public and the process of public administration has to be a combination of the present and future needs of the citizens. All these activities must be carried out with maximum of efficiency to develop good relationships between the public administration and the people by using the methods and techniques that are orientated towards the beneficiaries and the satisfaction of the requests and requirements of the citizens.

The executive authorities can guide the marketing activities towards the quality of the public services from the perspective of the citizens' requests or towards the social interest. All the institutions of public administration must have a purpose to provide satisfaction to the common people for their day to day requirements. For this, a policy of reconstruction of the trust between public administration and marketers must exist to increase the officials' efficiency and efficacy for better clients' satisfaction of the society and of the media which carries the image of the public administration to the public. At the same time with the increase of the importance of the public services in the development of the citizens' lives appears the need to put marketing into practice in administrative activities.

The transition to the market economy implied lots of economic, social and political changes. In this regard a special place is owned by the changes of substance in the actual plans of the organization and functioning of the public administration, based on the principles of modernity and efficacy, getting closer to the citizens and to adhere to the norms in order to satisfy certain requests and demands of the citizens. In this way, the public administration acquires a new philosophy, a new identity for the satisfaction of the citizens and produces a special configuration to the marketing of services.

Globalization, privatization and liberalization came to India as a booster in 1991 and sanctity of economic reforms had been derived from it. It was argued that progress is taking place through globalization, and

economic reforms are the only means to join the main stream for development and growth. Hence economic reforms are the only alternative for human security and India's future. Globalization as a phenomenon involves two different entities (a) finance capital through multi-national corporations and (b) new technologies such as computers and telecommunications. It was argued that the growth and internationalization of finance capital is good and desirable for projects because it promotes growth of technology. Globalization provides a useful means to develop technologies necessary for the production of goods and services that improve our well-being and that is the responsibility of our administration and in this sense public administration becomes crucial partner in economic development too. Hence in this globalized era, marketing and public administration activities revolves around each other and are highly correlated to achieve the larger goals of any nation.

### **NEED AND OBJECTIVES OF THE STUDY**

This is a well-known fact that whole world is shrinking towards a common market place where all the agencies are contributing to make this a success and the public administration among them is the leading sector. The public administration plays a vital role in promotion and marketing of government plans and policies to its fullest implementation for success especially for the public benefits and overall development of the country. But there are few people who are not convinced to accept this fact that public administration plays a vital role in marketing of goods and services for the satisfaction of the citizens. This paper is an attempt to find out the contribution and relationship of marketing with public administration and to find out the application and necessity of marketing concepts in public administration activities.

### **RESEARCH METHODOLOGY**

The methodology used includes exploratory as well as descriptive in nature. The opinions of senior executives from the field of marketing as well as public administration have been sought to make conclusions. Convenient sampling method was used for collection of information using unstructured interview method. No structured questionnaire was administered for the purpose but unstructured questionnaire was used for collection of information from the respondents. No analytical tools have been used for analyzing the opinion of the respondents as the opinion of the senior executives like Professors, Senior Marketing Managers, Public Administrators, etc. cannot be put under any test because they play vital role in decision making, and hence their opinions have been included directly.

### **LITERATURE REVIEW**

Marketing in public administration is a collaboration of processes and marketing relationship, well determined between the components of the administrative system, through which, as a public power, carried out are the laws and/or the activities involved in the development of services which are planned, organized, coordinated, managed and controlled to meet the public interest (Fluoresce and Malcomete, 2003). As it can be seen, it is a complex and consistent definition, seeking to cover as best as it can, the area of marketing activities designed to meet the great consumer from the administrative point of view.

Public administration marketing is a process of market research which leads to knowledge in connection with all factors relating to the citizens' needs and preferences and the way to meet them to the elements which accelerate or hinder the public administration process (Petrescu and Muscalu, 2003).

The father of the modern marketing, Philip Kotler, said: "Those responsible for management and future planning of a place should take an innovative vision on the assumed task. The old formulae of specific measures or "early intervention" to attract businesses or by building stadiums and conference centers or increase advertising spending on tourism usually fail to reach the root causes of difficult situations through which the communities are passing today" (Kotler and Haider , 2001).

Generally speaking, public administration marketing examines the uncertain attitudes of some beneficiaries situated in different geographical areas, under imperfect information conditions, hard to be controllable, which means taking risk in formulating marketing objectives in government programs. Therefore, it is obvious that the marketing orientation of the public administration institutions should be concerned by the research of citizens-customers' requirements to align the supply of public services (volume, structure, quality level, etc.) to the demands manifested on the market (Kotler, Haider, 2001).

The surveys made at the level of the public opinion shows that there is deficit of trust of the people concerning the public administration. One of the most obvious explanations is found in the weak credibility of the administrative system.

### **Image of Public Administration for Common Man**

The media (a key constituent of marketing) and the civil society plays a key role as image developer and send a series of images with negative connotations that produce a negative perception of the public opinion concerning public officials. This has been noticed and observed a number of times. The public officials are seen through the images sent by the media or observed by the public as inefficient, less motivated, bureaucratic, politicized, lack of imagination, corrupt, arrogant and many more on the basis of their acts as they are directly associated with the public in implementation and execution of various policies and schemes. All these deficiencies are associated with the image of public administration as a whole. The public system appears as different from the private ones, based on professionalism, open competition, objectivity and ability. A renewal of the official's image should be the starting point, from the change of mentality of the public structure to a special mentality of the private structure for greater effectiveness.

### **Suggestive Measures to Improve the Image of Public Administration**

A tentative solution to the defamed image of public administration is to put into practice a new marketing program with all the services for satisfying the users' needs. The public administration, whose aim is to satisfy the citizens' needs through efficient and effective execution of public policies by offering quality services and should be orientated towards the way of thinking in order to increase the productivity and getting closer to citizens.

The reality of the public administration in India shows that the public officials from the state institutions have an inadequate behavior being noticed time to time and this includes the behaviour of politicians as well who are the policy makers. One of the causes of these deficiencies is connected to the fact that they have a position of exclusivity and as a consequence, there appears a lack of flexibility of the public structures which concerns their adaptation to the citizens' needs.

It is expected that the answers to any query from the public to be given in a stipulated time (Citizen Charter), but in many cases the final answers are given by far over the legal terms. Besides that, the administrative system from our country does not seem to do anything for carrying out new forms with the citizens. So, the general image of the public administration in the view of the public is that the activity of the state institutions is entailed by a complicated bureaucracy that makes it difficult to satisfy the citizens' needs, desires and requests.

In our country, there is development and perfect rural and urban administration. At the same time with their transformation in institutions of services, more and more modern and efficient resources have been added where the citizens are the centre of attention. Unfortunately, there are still a number of citizens that see the public officials with critical eyes in the quality of representatives of the public authority (at the level of the state, country or village).

The following measures may be taken into consideration for improving the image of public administration among the general public:

- Organizing public meetings by the public administrators on a routine basis that can be an effective measure to improve their image and public relations.
- Organizing some sessions and public debates of social concern, with the participation of the civil society and of the media, where officials' performances can be presented.
- The investigation of the officials' opinion on the degree of trust in the institution or public authority where the activity is carried out.
- Carrying out a network of communication at the level of the public institutions with the purpose of improving the perception about itself through public officials.

A positive modification of the perception about the institutions of public administration from the citizens' view point is more difficult to carry out than its deterioration. This thing happens because the citizens are not always objective when it comes to appreciating the state activity which depends on the conditions in which the state institutions are working, where individual interests are neglected and general interest of the community are insisted.

Carrying out reform in the public administration means not only the replacement, elimination or the creation of some institutions, the adaptation to the new conditions of management and marketing, but also the change of the official's mentality. The marketing orientation of the activity must be adopted as a basic principle, and after that it has to be adopted by the leaders of the institutions of public administration and by the officials who serve the citizens of their country.

So, it is proposed that starting of some training programs for the officials who are in-charge of the area to provide services to the citizens. It must be taken into consideration the fact that in the marketing perspective, the citizens of a village or a city are at the same time beneficiaries of the services. If in the past they were rather administrators or solicitors or even worse recipients of some orders, nowadays they themselves are more than clients, partners with legal rights of the administration.

The authorities from the public administration have an exclusive position. The citizens can only appeal to these public services for better services and have no choice but to choose what they are offered, even if they are not satisfied. This is only the point where the brand of the public administrators is created or damaged in the eyes of the citizens as the recipients of the public services.

### **Integration of Marketing and Public Administration**

The orientation and development of the activities of the institutions of public administration, in a marketing vision, needs the integration of the marketing concept at all the levels of the structure of organization. For this, the following measures may be imposed:

- The organization of some activities that contribute to the understanding and recognition of the needs and requests of the market and of the environment in collaboration with public administrators.
- The orientation of a practical activity towards satisfying these requests through proper organizational structure.
- The integration of the main flux of communication in the marketing of all the public administration activities.
- The development of the labor abilities with the citizens as well as the officials who represent the connection between administration and citizens.
- The reduction of the pressure made by the citizens over the institutions of the public administration and that is possible only when the administration is concerned about the needs of the citizens.
- Educating the population for effective use of the public institutions at a distance, but of their concerns, by using some means of communication: telephone, mail, internet, etc.
- Advertising the activities of the public administration time to time for the information and effective use by the public using local media.

The scientific, logical and comparative approach of the marketing concept concerning the public administration, along with putting into practice, may represent an important start for perfecting the activities of the public-administrative institutions.

### **The Use of Marketing as Promotional Tool in Public Administration**

Use of marketing tools is a new problem for the public administration. Putting marketing programs into practice in administrative activities depends on the conception of the executive authorities that can guide the marketing activity towards the quality of the public services from the perspective of the citizens' requests, or towards the social benefits. Here are few examples from the common man's life:

The government is trying to improve road safety through the use of underpasses and foot over bridges for crossing the roads. It also requires a lot of promotional campaigns (a marketing activity) which government is trying hard but people can be seen jumping the railing on the roads or crossing the railway track and inviting danger to their life.

For eradication of Polio, the pulse polio programme for the children of age below 5 years is running all over India through rigorous advertising and campaign and it has shown better results and we are being declared Polio free nation. So the marketing concept is showing its effectiveness in spreading the awareness among people which is absolutely the areas of public administration system.

The e-governance and on-line submission of forms (birth certificate, caste certificate, and loan application details) is also the result of concept of marketing and spreading of awareness of use of technology for speedy processing of applications. The e-concept has brought revolution and made the job easy for the public administration.

The on-line reservation system of IRCTC of Indian Railways has reduced the tension of standing in long queue at the reservation counters for booking their tickets. The e-system of rail reservation has transformed QUEUE to CLICK system. The need of the customer has been understood and being fulfilled by the application of marketing concept.

In the present, the institutions of public administration are obliged to face new pressures in order to satisfy the citizens' needs and requests. We can notice the amplification of the pressure over the public budgets and the necessity to find new solutions for the increase of the efficiency and performances of the central and local institutions of public administrations.

### **Some Other Applications of Marketing in Public Administration**

When Government is promoting the awareness about AIDS to the general public, the publicity for this is being done by the media under the guidance of the responsible person who is a part of the public administration and ultimately this campaign gives rise for promoting the business for those who are the manufacturer of condoms and other related products. The results are largely beneficial for both public as well as the marketers. So this clearly shows that how marketing is associated with the public administration in our country.

For applying such marketing principles in the public administration of our country will have to be taken into consideration like the followings:

- The marketing to intervene at all the hierarchical and functional levels of the institutions of public administration, ensuring the increase of cohesion and efficacy.
- The marketing will have to contribute promoting modern organizational structures of the public administration.
- The informational systems for running the marketing activities will allow that the marketing in the public administration to represent a source of information for developing local and lasting strategies and policies.

As the debates on the role of marketing in society have increased in recent years, the tendency to extend its application areas seems to be evident; one of those is the public administration, where the reform requires mechanisms and modern methods of approach, the marketing field being included.

Moreover, by analyzing the specific reference range, we can identify marketing principles which can be applied in public administration, such as:

- Public administration is serving the citizen, it is necessary that the public institutions activity be adapted to the environment in which they operate, the public authorities need to take into account the knowledge of the social trends for their satisfaction.
- Providing quality public services is required in the localities of the country. This is essential for public administration to continuously receive information from the civil society, which it serves, to which it has duties. Information must be consistent, arriving in real time, relevant, clear and with efficient costs which can be done through effective marketing information system.
- The developing of an information system of the public administration has the role of an operation that will simplify the rules, procedures, providing non-discriminatory opportunities for public support services for the satisfaction of the public.

Once completed, the system will reduce tariffs, operating costs and even staff. This is not the only line of action. Practically, every public employee or servant uses or should use the marketing function, because every contact which the citizens have with the institution activities will affect the way they will report to the future government. As a principle, all public servants should use marketing instruments; the secretary answers the phone or not, the clerks who are polite or aggressive, the staff from public relations department, other public guardians, doorman, etc. If these officials are adequately informed and eager and motivated to help people, then they become important factors in the marketing communication efforts.

### **CONCLUSION**

In the concluding part, it can be said that the public administration must concern the problem of the citizens to make them satisfy to their levels best. It has also been revealed through discussions that the public administration is well associated with marketing activities in different forms. To improve upon the bad image (if any) of public administration among the public some reforms may be carried out not only in the organizational system, but at a level of attitude and behavior of concerning officials. This is easily possible as it is well said that the young generation transforms any institutions it passes through.

The major aspect is the use of marketing concepts and principles in the public administration so that the association between the two can be stronger. We cannot conclude that everything was done, but on the contrary, that there are reserves of progress, new paths which should be approached. The results can be permanently

completed and updated to generate goodwill among the public which can be the basis for decisions in the management and marketing. This will happen if the governors of the system will plan and introduce marketing activities in the public administration. Developing a marketing plan is a systematic process that begins with analyzing the situation and the current environment and continues with the setting of marketing objectives, identifying the target audience, determining the desired position on the market and designing a strategic mix of marketing and ending with the evaluation and implementation plan on the part of the public administration.

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## How Social Media Marketing and Advertising is helpful for Small Businesses

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### ABSTRACT

In the present scenario social media is being used to provide an identity about the companies and the items or solutions that they are providing. Social media is proving itself useful for creating connection with those who might not otherwise aware about the items or support or what the companies is representing. It is nowadays the best possible way to get in touch with potential customers. A huge number of customers are already interacting with Brands through social media, and if a new or old (well established) company is not speaking directly to its customer through social platform like Facebook, Twitter, Instagram and Pinterest, it's missing something big! The Best example of Internet marketing is Social Media marketing (SMM) that involves creating and sharing content on Social Media Networks to your marketing and branding goals. It also gives you the power of learn more about your audience, their interests and achieve collect feedback. In this paper, we are going to discuss about the role of social media sites in small businesses, its marketing strategies in Indian market context. We will also discuss about the concept of social media and other aspects like the growth and benefits.

**Keywords:** Social Media Marketing (SMM), Marketing Strategies, Branding, Online Customers, Advertisement

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### INTRODUCTION

In the current scenario every business needs a proper social media channels to advertise in the best possible way. Although, it sounds simple but their target audience is hanging around the popular social networks. And they are engaging with their favourite brands and connecting with them on different levels. Today social media touch is given to almost every business, we not only connect with our customers better and serve them on a higher level but also generate more business. It actually makes our online marketing easier. In Fact, an information graphic published in Jan 2017, 70% of customer are more likely to recommend a brand to others if they have a positive experience with it on social media.



Fig. no.1

There are many ways that social media help us to increase sales and can impact conversions but for that, we need first to understand the importance of social media in business and take the necessary steps.

### Concept of Social Media

All the online communications channels dedicated to community-based input, interaction, content-sharing are collectively known as social media. It provides the facility of Interactions among people in which we create,

share, or exchange information, ideas and views with online communities. It is implemented and managed mainly by Facebook, Twitter, Instagram, Snapchat, YouTube and Video accounts. We can access social media services through web-based technologies on desktop, computers, and laptops, or through their mobile Apps. It provides the facility to consults with schools, departments and offices looking to form or maintain an existing social media presence to discuss social media goals and strategy. Before creating any social media account, it is required to submit the Account Request Form.



Fig. no.2

### Key Principles for Social Media Managers

Social media is about conversations, community, connecting with the audience and building relationships. It is not just a broadcast channel or a sales and marketing tool. Authenticity, honesty and open dialogue are key.

Social media not only allows you to hear what people say about you but enables you to respond. Listen first, speak second. Be compelling, useful, relevant and engaging. One more important thing is your voice, your voice should be clear. Your audience identifies you with your voice. If it is predominantly young and trendy, so be it. If it is corporate and professional, then this is the way you go.

### Popular Social Media Tools and Platforms

**Blogs:** Blog is a short form of Weblog. It is a website or informal online journal, where latest posts appear regularly, that is written and updated regularly in conversational style. It provides a platform where we can share our views on a specific topic or opinion.

**Facebook:-** The world's largest social network, with more than 2.2 billion monthly active users (As of the fourth quarter of 2017). Users create a personal profile, add other users as friends, and exchange messages, including status updates. Brands create pages and Facebook users can "like" brands' pages.

**Twitter:-** Twitter is a social networking stage where users can post and interact with short messages, known as "tweets." These messages were originally 140 characters limit, but on November 7, 2017, the limit was doubled to 280 characters for all languages except Japanese, Korean, and Chinese.<sup>[11]</sup>

**YouTube & Video:-** Video hosting and watching websites. Flickr: An image and video hosting website and online community. Photos can be shared on Facebook and Twitter and other social networking sites.

**Instagram:** A free photo and video sharing app that allows users to apply digital filters, frames and special effects to their photos and then share them on a variety of social networking sites.

**Snapchat:-** Snapchat is a mobile app, which gives the facility to easily talk with friends, view Live Stories from around the world, and explore news. It is used to share photos, videos, text, and drawings. It's free to download the app and free to send messages using it. The most interesting part of Snapchat is the short-lived components of all the content that gets shared on it. Photos and videos essentially disappear a few seconds after they've been viewed by their recipients.

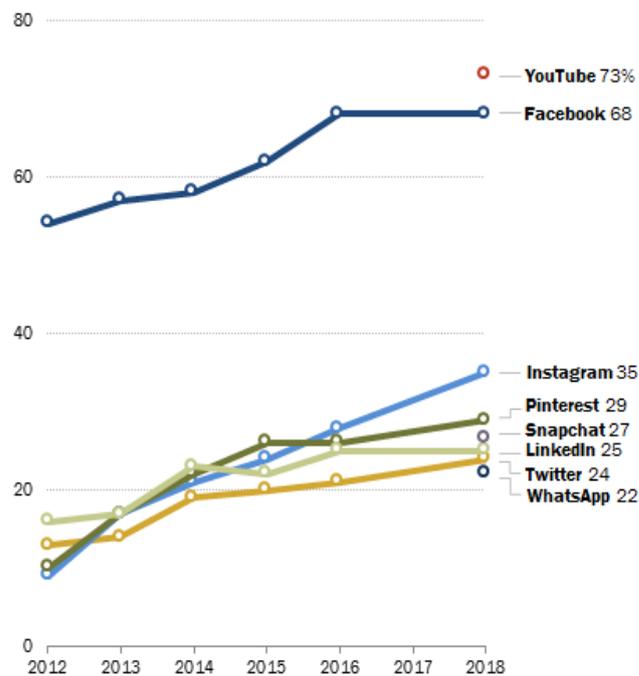
**LinkedIn Groups:-** A place where groups of professionals with similar areas of interest can share information and participate in a conversation. LinkedIn is a business social networking site which allows its members to establish and document networks of people they know and trust professionally. It is used for exchanging knowledge, ideas, and employment opportunities.

### The Role of social Media sites in Small Businesses

Social media is growing at rapid speed. Social media is useful to increase awareness and inquiries, enhanced relationships with customers, an increase in the number of new customers, enhanced ability to reach customers on a global scale, and co-promotion of local businesses that enhance the image of small businesses. With more and more people joining social media sites and using them regularly, social networking has become daily practice in user's lives. It's booming like never. A new Pew Research Center survey of U.S. adults finds that the social media landscape in early 2018 is defined by a mix of long-standing trends and newly emerging narratives. Facebook and YouTube dominate these statistics, as notable majorities of U.S. adults use each of these sites. But at the other side, younger Americans (especially those ages 18 to 24) stand out for embracing a variety of platforms and using them frequently. A huge percentage (Somewhere around 78%) of 18- to 24-year-olds use Snapchat. Similarly, 71% of Americans in this age group now use Instagram and close to half (45%) are Twitter users. These statistics undoubtedly prove that today's business needs to take benefits of these social media sites to keep up with the competition. Social media use on mobile devices is seeing a 30% growth every year. 2 million businesses today use Facebook advertising for promoting their products and services.

#### Majority of Americans now use Facebook, YouTube

% of U.S. adults who say they use the following social media sites online or on their cellphone



Note: Pre-2018 telephone poll data is not available for YouTube, Snapchat or WhatsApp. Source: Survey conducted Jan. 3-10, 2018. Trend data from previous Pew Research Center surveys.

"Social Media Use in 2018"

PEW RESEARCH CENTER

### Advantages

Let's now look into the importance of social media in business by analysing its advantages-

Social media advertising is growing faster than imagined. Take Facebook Ads for example. Even though the social network launched ads in 2005, it managed to reach 9.16B in ad revenue in the first quarter in 2017. This just goes on to show that social advertising is here to stay — for a long, long time. As more and more businesses successfully experiment with digital advertising, they're realizing that taking the social media advertising route makes total sense because –

**Lower ad costs:-** When compared to traditional advertising methods such as print media, TV and radio advertising, social ads are not only dependable, but also cheaper. What's more, you're allowed to engage on various social media channels for free before scaling with paid ads. You're free to grow on your own, at your own pace.

**Targeted reach:-** Traditional advertising doesn't give you the luxury to reach out to your target audience the way social media ads do. It simply doesn't work that way. When you're doing offline advertising, you're taking the blind, shotgun approach where your returns are dismal even if you're making big investments. Using social media ads you reach out to targeted prospects, increase your conversions and ultimately get a higher return on investment.

**Real-time performance analysis:-** Knowing if ad is working or not is integral in order to improve it. When we're doing any type of offline advertising, we're unable to analyze the performance of your ad campaign. Which cripples massively your efforts. Social media ads on the other hand allow us to constantly keep track of how well (or how bad) our ad is performing. Post should also have something original, as it adds to our credibility.

**Increase Inbound Traffic:-** Inbound marketing is one of the most effective ways to generate targeted traffic to our website. It's the kind of traffic that actually converts because it's super relevant. However, if we leave to ignore the importance of social media in business, we will be limited to our inner circle of customers or the people that are already familiar with our market or brand.

**Improve Search Engine Optimization:-** Every seasoned social media marketer knows that there is some connection between social media and search engine optimization. While Google has clearly stated that it does take "social signals" into consideration when ranking a page, there's more to it.

**Increase Conversion Rates:-** Social media is great for capturing targeted leads for your business, but it doesn't stop there. Getting quality leads is only one part of the equation. The other part is converting those into sales.

**Satisfy Your Customers:-** Losing a customer is hard and gaining a new one is harder. But retaining an existing customer is 10 times easier. Which is why customer satisfaction should be your topmost priority. By using social media to connect with your customers, you have the opportunity to monitor what they want, the problems they're facing and how you could serve them. In order to truly satisfy your customers and make their life easier, you need to offer them customer service that is more personalized and effective. And social media helps you do just that. Increasing customer satisfaction with social media includes:

**Monitoring** conversations to see if your customers are talking about your brand and in what context.

**Broadcasting** important messages, announcements and offers to customers via a social media platform such as Twitter.

**Offering** prompt customer service to customers who are facing genuine problems or need some help with the product or service.

**Holding** regular question & answer sessions with customers to understand their concerns, get real feedback and see how things can be improved.

**Connect** and build a relationship with power users or customer advocates so that they can help serve other customers.

**Enhance Brand Loyalty:** - A lot of businesses are stuck on their follower count, which is nothing but a vanity number. It doesn't serve a real purpose if the followers aren't loyal to your brand. There's a difference between a random follower and a loyal one, because the latter adds real value.

### **Marketing Strategies In Indian Market Context**

Small businesses can enhance brand recognition and profitability by using social media strategies:

**Having a Solid Social Media Strategy:-** Social media platforms are evolving, and each has its own personality. Facebook is not Twitter, and Twitter is definitely not LinkedIn. Which means, you can't take the same old, outdated marketing and advertising methods and apply them to social media. You need to articulate a social media approach that clearly lines up your goals with other areas such as content marketing, search engine optimization, etc. This should give you a fair idea of what type of value you can create for your loyal social media followers. It'll allow you to not only retain them but also help them spread the word.

**Sharing Value-Oriented Content:-** There's a reason why your followers are dependable and loyal to you. They're looking for value, which you will have to deliver at all times by sharing quality content. For example, sharing a comprehensive case study is a much better way than a one-word article. The more useful and relevant the content you post, the better. For example, visual content gets more shares than regular social media content. Which means you're free to use photos, videos, etc. as long as they add some value.

**Being Consistent:-** Your brand has an identity in the market, and certain aspects that are unique to it. By identifying these temperaments and by bringing them out, it gets easier to connect to your target audience. You should be

reliable and consistent in your approach and maintain the same voice throughout your interactions. The content that you create/share along with how you converse with others should reflect your brand's personality.

**Responding to Queries:-** One may not be a celebrity for his social media followers, but they do look up to you for answers. So when they approach you with a relevant query, you should get back to them with the right answers. This way they will know that you are the real deal. And you are doing a genuine business. But don't limit your answering exploits to your loyal followers.

**Show the Human Side:-** While it's okay to automate your social media posting with a tool like Buffer, it's not-so-okay to keep doing it. A lot of businesses try to present themselves as big corporations, this is making them fake and unreliable. People need people, not auto bots. That's the reason that you need to connect to them on a more personal level and involve in real conversations. Even if it's just for the sake of interacting.

### **Future Scope of Social Media**

We cannot predict anything exactly in advance, but it is very clear and predictable about the future of social media, it will probably be more personalized and less noisy. We will be more efficient in filtering out inappropriate information. Snapchat is a social media platform that's really at the forefront of social media evolution. Rather than blasting out updates for all our friends and followers to see, we use Snapchat more like we communicate in real life – with specific people only at specific times. Instagram has even now made the change toward short-lived content sharing with its Snapchat-like stories feature, so maybe more platforms will be in future to follow. And we will more efficiently use Social Media Marketing And Advertising for small businesses.

### **CONCLUSION**

The role of social media in business can only be understood once we start applying the above discussed strategies. If done right, in the long run, social media marketing can prove to be really cost effective. Because in the present scenario, even the paid social media campaigns, such as Facebook Ads, are cheaper and effective than other advertising options such as search engine ads. Which means there's a higher return on investment. Jumping on the social media movement is no longer a matter of choice if you want to succeed. Your business needs it. Every business needs it. It's more needed than ever. A huge number of customers are already interacting with Brands through social media, and if a new or old (well established) company is not speaking directly to its customer through social platform like Facebook, Twitter, Instagram and Pinterest, it's missing something big!

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## Green Auditing: Its Benefits and Counterance

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### ABSTRACT

*Green auditing is a management tool which simply inspects the environmental management activities performed by the industries or organizations and makes them aware of new cleaner technology. For the impact of industries and their product on natural resources and environmental quality it is necessary to have "Green audit" to ensure sustainable industrial developments. Objectives need and advantages are focused in this paper. Moreover, audit scheme, approach, characteristics, case studies in India are also enumerated. For more implementation and popularization of Green audit in India are conducted to review existing management systems and internal controls. To gather appropriate information to provide a basis for evaluating the reliability of internal controls in achieving desired environmental results. Suggestive measures are also suggested for the improvement of companies and industries.*

**Keywords:** *Impact – Industries - Management tool.*

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### INTRODUCTION

Pollution now is an inevitable consequence of modern industrial technology, rapid and convenient transport and comfortable housing, but excessive pollution may interfere with man's health and his mental, social and economic wellbeing. There is now a clarion call from every nook and corner of the society that "save the nation from this menace the pollution". Governments, all over the world, have formulated laws and regulations to correct and cure the past violations of good environmental practices. The term auditing is known to us in financial accounts and records are examined. Green audit is for the impact of the industries and their products on natural resources and environmental quality. It is necessary to have 'Green audit' to ensure sustainable industrial developments. Green audit is a pragmatic management tool, which addresses itself to help an industry or operation, to verify compliance with environmental requirements, to evaluate the effectiveness of the environmental management system, to assess risks and to identify and correct environmental hazards. It is the examination of accounts of revenues and costs of environmental and natural resources, their estimation, depreciations and natural resources, their estimation depreciations and values recorded in the books of accounts.

1. Environmental organization management systems and equipment are performing with the aims of:
  - i. Facilitating management control of environmental practices.
  - ii. Assessing compliance with company policies.
  - iii. Facilitating professional competence
2. The concept of Green auditing came into being in industrialized countries such as Canada, USA, UK and Netherland during early 1970's under a different number of approaches and names depending on the company concerned such as "Environmental review". Environmental performance appraisal, Quality approach, etc. In 1972, British Petroleum (B.P.) International group first used this concept. The United States Environmental Protection Agency published their environmental policy in 1986 followed by International Chamber of Commerce book let on Green auditing in the year 1988.
  - i. Provide with the basic understanding of green auditing to the readers.
  - ii. Elaborating on various components of green audit

### RESEARCH METHODOLOGY

the study is primarily based upon the secondary data. for this extent literature related to topic from different databases, websites and other available sources were collected. a systematic review of collected literature was done in detail.

## DISCUSSION & ANALYSIS

**Green audit** is a general term that can reflect various types of evaluations intended to identify environmental compliance and management system implementation gaps, along with related corrective actions. In this way they perform an analogous (similar) function to financial audits. There are generally two different types of Green audits: compliance audits and management systems audits.

### OBJECTIVES OF GREEN AUDITING

1. An Green audit programme which is designed and implemented properly can enhance an industry's environmental performance.
2. Monitoring the scale of optimum utilization of the resources and evaluating the company at national & international level.
3. To suggest for using alternative energy for the conservation of energy resources.
4. Evaluation of waste water quality and determination of waste water characteristics & their effects on the living system.
5. Classification of the categories of solid waste hazardous waste their sources, quantities & characteristics.
6. Introduction and implementation of time saving technologies in production.
7. Maintains of Labour / Occupational health & medicine.
8. Proper documentation of environmental compliance status.
9. To help in minimizing the wastes through modern cleaner technologies.
10. Regular Green auditing once in a year will help in producing environmentally educated & technically sound personnels.

The purpose of the Green audit is to provide an indication to the management of the improvements while environmental organization system & equipment are performing. To fulfill this purpose it is essential that audits should be seen as the responsibility of the company. The audit work can be voluntary and for the advantage of the company. The audit work can be done systematically and efficiently by the help of Green auditing programme. It helps in the proper utilization of natural resources as a whole it improves environmental quality.

### Green Audit Scheme and its Components

This particular tool is very important aspect of the Green audit for the total management system in terms of its being an asset or a liability for the industry's environmental performance. Environmental system is with a broad aim for a green environment. It helps in reducing waste.

- It helps in assessing compliance with regulatory requirement.
- It also helps in prevention control of effect of pollutant.
- It promotes relationship between qualified technician professionals, individual industries, State Pollution Control Board, other public authorities and industrial association etc.

Green audit Scheme (EAS) has three following components.

1. State Pollution Control Board
2. Internal Auditor Board
3. External Auditor

1. State Pollution Control Board - It plays active role in implementing the Green audit effectively. The steps involved in state pollution control board are mentioned. To prepare format of audit report on all the aspect of environmental protection.

- To appoint internal auditors to prepare industries audit report.
- Evaluation and verification of audit reports.
- Initiating the action on evaluated report.

2. Internal Auditor - The selection of auditor consist of experienced experts from various backgrounds. A qualified auditor should be require, as per the rules of State Pollution Control Board with well-equipped laboratory facility for analysis of water and air samples.

3. External Auditor - Team should be approved by State Pollution Control Board. Evaluated and verified reports have to send their comments to State Pollution Control Board for further action.

## Principle Areas of Green Auditing

The principal areas covered are

- a) Material Audit-It mainly concentrate on the use of different raw material or natural use of resources, cost\unit, process wise consumption, wastage etc. Conservation of raw material, scientific storage & reuse of wastage material are taken into consideration.
- b) Energy Audit- It examines consumption of various forms of energy in different processes in any industry or organization. The main of audit is minimization, elimination of avoidable losses of valuable energy & their conservation.
- c) Water Audit- Consumption of water at different sources is noted. It also concentrates on the reuse and recycling of water, evaluation of raw water intake, balancing of water table & other sources.
- d) Health and Safety Audit- Workers &employee are the basic need of industry. Health and safety of those is well considered in audit. Proper disposal of toxic and hazardous waste, fire prevention measures etc. should be evaluated
- e) Environmental Quality Audit- Conservation of every aspect and stage of environment helps to maintain the quality. This also well noted in audit scheme.
- f) Waste Audit: It covers the qualitative and quantities evaluation of waste generated from industries.
- g) Engineering Audit-Use of advance technology which will cover the suitable processes and engineering application.
- h) Compliance Audit: The different aspect of audits that are required to be carried out as per regulation, procedure & according to the policies of that particular industry are known as compliance audit.

## Green Audit Activities

1. Pre-audit activities -These include selection of the expert team and development of a plan. The plan should include defining the scope of the work, selecting priority areas, laying down the procedure &allocating team resources. There are four key activities.
  - Submitting pre-visit questionnaire of the facility.
  - Reviewing relevant regulation.
  - Defining audit scope and team responsibilities
  - Reviewing audit check lists.
2. On-site activities-Meeting of the team with the appropriate with the appropriate personnel of the unit &with discussion of the objective. The 3 primary functions on site activities are
  - Record &documentation review
  - Interview with staff
  - Physical inspection of the facilities.
3. Post-audit Activities: Development of raw material balance analysis for each process unit of the industry highlighting analysis for each process unit of the industry highlighting the proposed utilization of raw material and ideas regarding reuse can be thought of. Water, energy consumption, vegetation removal all the sensitive parts must be balanced. Evaluation of pollution audit, emission standard are carried out.
  - a) Issue of draft report
  - b) issue of final report

Conducting follow up to the corrective action.

Advantages:-

- Preparation of Environmental management plan.
- Assessment of environmental input and risks.
- Identifying areas of strength and weakness for improvements.
- Evaluation of pollution control.
- Verification of compliance with laws.
- Assuring safety of plant, environment & human beings.

- Enhancement of loss prevention, manpower development and marketing.
- Budgeting for pollution control, waste prevention, reduction, recycling and reuse.
- Providing an opportunity for management to give credit for good environmental performance.
- As a whole Green audit plays an important role in minimizing the environmental problem locally, regionally, nationally and internationally.

## **SUGGESTIONS**

For popularization of Green auditing in India and to serve as an important environmental management tool for the improvement of companies and industries

1. To complete the environment legislation and quality adoption of cleaner technologies. For prevention and abatement of different types of pollution by the Indian corporate sector and organizations.
2. An environment audit report must be published annually by the companies, mandatory for all Indian companies.
3. Indian Association for environment management (IAEM) and National Environmental Engineering Research Institute (NEERI) can play major role in this regard. The environment report must reach the public, so that it would succeed in minimizing the communication between public and industries. Subsequently it would help to create awareness among society.
4. Department wise environment audit helps to evaluate the present position of that particular industry.
5. Regular audit reduces the risk of technological hazards.
6. In major polluting industries, environment audit at least once in 3 years. If not yearly, should be made mandatory.

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## Image Mining Techniques and Applications

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### ABSTRACT

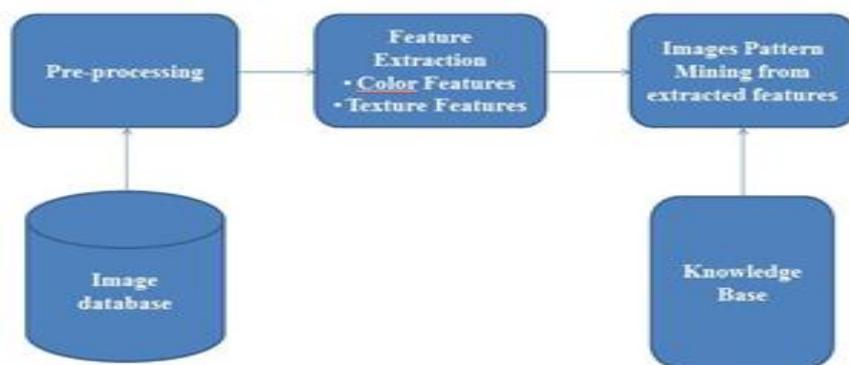
In today's world we use digital data such as video, audio, images etc. in various fields for various purposes. . Image plays a vital role in every aspect of medical diagnosis, agriculture, industrial work, space research and of course the educational field and so on. Image Mining as a research field is an interdisciplinary area combining methodologies and knowledge of many branches including data mining, computer vision, image processing, image retrieval, statistics, recognition, machine learning, artificial intelligence etc. Image mining is a very important technique which is used to mine knowledge easily from image. The main aim of this paper is to present a study on the various techniques used for image mining and its applications.

**Keywords:** Image Mining, Image Classification, Indexing, Image Retrieval, Object Recognition

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### INTRODUCTION

Data mining means mining information and knowledge from large databases or data warehouses. One of the major forms of data mining used in today's scenario is image mining. The process of retrieving images form repositories is called image mining. There have been many advances in technologies like image digitization, storage and transmission. These have caused a number of digital images to increase tremendously. Thus, content based image classification and retrieval systems have been the subject of many multimedia data mining research works in the recent years. The most used features for image description are: color, texture, shape and spatial features. Many of the existing image databases allow users to formulate queries by submitting an example image. The system then identifies those stored images whose feature values match those of the query most closely, and displays. Image mining deals with the extraction of implicit knowledge, image relationships or other patterns not explicitly stored in the image. Research in Image mining can be broadly classified in two main directions (1) Domain specific applications (2) General applications. Both are used to extract most relevant image feature and later to generate image patterns. Throughout Image mining procedure includes some steps like first refining Image database, Pre-processing, Transformation and have Extraction, Mining, Interpretation and at long last Evaluation that determined by knowledge. Here, images from an image database are first pre-processed to raise their quality. These images subsequently undergo various transformations and have extraction to generat very similar features from the actual images. With the actual generated features, mining can be executed using data mining processes to discover significant styles. The resulting styles are evaluated and interpreted to discover the final knowledge, which may be applied to various applications.



**Fig.1. Image Mining Process**

## **Image mining framework**

Early work in image mining has focused on developing a suitable framework to perform the task of image mining. An image database containing raw image data cannot be directly used for mining purpose [2]. Raw image data has to be first processed to generate the information usable for high-level mining modules. An image mining system is often complicated because it requires the application of an aggregation of techniques ranging from image retrieval and indexing schemes to data mining and pattern recognition. A good image mining system is expected to provide users with an effective access into the image repository and generation of knowledge and patterns underneath the images.

At present, two kinds of frameworks can be used:

- (a) Function -Driven Framework
- (b) Information-Driven image Frameworks.

## **Image mining techniques**

Image mining includes image classification and clustering, association rules mining, object recognition, image indexing and retrieval, and neural network [2,3].

### **Image Classification**

In supervised classification technique, as input a collection of labelled (Pre-classified) images are given, and here the problem is to label a newly encountered, yet unlabeled images. Typically, the given Labelled (training) images are used to do the machine learning of the class description which in turn is use to label a new Image.

### **Image Clustering**

In unsupervised classification (or image clustering), the problem is always to group a given assortment of unlabeled images straight into meaningful clusters based on the image content with not a priori knowledge. Clustering is often more advantage for minimizing the searching time period of images inside database. There are a variety of clustering methods: hierarchal, partitioning, density-based, grid based and fuzzy clustering methods.

### **Association rules mining**

Association rule mining generates rules that have support and confidence greater than some user specific minimum support in addition to minimum confidence thresholds. A normal association rule mining algorithm works within two steps. The 1st step finds all substantial item sets that match the minimum support constraint. The second move generates rules from each of the large item sets that match the minimum confidence constraint.

### **Object Recognition**

Object recognition is a step resulting in segmentation of an image. It focuses on identifying objects in an image and dividing an image into several regions accordingly Using object models which might be known a priori, an object recognition technique finds objects in actuality from an image. Machine learning and purposeful information extraction can simply be realized when some objects have been identified and recognized through machine. The object recognition problem might be refer to as any supervised labeling problem according to models of known items i. e. given a target image containing a number interesting objects and a collection of labels corresponding to a collection of models known to technique, what is object recognition to assign correct product labels to regions, or a collection of regions in the image[8].

### **Image Retrieval**

Image mining requires that images be retrieved according to some requirement specifications. The requirement specifications can be classified into three levels of increasing complexity:

- a) Level 1 comprises low level features of such as color, texture, shape or the spatial location of image elements.
- b) Level 2 comprises image retrieval by derived or logical features like objects of a given type or individual objects or persons.
- c) Level 3 comprises high level features of image.

### **Image Indexing**

To further improve image retrieval rate, there is require of image data base using a fast and useful indexing scheme. A couple of main approaches are usually: reducing dimensionality or indexing high dimensional info. Other proposed indexing schemes concentrate on specific image features including color, shape and texture features.

## Neural network

Neural Networks are computational systems made up of simple processing units called neurons which are usually organized into layers with fully or partially connections. The main task associated with a neuron is to receive the activation values from its neighbours (the output of other neurons), compute an output based on its weighted input parameters and send that output to its neighbours.

## Image mining issues

Image mining till today, is not such a culminated field and is still under examination and development and there is a great scope in area. It differs from low level processing techniques as image mining targets on enormously large database to extricate interesting pattern.

Conceivably image mining and pattern recognition are synonyms, is a big misconception. They are different in manner that pattern recognition is about extracting significant pattern whereas image mining is introducing significant pattern from the knowledge that we have [4]. Other than these aspects, few more issues are to be resolved and they are-

- 1) Exploring new discovery techniques that take into account the unique characteristics of image data.
- 2) Incorporating new visualization techniques for the visualization of image patterns.
- 3) To retain various information like contextual, spatial & important image characteristics in the representation scheme, how an image pattern can be represented.
- 4) For the meaningful visualization of the discovered patterns in the mining, what are the important images features to be used.
- 5) In a visually efficient environment, how the patterns extricated are represented in front of users.
- 6) Designing semantically powerful query languages for image databases.
- 7) The key issue in image mining is how to pre-process image sets so as to represent in form that supports the application of data mining.

## Image mining real world applications

The real word applications of Image mining are:-

**Satellite Image Mining:-** The real-world application of image mining involves satellite images. Satellite images are an important source of information. One useful application of satellite images is to examine the paths and trends of forest fires over the years, thereby enabling firefighters to have a better understanding of the behavior of such forest fires in order to combat these fires effectively.

**Diagnosing disease:-** Image mining helps in identification of relationships among diseases, keeping track of new drugs and of effective medicines.

**Monsoon and Rainfall Prediction:-** The prediction of rainfall is one of the major studies in field of image mining. In India, where agriculture is major occupation which is dependent on rainfall, the time and amount of rainfall holds high importance and thus mining useful data relevant to this is on high demand[7].

**Textile Image Retrieval Using Color as parameter:-** All textile industries aim to produce large scale of textile depends mainly on designs and quality of the dresses produced. Every day, numerous textile images are being generated such as images of shirts, jeans, t-shirts and sarees.. Images play an important role as a picture is worth thousand words in the field of textile design and marketing. A retrieving of images needs special concepts such as image annotation, context, and image content and image values. [5]

**DNA Analysis:-** One of the most important use of image mining has been in identifying gene sequence patterns that plays role in different diseases, studying a collection of genes and also their linkages.

**Disaster Management:-** The frequency of disasters has been increasing in the recent past. Data and image mining can be utilized for early warning information dissemination and thus saving precious life's.

## CONCLUSION

Image mining is a progressive field that retrieves images that best matches from the images in the image dataset, on the basis of query image. The process model represents about storing the various type/level of information already present in image dataset and pointing the issues of analyzing and retrieving useful patterns/knowledge from each type/level. The main intent of the image mining is to remove the data loss and obtain the meaningful information which is expected need of human. In this paper most of image mining techniques have been discussed. These all techniques have their own advantages and disadvantages. Various

real world applications also have been discussed in this paper. Future work may include discussion about new image mining methods and the updated frameworks, also comparing them with previously discussed methods. It may also include the resolution of many image mining issues and challenges which have been already discussed in this paper.

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## Sustainable Cities and Human Settlements

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### **ABSTRACT**

*Cities are fulcrum of ideas, commerce, culture, science, and productivity, social, human and economic development. There have been recent movements pushing to address sustainable development from an urban perspective that have taken place throughout the world. The Sustainable Development Goal 11, "make cities and human settlements inclusive, safe, resilient and sustainable. This paper explains how India's sustainable development agenda shall be fulfilled through the path chosen by urban India. The research study is going to be descriptive in nature and is based on secondary data and case studies.*

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### **INTRODUCTION**

In 2008, for the first time in history, the global urban population outnumbered the rural population. It is expected by 2050 two-thirds of the world population will be living in urban areas. With the growing importance of urban perspective in global development efforts there is an advent of new 'urban millennium. The result is inclusion of a stand-alone goal on cities and urban development in the 2030 Agenda, Sustainable Development Goal 11, "make cities and human settlements inclusive, safe, resilient and sustainable". According to UN World Cities Report 2016 by 2030, India is expected to be home to seven mega cities with population above 10 million.

### **REVIEW OF LITERATURE**

Post World War-II; the need for conserving non-renewable and natural resources was realized based on the rapid population and economic growth, which initiated the concerns towards the necessary requirements of future generations. Along with economic growth, social problems were considered as an important dimension as it represented the growth of human welfare. As the concept evolved it was actualized that to meet the demands of the future generations, the natural resources should be considered as capital rather than an income source. Further researchers argued that every development should have a guided approach with defined sustainable vision and goals (International Institute of Sustainable Development, 1996). Recent ambiguity among the usage of terms Sustainability and Sustainable development was cleared, stating that these are interchangeable terms as sustainability provides the guiding values that are reflected in the sustainable development through policies and programmes initiated (Ling, 2005). The universally accepted definition of Sustainable development is defined as 'ability of humanity to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generation to meet their own needs' (WCED, 1987, 2013) The most common division of sustainability includes three dimensions, i.e. 3E's- environment, economy, and equity (Berke 2002; Godschalk 2004; Munier 2005). Environment dimension is concerned with conserving the natural resources so they can be enjoyed by the future generation, the economy dimension is concerned with economic growth involving economic processes and its negative impacts on the natural environment, and equity dimension may be defined as social progress or social dimension, considering a fair share of benefits to every individual. It was also contended that institution as a dimension should be essential to sustainable development because of its role in implementation. However, the complexity led institutions to stand out from 3E's, as institutional dimension subjects to the dimension of equity, and should not be regarded as an independent dimension (Spangenberg, 2007). To undertake the issue of urban sprawl, the concept of smart growth came into existence that was defined as the development that is opposed to sprawled growth. It is the direction of the portion of growth to the inner metropolitan area, combined with a more controlled outward movement (Burchell et al., 1999). Smart Growth is 'the planning, design, development and revitalization of cities, towns, suburbs and rural areas in order to create and promote social equity, a sense of

place and community, and to preserve natural as well as cultural resources. It enhances ecological identity over both the short and long term, and improves the quality of life for all by expanding, in a fiscally responsible manner, the range of transportation, employment and housing choices available to a region'. (American Planning Association, 2002)

Another concept identified to be associated with smart growth was 'Livability'. The concept has been defined as 'the preservation and enhancement of social and physical amenities of communities that support desired activity patterns, safety, lifestyles and aesthetic values' (Bullard, 2007). However, livability seeks to enhance the quality of life of the current generation which ignores the responsibility to leave future generations a better world. Therefore, smart growth's core value encounters conflicts with sustainability (Godschalk, 2004).

The concept of smart city came into existence from 1997 with the purpose to limit CO<sub>2</sub> emissions because of the on-going urban development and consequently, to safeguard the environment all over the world. It was Kyoto Protocol that initiated this concept that was signed by 192 parties, including the European Union and Russia. All the parties were required to prepare policies and measures to decrease the CO<sub>2</sub> emission in their respective countries (Cocchia, 2014). In the following years, ICT (Information and Communication technology) infrastructure, such as broadband infrastructures, wireless sensor networks, internet-based networked applications, etc became the backbone of a large intelligent infrastructure (Schaffers et al., 2000), making technology an important driver to the promotion of the concept. 'Smart City aims to decrease the challenges that cities face, such as scarcity of energy resources, healthcare, housing, water and deteriorating infrastructure. They also suffer from price instability, climate change and the demand for better economic opportunities and social benefits'. Washburn (2010) 'The smartness of cities can be defined in three flavors: (i) cities are learning to learn, (ii) cities are learning how to use ICT to make city systems more efficient, equitable and resilient, and (iii) cities are gaining new awareness about the important role they can play on global issues like climate change'. Campbell (2014) 'A smart city is one in which citizens are co-managers of the city along with public officials, thus highlighting the importance of citizen engagement'. NIUA – National Institute of Urban Affairs, 2015 In (2011) Pardo and Taewoo, concluded that nowadays a standard definition of the smart city does not exist and therefore, organized all the definitions in dimensions depending on some shared characteristics. These dimensions are:

- Technology Dimension: based on the use of infrastructures (especially ICT) to improve and transform life and work within a city in a relevant way. This dimension includes the concept about Digital City, Virtual City, Information City, Wired City, Ubiquitous City and Intelligent City.
- Human Dimension: based on people, education, learning, and knowledge because they are key drivers for the smart city. This dimension includes concepts like Learning City, and Knowledge City.
- Institutional Dimension: based on governance and policy, because the cooperation between stakeholders and institutional governments is very important to design and implement smart city initiatives. This dimension includes concepts like Smart Community, Sustainable City, and Green City.

## **OBJECTIVES OF STUDY**

- To study the urban India and sustainable development
- To highlight the challenges faced by urban India
- To study the impact of sustainable development through case study on Jabalpur
- To study the initiatives taken by government of India for sustainable development of cities.

## **RESEARCH METHODOLOGY**

This is descriptive research based on secondary data. The data has been collected from websites, articles, research papers, reports and newspapers.

### **Urban India and Sustainable Development**

India is undertaking a fast rural to urban transformation. Cities are hubs for economic activity. The way cities will deliver basic services like transport systems, water, sanitation, waste management, disaster risk reduction, access to information, education and capacity-building will decide the path of sustainable development.

For achieving the sustainability of cities integration of four pillars is required namely: Social development, economic development, environment management, and effective urban governance. As per Census, it is estimated that India's population will grow to around 600 million by 2031. However Indian cities are struggling with multiple problems such as Poverty, Inadequate Provision of Urban Services, Congestion, Air Pollution,

Sizeable Slum Population, Lack of Safety measure, Challenges in terms of garbage removal, Sewage System, Sanitation, Affordable housing ,Public Transport Sustainable human settlements development was also discussed at the second and third sessions of the Commission on Sustainable Development. "Promoting sustainable human settlements development" is the subject of Chapter 7 of Agenda 21, which include for providing adequate shelter for all, promoting sustainable land-use planning and management.

Human settlement development will include human resource development, capacity-building for human settlements, human settlements management that is providing sustainable energy and transport systems, provision for environmental infrastructure: water, sanitation, drainage and solid waste management, planning and management in disaster-prone areas and construction industry activities.

### CASE STUDY

Jabalpur is a major city of Madhya Pradesh with a population of 1,055,525, and decadal growth rate of 14.51% (according to the 2011 census). Solid Waste Management (SWM) being one of the foremost challenges confronting the municipal bodies. Jabalpur Municipal Corporation (JMC) has initiated a Garbage Collection and Management system to ensure optimal collection, transportation and processing/ disposal of waste. The project is scheduled to complete by 1 January 2018. The project has enabled Jabalpur to have effective control and management on collection, transfer and disposal of Solid Waste; this has led to effective Solid Waste management starting from the household level.

### Initiatives by Government of India

Government of India is taking various steps to improve sustainability of cities, which includes:

- **Smart Cities Mission:-** It is in the 12th Five Year Plan (2012–17), where the concept of smart development has been introduced. Smart City Mission was launched on 25th June 2015 with the aim to attain sustainable environment for its cities.

It involves 3 strategies that are

- Provision of core urban infrastructure
- ICT enabled smart solutions to core infrastructure
- Area Based Development: which implies improvement (retrofitting), city renewal (redevelopment), city extension (greenfield development) and pan city concept (using modern technology solutions to the existing city infrastructure)
- **National Urban Housing and Habitat Policy (2007):-** This policy focuses to promote sustainable development of habitat in the country with a view to ensuring equitable supply of land, shelter and services at affordable prices to all sections of society.
- **Swachh Bharat Mission (Urban):-** SWB has been implemented with the vision of ensuring hygiene, waste management and sanitation across the nation. It will serve as a tribute to Mahatma Gandhi on his 150th birth anniversary, to be celebrated in the year 2019. The Ministry of Housing and Urban Affairs (MHUA) is the authority responsibility for it. Key thrust areas of the mission include, Elimination of open defecation, Eradication of Manual Scavenging by converting insanitary toilets to sanitary, Modern and Scientific Municipal Solid Waste Management ,creating behavioral change about healthy sanitation practices and awareness about it linkage with public health ,The mission also ensures capacity augmentation for Urban Local Bodies (ULBs) to create an enabling environment for private sector participation.
- **Management of Municipal Solid Waste (MSWetc):-** About 10 million tons of garbage is generated every day by major Indian metros like Mumbai, Delhi, Bengaluru, Kolkata and Chennai. As per Solid Waste Management Rules 2016-All waste generators should start segregating their waste into three categories – Biodegradables, Dry Waste (Plastic, Paper, metal, Wood) and Domestic Hazardous Waste (diapers, napkins, mosquito repellents, cleaning agents) before they hand it over to the collectors. There are guidelines For the Over-growing Landfills. The government has also established a Central Monitoring Committee under the chairmanship of Secretary, to monitor the overall implementation of the rules effectively.
- **Nation Wide Campaign:-** Government of India has launched nationwide campaign called ‘Green Good Deeds’ on 15th February 2018. The major focus of this initiative is to sensitize the youth and creating

'Green Sainiks, to engage children, students, urban communities to more healthier environment. People are urged to make small changes in their lifestyle for a greener tomorrow.

## CONCLUSION

The shift to sustainable development is an opportunity for urban and local governments to leapfrog traditional development trajectories to more inclusive, environmentally sustainable, and economically successful development pathways. This paper provides preliminary suggestions for how cities and local governments might start the process of operationalizing and achieving the SDGs.

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## MSMEs as the Base of Sustainable Development Pyramid

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### **ABSTRACT**

*Sustainability has become a mandatory strategy for survival on the planet. Sustainable development is an imperative for survival and growth of people, planet and the organizations. As India gears up to retrace the high growth path, the Micro, Small and Medium enterprises (MSMEs) assumes a pivotal role in driving the growth engine. The study embraces the sustainability initiatives of MSME working in India. The study indicates that the MSMEs have a critical role to play in the achievement of the Sustainable Development Goals (SDGs). The purpose of this paper is to understand the role and importance of the MSMEs in the social, economic and environmental related activities. Further, the paper also highlights the kind of barriers MSMEs face when striving to reach sustainable development goals.*

**Keywords:** Sustainability, SDGs, MSME

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### **INTRODUCTION**

Global wealth has almost doubled since 1990, but nearly half the world's population subsists on less than US\$ 2 per day. Poverty remains a major challenge to sustainable development, environmental security, global stability and a truly global market. The key to poverty alleviation is economic growth that is inclusive and reaches the majority of people. Improving the performance and sustainability of local entrepreneurs and micro, small and medium enterprises (MSMEs), which represent the backbone of global economic activity, can help to achieve this type of growth. MSMEs play a crucial role, particularly in developing countries, acting as key engines of job creation and economic growth. Statistics from The World Bank indicate that formal MSMEs contribute up to 33% of national income (GDP) and up to 45% of total employment in emerging economies. The 17 Sustainable Development Goals (SDGs), ratified by the United Nations General Assembly in September 2015, were presented as "a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity". Contributing to the growth and development of the MSME sector has both important economic and social impacts, and these businesses have a critical role to play in the achievement of these Sustainable Development Goals (SDGs). MSMEs can make a significant contribution to the achievement of SDGs in the sectors like agriculture, affordable healthcare, education, clean energy and water & sanitation.

In India as well, MSMEs constitute the majority of enterprises and are considered as one of the most important factors in economic and social growth, employment generation, local development and poverty reduction. According to the estimates of the Ministry of MSME, Government of India, the sector generates around 100 million jobs through over 46 million units situated throughout the geographical expanse of the country. With 38% contribution to the nation's GDP and 40% and 45% share of the overall exports and manufacturing output, respectively, it is easy to comprehend the salience of the role they play in social and economic restructuring of India. Besides the wide range of services provided by the sector, it is also engaged in the manufacturing of over 6,000 products ranging from traditional to hi-tech items. Today the nation is facing many challenges, including environmental challenges like climate disruption caused by man-made greenhouse gas emissions, and societal challenges, including rising income inequality and other forms of social injustice. There are several ways through which these challenges can be responded and given the above numbers MSME sector could be one of those. The Sustainable Development Goals can only be achieved if India manage to build up strong MSMEs. The significance of MSMEs is attributable to their caliber for employment generation, low capital and technology requirement, promotion of industrial development in rural areas, use of traditional or inherited skill, use of local resources, mobilization of resources and exportability of products.

## OBJECTIVES

- To understand the role and importance of the MSMEs in the social, economic and environmental sustainability.
- To understand the nature of contributions by the MSMEs towards sustainable development Goals in India.
- To identify the kind of barriers MSMEs face when striving to reach sustainable development goals.

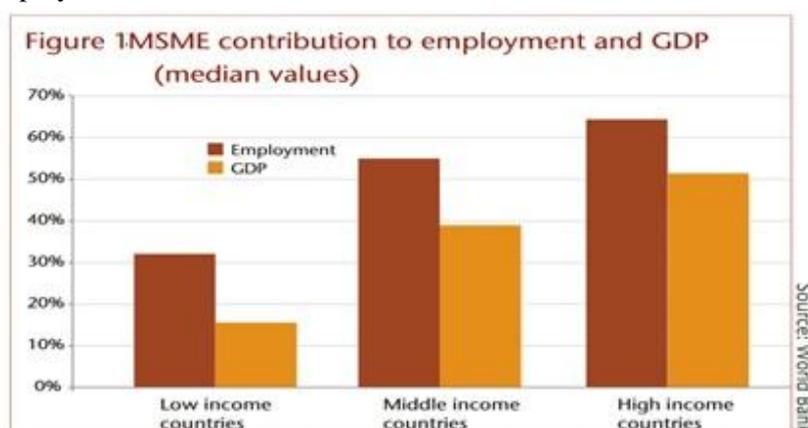
## RESEARCH METHODOLOGY

The aim of the research is to identify the role of MSMEs and how they are helping in attaining the sustainable development goals. Beyond that the study also focuses on the difficulties they are facing while executing their plans and to make further suggestions in improvement of that. The paper is based on secondary data collected from various viz., Journals, books, internet and from Government of India and other recognized National and International Organizations/ Associations/ Bodies official websites. The data available on these websites are regularly updated and the website is directly under the control of Government of India and recognized International Organizations/ Associations.

### Why MSMEs?

In the past, it was argued that sustainability assessment was only suitable for large-sized companies, due to their significant impact and ample resources (Azmat & Samaratunge 2009; Holton, Glass & Price 2010; Sloan, Klingenberg & Rider 2013). Currently, approximately 80% of enterprises globally are MSMEs. In addition, MSMEs constitute a high percentage of the world's production. Therefore, it is argued that the trend toward sustainable development cannot be maintained without the inclusion of MSMEs (Jenkins 2006). The role of MSMEs in promoting sustainable development is stated in Agenda 21 (UN 1992, chapter 30.17):

MSMEs, in particular, play a very important role in the social and economic development of a country. Often, they are the major means for rural development, increasing off-farm employment and providing the transitional means for improving livelihoods of women. Responsible entrepreneurship can play a significant role in improving the efficiency of resource use, reducing risks and hazards, minimizing wastes and safeguarding environmental qualities. In OECD economies MSMEs account for over 95% of firms, 60-70% of employment, 55% of Gross Domestic Product (GDP) and generate the large share of new jobs. In developing countries, more than 90% of all firms are MSMEs, contributing a significant portion of GDP. For example, in Bangladesh, enterprises of less than 100 employees account for 99% of firms and 58% of employment. Similarly, in Ecuador, 99% of all private companies have less than 50 employees and account for 55% of employment. In Morocco, 93% of industrial firms are MSMEs and account for 38% of production, 33% of investment, 30% of exports and 46% of employment.



The above said data shows how MSMEs have a catalytic role to play in meeting the most economic, social and environment related Sustainable Development Goals like promoting inclusive and sustainable economic growth, fostering innovation, industrialization and employment generation. The growth and development of MSME sector, in India as well, has been consistent and remarkable over the preceding decades. The following tables provide information about total working enterprises, Employment generation and Market value of assets

S. No.	Year	Total working Enterprises (in Lakh)	Employment	Market Value of Fixed Assets (in crore)
1	2006-07	361.76	805.23	868,543.79
2	2007-08	377.36	842.00	920,459.84
3	2008-09	393.70	880.84	977,114.72
4	2009-10	410.80	921.79	1,038,546.08
5	2010-11	428.73	965.15	1,105,934.09
6	2011-12	447.66	1011.80	1,183,332.00
7	2012-13	467.56	1061.52	1,269,338.02
8	2013-14	488.46	1114.29	1,363,700.54
9	2014-15	510.57	1171.32	1,471,912.94
10	2015-16	534.36	1229.56	1,525,220.32

Source: Annual Report of MSME, Government of India, 2016-17

From the above given table, it is clear that the number of enterprises, employment, and investment in fixed assets in India shows an increasing trend over the years and from 2010 onwards to till today performance of MSMEs is increasing at a faster rate, at the same time the number of MSMEs also increasing in high number. As per the Annual Report of MSME 2016-17, the contribution of MSME sector towards GDP and total manufacturing output has been increasing compare to manufacturing sector. During the financial year ending 2014-15, this sector contributes 33.40% of the total GDP of the country. It is projected that this sector contributes to GDP around 33.57% of the total GDP. It is an indication of changing nature of the economy and MSMEs have gained significant role in its sustainable development.

#### **Role of MSMEs in Sustainable Economic Growth**

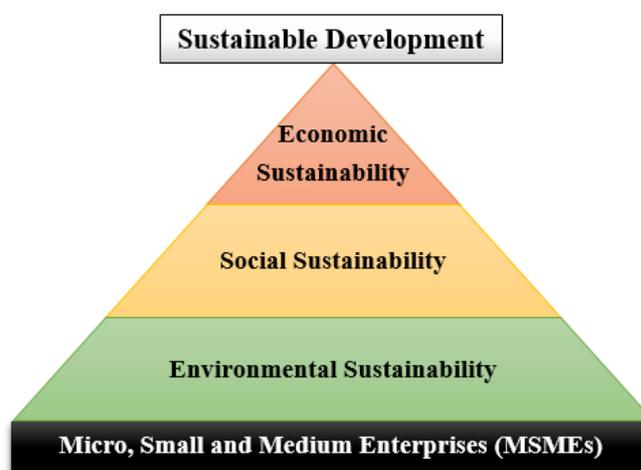
Research shows that the growth of MSMEs and their economic contributions are considered important for their own long-term survival and the economy (Audretsch & Thurik 2001). In the broader economy, this can have direct impact on tax payments and national competitiveness (Cramer 2006). Well-managed and healthy MSMEs are a source of employment opportunities and wealth creation. They can generate significant tax revenues and contribute to the social stability of an economy. According to the International Finance Corporation (IFC), a country's overall level of income and the number of MSMEs have a positive relationship. The World Bank's Doing Business reports indicate that a healthy MSME sector corresponds with a reduced level of informal or "black market" activities. In addition, MSMEs help in restructuring the economy by complementing economic institutions with entrepreneurial activities, increasing production capacity, and restoring, preserving and developing traditional and indigenous business activities. Moreover, the growth of MSMEs in India has contributed to higher income in non-farm employment, more sustainable economic development, efficient usage of resources, and creation of more equal opportunities for work across regions. In aggregate they contribute up to 40-45 per cent of GDP in India.

#### **Role of MSMEs in Sustainable Social Growth:**

MSMEs often have a vested interest in social development. Being local, they draw upon the community for their workforce and rely on it to do business. For the communities, they provide goods and services tailored to local needs and at costs affordable to local people. They are an important source of employment, particularly for low-skilled workers, as well as women and young people, who usually make up the greatest proportion of the unemployed in emerging economies. Their flat management structures mean that their personnel must fulfill multiple roles, which makes them less vulnerable to unemployment during periods of economic downturn. Their small size and flexibility allow them to adjust to local market fluctuations and to weather local market shocks more comfortably. In regard to their social contributions, the establishment of MSMEs across India, including both large cities and rural and remote areas, reduces the constraints of unemployment and poverty (Bartlett 2001; Smallbone & Welter 2001). The Indian MSME sector employs nearly 46 crore people, which is the second largest workforce in the country after the agricultural sector, and is growing at 11.5% annually. In large cities, where the number of immigrants increases unemployment, MSMEs create more jobs and welfare. In rural and remote areas, where there is a difference in levels of development, MSMEs help poverty alleviation and unemployment reduction. Thus, the operation of MSMEs will address social issues and contribute to the national goal of sustainable development.

### Role of MSMEs in Sustainable Natural and Environmental Growth:

MSME environmental sustainability is also crucial, and, as there is a large number of MSMEs in the economy, their collective contributions will be significant for efforts towards environmental protection. Environmental sustainability practices appear through the efficient use of natural materials and energy and waste reduction. These practices help to protect the environment and also reduce firms' operational costs which can then be used for other business development activities such as product research and development. Owners and managers sensing the challenges from the shop floor to the sales force, and often connecting with local communities and environments. They are making a small, but positive contribution towards environment sustainability. To MSMEs, resource efficiency, reducing waste and employee welfare all make business sense, although they don't necessarily label their efforts as sustainability. For MSMEs, to engage with the environment sustainability agenda, the focus is on measurable actions that deliver a rapid return on effort and the bottom line. MSMEs engage their staff to use their skills to take actions now. Assigning responsibility to site operatives helps to drive recycling rates, increases efficiency, and enhances employee pride in making a measurable contribution. Training personnel to think differently, while using their knowledge, empowers them to find sustainable solutions. This shows that MSMEs serve as the golden thread that connects economic growth, social equity, and environmental sustainability. By taking MSMEs as the base of the pyramid for the sustainable economic, social and environmental growth, India would reach to the top to its complete sustainable development.



### Role of MSMEs and Sustainable Development Goals (SDGs)

Relation of growth of micro, small and medium-sized enterprises with achievement of SDGs is positive. MSMEs have a leading role to play in meeting the most economic, social and environment related Sustainable Development Goals. SDGs can be attained by strengthening the capacity of MSMEs in India. Role of MSMEs in attaining some specific SDGs are:

- **Decent Work and Economic Growth:** Given the employment-generating role of MSMEs, allowing these businesses to thrive and prosper is clearly a critical area for achievement of this goal. Growth of MSMEs contributes in providing full and productive employment and decent work for all, entrepreneurship, creativity and innovation. Furthermore, IMF expects India to be the third largest economy in the world after US and China, with a growth rate of over 8 per cent, by 2050. India's MSMEs are likely to play a greater role than before in its holistic development (Varhad Group, 2013). The projected desirable contribution to India's GDP from MSMEs is ranging from 20-25 per cent.
- **Industry, Innovation and Infrastructure:** Innovation and hard work is the hallmark of an MSME. All business owners start with an idea, and develop it to create a viable business that meets the needs of its customers. MSMEs represent an important source of innovation. They tend to occupy niche (specialized) market and follow competitive strategies which set them apart from other companies. This might include re-engineering products or services to meet market demands, exploring innovative distribution or sales techniques, or developing new and untapped markets.
- **Zero Hunger:** Another important role played by smallholder farmers and agricultural-focused MSMEs is creating and maintaining a sustainable food supply. The MSME sector in India accounts for about 95% of the industrial units in agriculture in terms of employment generation. This is expected that by 2030 the

agricultural productivity and incomes of small-scale food producers will be doubled. This would eventually attain the SDG 2 by achieving zero hunger, food security and improved nutrition.

- **Good Health and Well Being:** In many developing countries, healthcare MSMEs fill the gap left by the inability of the public sector to meet health care needs of the population. Such MSMEs provide proper sanitation and hygiene etc. to maintain the good health and well-being.
- **Quality Education:** Likewise, public funding alone in India is insufficient to provide the breadth and the quality of education services needed to reach the ambitious goals laid out in SDG 4. In many regions of India, low cost private schools have been identified as a key means to provide the necessary educational services to the population, and can be considered essentially “educational MSMEs.” The Center for Education Innovations (CEI) tracks, among other innovations, the development of low cost private schools worldwide and in a recent study noted that the number of low cost private schools had more than doubled in India since 1993.
- **Clean Water and Sanitation and Affordable and Clean Energy:** A report by the World Bank in 2014 identified a potential USD 1.2 trillion market for MSMEs in the developing world in the area of “clean technology” for the decade ending in 2023. The greatest opportunities identified were in waste management, followed by small hydro, water treatment, onshore wind power, solar photovoltaic, geothermal and bioenergy. The study reports that in the UK, up to 90 % of clean technology businesses are MSMEs, and this could be replicated in the developing world. MSMEs are considered to be particularly well-placed to operate in this sector due to the various value-chain areas involved that are suited to small-sized enterprises – construction, installation, operations and maintenance – and the connection that MSMEs have to local markets.

### **Challenges Hindering MSMEs to contribute in SDGs**

India is ranked 116 on the index with a score of 58.1, out of 157 nations behind countries such as Nepal, Iran, Sri Lanka, Bhutan and China on a global index that assesses the performance of countries towards achieving the ambitious sustainable development goals (SDGs). One of the greatest obstacles in achieving the global goals for India is challenges hindering MSMEs’ practices. Commonly known difficulties of all MSMEs according to researchers are market competition, lack of skilled personnel (Devasthali, T. 2015), limited financial resources (Omid Sharifi & Bentolhoda Karbalaei Hossein 2015) and limited managerial capabilities (Kshetri and Nir 2012, Joni Salminen 2014). In India in transition, due to the inadequacy of institutional support from the government and shortage of experience in management of the business community, these challenges became more severe. They face further more challenges such as shortage of raw materials, government administrative bureaucracy, limited knowledge and information that became hurdle in their progress and performances. MSMEs, particularly in developing countries like India, face constraints in key areas such as technology, finance, Inventory Management (IM), marketing and human resources (Rajeev Narayanapillai 2014). The performance of Indian MSMEs in terms of management practices have been found significantly below the international standard and except few, most of the MSMEs fail due to lack of strategic management and inexperienced leadership.

### **CONCLUSION**

This study was considered to review whether MSMEs have a role in achieving the sustainable development in India. With reference to the research objectives, the conclusion is discussed under three parts. The first deals with the understanding of role and importance of the MSMEs in the social, economic and environmental related activities, the second is understanding the nature of contributions by the MSMEs in India towards sustainable development Goals and finally to identify what kind of barriers MSMEs face when striving to reach sustainable development goals. With reference to the role and importance of the MSMEs in the social, economic and environmental related activities, MSMEs over the years have assumed greater significance in our national economy by contributing to employment generation and rural industrialization. They have been accepted as the engine of economic growth and for promoting equitable development. During past years the production of MSMEs has grown at a higher rate compared to overall production of industry in India. Hence the relative importance of MSMEs for revival of growth in Indian economy is considerably high and this sector possesses enough potential and possibilities to accelerate social, economic and environmental growth in India. With regards to the contributions of MSMEs towards sustainable development Goals, MSME play a catalytic role in attaining the SDGs. Among 17 Sustainable Development Goals, there are many goals that have a bearing on MSME development, especially SDG 9 that is built on three pillars—infrastructure, industry and innovation—all of which are strongly connected among themselves and share the common goal of achieving socially inclusive

and environmentally sustainable economic development. Hence, Micro, Small and Medium Enterprises (MSMEs) have to be strengthened to play a bigger role in the country's economic prosperity. Finally with regards to the barriers MSMEs face when striving to reach sustainable development goals. The MSMEs face major constraints in accessing finance, market competition and managerial capabilities. They are also handicapped by skilled human resources gap, government support and poor technology. The challenges faced by MSMEs need to be addressed to enable them realize their full potential and play a bigger role in the country's economic prosperity. This universal agenda "2030 Agenda for Sustainable Development" has provided the base that the countries may adopt while formulating the national development strategies for the economic, social and environmental growth. In the context of SDGs, inclusive and sustainable industrialization and MSME development must be the core agenda of the national governments, so as to address the critical issues around economic growth, job creation, social stability, and environmental protection. In sustaining this planet and ensuring a greener future for posterity, the MSMEs can play a pre-eminent role by adopting practices that will not impact the environment and harm the present and future generations. India will have to strengthen their capabilities and explore new ways to solve development challenges, by involving MSMEs.

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## CSR and Tax Transparency: An Indian MNC Perspective

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### ABSTRACT

*The expansion in globalization demands India to open up and draws investments from different multinational organizations (MNCs) from everywhere throughout the world and turn into the conspicuous economy for advancement. In 1991, firms are entering into a dynamic universe of international business that is set apart by advancement of financial approaches in an expansive number of developing economies like India. Multinational Corporation offers innovation - both for creation and for utilization - on exceptionally blemished international markets to less developed countries. The purchasers must concern themselves both with suitability and cost. In the present situation, India is playing a main part in the worldwide business group. It is second biggest developing economy of the world and the one among the favored goal for FDI inflow. As indicated by the Ministry of Corporate Affairs, it is one of the approaches to building up an arrangement of activities. In 2009 the government made compulsory for all public sector oil organizations to contribute 2% of their net profit on CSR exercises. This paper attempts to highlight few essential perspectives looked by developing Indian multinational organizations in their workplace. The idea of CSR started in 1920 and ended up in the spot light after 1951. Corporate social responsibility and tax planning are primary parts of tax management of Indian multinational organizations. In the Indian perspective, the majority of the multinational organizations have advantage with the tax authorities. The tax assessment procedure of Multinational corporations fundamentally worried about parent company and subsidiary company.*

**Keywords:** Business, Corporate Social Responsibility, Globalization, Multinational Companies, Tax management

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### INTRODUCTION

Multi National Corporations (MNCs) are immense modern associations which are going for expansion of their benefits from one or two products, the MNCs work in various fields and from this point of view, their business methodology reaches out various products and over various nations.

1. MNCs are assuming a noteworthy part in the globalization.
2. More and more products and enterprises, speculations and innovation are moving between nations.
3. Most areas of the world are in nearer contact with each other than a couple of decades back.

### Control over Multinational Corporations

The duty of controlling the activities of Multinational Corporation in India lays on various government organizations. These organizations are:

- 1) The Ministry of Company Affairs
- 2) The Reserve Bank of India
- 3) The Ministry of Industrial Development, and
- 4) The Ministry of Finance.

However, these organizations don't work in close participation with each other.

Tax Management was a term that was minimal utilized by organizations until a couple of years ago. Tax authorities are more forceful around the globe and having been doing their best to ensure that business administrators can have no reasons for numbness about their tax function. , there is significantly more to impose administration in organizations than ensuring that the appropriate amount of tax is paid on time in the places where it ought to be paid. Stakeholders communication, technology and the structure of the tax function are different points that add to compelling tax management in organizations. Tax management is the essential prerequisite through which businesspeople are required to fulfill the procedural necessity of tax assessment, for

example, recording of profits, answer to the pay charge insinuations and notification, appropriate information base administration and opportune accessibility of bookkeeping information and so on. Tax planning is encouraged by an effective tax management framework. Most organizations are engaged with tax planning broadly with the motivation behind lessening their income tax since the salary assess costs will decrease their benefits. It is course of action of one's budgetary undertakings with the goal that lawful arrangements won't disregard, it completed the full happiness regarding Tax Rebates, Tax Exemptions, Tax Deductions and it is inside the four corners of LAW and viewed as completely authentic.

### **CSR Playing Critically Important Part in Tax Management**

Corporate Responsibility is about how a business considers the effect that its activities have on the financial, social and ecological structure holding the system together with a view to amplifying the advantages and limiting the drawbacks that it sees. Corporate responsibility or supportability detailing is a procedure for openly uncovering an association's financial, ecological and social administration and execution.

### **Lawful Framework for CSR**

The new section 135 in the Companies Act, 2013 – commanding certain class of organizations to spend 2% of the benefits on CSR – is relevant to foreign organizations/MNCs working in India.

#### **Clause 3 (1) of CSR Rules: Corporate Social Responsibility:-**

Each organization including its holding or subsidiary, and foreign organization characterized under Section 2 (condition 42) of the Act having its branch office or undertaking office in India which satisfies the criteria determined in segment 135 (1) of the Act should agree to the arrangements of area 135 of the Act and these guidelines.

#### **Section 2 (statement 42) of the Indian Companies Act, 2013**

Foreign company implies any organization or body corporate consolidated outside India which — has a place of business in India whether without anyone else's input or through an operator, physically or through electronic mode; and leads any business movement in India in some other way.

#### **Section 135 of the Indian Companies Act, 2013**

- (1) Every organization having total assets of rupees five hundred crore or more, or turnover of rupees one thousand crore or progressively or a net benefit of rupees five crore or more during any financial year should constitute a Corporate Social Responsibility Committee of the Board comprising of at least three director, out of which no less than one executive should be a independent director.
- (2) The Board's report under sub-area (3) of segment 134 might unveil the structure of the Corporate Social Responsibility Committee.
- (3) The Corporate Social Responsibility Committee should,— Formulate and prescribe to the Board, a Corporate Social Responsibility Policy which should demonstrate the activities to be attempted by the organization as determined in Schedule VII; Recommend the measure of consumption to be brought about on the said activities, and Monitor the Corporate Social Responsibility Policy of the organization every once in a while.
- (4) The Board of each organization alluded to in sub-segment (1) should,— subsequent to considering the suggestions made by the Corporate Social Responsibility Committee, favor the Corporate Social Responsibility Policy for the organization and uncover substance of such Policy in its report and furthermore put it on the organization's site, assuming any, in such way as might be endorsed; and Ensure that the activities are incorporated into Corporate Social Responsibility Policy of the organization are embraced by the organization.
- (5) The Board of each organization alluded to in sub-area (1), might guarantee that the organization spends, in each financial year, no less than two percent of average net profits of the organization made during the three immediately preceding financial years, in compatibility of its Corporate Social Responsibility Policy: Provided that the organization should offer inclination to the neighborhood territories around it where it works, for spending the sum reserved for Corporate Social Responsibility exercises: Provided promote that if the organization neglects to spend such sum, the Board might, in its report made under provision (o) of sub-segment (3) of area 134, indicate the explanations behind not spending the sum.

#### **How does corporate responsibility apply to tax?**

Numerous associations have given a lot of thought to their CR in connection to social and ecological issues. Paying tax is thought to be a critical piece of an organization's financial effect and commitment to society, as

charges subsidize social speculation. A require a CR plan on impose isn't just a call for organizations to pay more tax. It is tied in with applying the applicable standards of CR. These include:

- Accountability
- Transparency and Disclosure
- Engagement with partners; a moral approach
- A pledge to include financial esteem
- Setting a proper duty procedure

### **Tax Planning and CR**

Truly, the assurance of what can be characterized as adequate tax arranging has alluded back to the ideas of tax avoidance and tax evasion. Tax avoidance and tax evasion are broadly perceived and utilized terms. While both are concerned about the diminishment of an tax obligation, evasion is illicit though avoidance is lawful. Evasion ordinarily includes concealment, disguise or distorting; avoidance includes utilizing the arrangements in the tax code. The contrast between the two terms was exemplified by previous UK Chancellor of the Exchequer Denis Healey as being —the thickness of a jail walll.

Tax planning is honest to goodness in many nations in light of the fact that the law offers the potential for financial exchanges to be organized in various diverse ways. At last, business has a commitment to pay the amount of tax that is due under the law of the nation in which it works, and as per the law.

### **What stakeholders are looking for?**

Presently, stakeholders have a need to comprehend what an organization's tax procedure is and how that system is overseen by the board and official administration. Understanding an organization's tax procedure and objectives is a key initial step to seeing how an organization approaches charge, its demeanor to arranging and assessment compliances and the way it adjusts the weights of limiting.

Likewise, stakeholders need to comprehend the effect of the organization's responsibilities on its business and on the group. Especially, they need to know how tax impacts the business system of the association, how tax impacts investor esteem and the effect of tax paid by organizations as a major aspect of their monetary commitment to the groups in which they work. An organization's reaction to these requests and its capacity to adjust to the changing tax condition is basic to its capacity to deal with its hazard to notoriety.

Transparency is a key factor. Stakeholders need definite data about the taxes paid by the organization, the organization's tax methodology and how that procedure is overseen by the board and the official administration. The outline on this page abridges what every one of the principle classifications of stakeholders is searching for; this can be helped by expanding viable exposure and correspondence

### **The Tax Transparency Framework**

#### **Tax Strategy and Risk Management**

- Clear talk of the organization's tax system and targets.
- complete details of how the organization's tax system and capacity is overseen and who in the association has responsibility regarding administration and over sight
- Clear exposure of the material expense dangers looked by the organization.

#### **Tax Numbers and Performance**

An unmistakable clarification with reference to why the present tax charge isn't proportional to the bookkeeping benefit at the statutory rate of tax.

- A transparent reconciliation of the organization's cash tax payments to the expense charge incorporated into the salary explanation;
- Disclosure of forward looking measures for impose, including conjecture bookkeeping and money assess rate.

#### **TTC and the Wider Impact of Taxes**

- Detail in the matter of how tax impacts the wider business procedure and consequences of the organization
- Disclosure of the effect of tax on investor esteem.
- Clear correspondence of the financial commitment of all expenses paid by the organization.

In the present age, a noteworthy lump of the cross-border trade is in the hands of multinational ventures, which embrace the greater part of their trade inside various elements under normal control. The commonness of intra-aggregate exchanges has encouraged settling their inward cost at less or more than market value- a practice known as exchange estimating. One of the repercussions of the exchange estimating control is tax avoidance, which is the most essential issue in worldwide tax assessment today. The greater part of exchanges in the global exchange happen between related elements inside MNEs without passing however the unbiased and autonomous market, empowering them to settle interior costs of their products and ventures as indicated by their own comfort and intentions in regard of exchanges between themselves. These costs are called exchange costs (otherwise called interior costs or bookkeeping costs or between corporate exchange costs). It might be characterized as the cost at which merchandise or impalpable properties are exchanged or benefits rendered between the related endeavors and which does not speak to genuine, ordinary, characteristic and genuine market costs of the exchanges. In the corporate area, exchange evaluating happens between related ventures like amongst parent and subsidiaries, between subsidiaries of the same parent, amongst parent and outside partners. The exchanges engaged with exchange estimating, entomb alia include: exchange of substantial products, capital resources and other such unmistakable states, exchange of elusive property rights, rendering of administrations, arrangement of fund and others like property rental, renting plans and so forth. The cost in such exchanges might be improved (over-estimating or high exchange cost) or diminished (under-evaluating or low exchange cost). Tax Avoidance through exchange evaluating:

- 1) Reduction of Income or enterprise impose obligation
- 2) Shifting of business benefits from high-charge nation to low-impose nation or nations.

The Arm's Length Price: The 1979 OECD Report characterized the a safe distance cost as —the value that would have been settled upon between inconsequential gatherings occupied with the same or comparable exchanges under the same or comparative conditions in the open market.

The G20 countries that benefits of multinational organizations ought to be saddled where financial exercises inferring the benefits are performed and where esteem is made is an "imperative milestone" and it approves the nation's position.

Recognizing that compelling tax assessment of portable pay is a key test, the G20 pioneers including Prime Minister Manmohan Singh promised to find a way to change tenets to handle charge shirking, unsafe practices and forceful assessment arranging.

"Benefits ought to be burdened where monetary exercises determining the benefits are performed and where esteem is made," the announcement received toward the finish of the summit of Group of 20 created and major creating nations said.

Alluding to the stand taken by G20, Economic Affairs Secretary Arvind Mayaram told columnists that each nation has the privilege to charge benefits made in their domain and it is an all around acknowledged rule.

The load of FDI in India, according to the Reserve Bank of India (RBI), is currently around 12% of GDP. Multinationals have a long history here. It had a relentless course – not including the variation in the 1970s, when IBM and CocaCola were asked to leave for good. A RBI think about says that the 745 outside firms that have put resources into India had a generally speaking return on value of around 13% in the year finished March 2011.

The Indian units of worldwide customer merchandise firms, for example, Hindustan Unilever, Nestle and Colgate-Palmolive have posted returns of more than 95%, 110% and 150%, individually, on a normal amid the most recent three years, more than twofold the 35-42% returns announced by Indian organizations, for example, Dabur and Godrej Consumer (source: the Financial Times, August 22, 2012).

Some multinationals in India, be that as it may, have significantly higher returns and subsequently considerably higher valuations. The showcase estimation of Indian offshoots of Suzuki, BAT, Holcim, Daichi Sankyo and Unilever had individually 59, 44, 42, 32 and 15 percent of their worldwide market esteem (source: Bloomberg). Settle India is esteemed at 50 times its benefits; more than twofold the proportion of its Swiss parent.

OECD chief Pascal Saint Amans has said in such manner that —If you are a multinational you will have the capacity to decrease your assessments significantly in light of the fact that the global duty structure is totally outdated. Hence, OECD desires worldwide assessment clampdown on MNCs.

## CONCLUSION

Tax management framework in selected Indian rising MNC's is an exceptionally tremendous and disputable point from numerous past decades. This is the most talked about subject in each essential tax gatherings or yearly spending plans in India. They want and practice to maintain a strategic distance from impose stayed pervasive in all time and among every one of the callings. Indian organizations ought to take after the rule of ---Karma Yoga (Selfless Work) as specified in Gita.

The environment around tax is progressively subject to change. Truly, tax has been seen as a specialized subject of constrained enthusiasm to most stakeholders' gatherings. Nonetheless, as said, nature is expanding its requests, through more diverse stakeholders, for more data on impose. These stakeholders have a need to comprehend what an organization's tax methodology is and how that system is overseen by the board and official administration.

Understanding an organization's tax methodology and objectives is a key initial step to seeing how an organization approaches tax, its state of mind to arranging and expense consistence and the way it adjusts the weights of limiting assessments to upgrade investor returns while overseeing dangers to its notoriety. What's more, stakeholders need to comprehend the effect of the organization's expenses on its business and on the group. Especially, they need to know how tax impacts the business system of the association, how tax impacts investor esteem and the effect of assessments paid by organizations as a major aspect of their financial commitment to the groups in which they work.

An organization's reaction to these requests and its capacity to adjust to the changing assessment condition is crucial to its capacity to deal with its hazard to notoriety. Transparency is a key factor. Stakeholders need itemized data about the tax paid by the organization, the organization's tax system and how that procedure is overseen by the board and the official administration. The chart on this page condenses what every one of the principle classes of partner is searching for; this can be helped by expanding viable revelation and correspondence.

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## An insight into Cryptocurrency: From Evolution to Circulation

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### ABSTRACT

*Digitalization has changed the perspective of investors towards investment. Earlier people invest in precious metals, investment schemes, share markets, and physical currencies. With the emergence of digitalization a new opportunity to trade and invest in virtual currencies has developed. Businesses and dealers offered virtual currency to their customers for a long time, which was effectively a token representing the fiat currency. However, this tradable virtual currency can be use for purchases, transfers to other people or just stored as credits. Therefore, this paper discusses the history, transaction procedure, trends, and perspectives of cryptocurrency.*

**Keywords:** *Cryptocurrency, Fiat Currency, Virtual Currency, Credits*

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### INTRODUCTION

Innovations in technology and immense use of the Internet have made online commerce, social networks, and online gaming a significant part of our lives. Some of these platforms have issued tokens, such as Facebook Credits or Amazon Coins that individuals can use to purchase real or virtual goods within the platform. These tokens are often refers as “digital currency.” In the nineties, there have been many attempts to create digital money, but they all failed. After seeing all the centralized attempts fail, Satoshi (creator of Bitcoins) tried to build digital cash system without a central entity. Like a Peer-to-Peer network for file sharing. This decision became the birth of cryptocurrency. The main goal of this paper is to discuss the innovation of currency known as cyptocurrency or digital currency or cyber currency. There are many types of cryptocurrency come in knowledge but studies shows that Bitcoin is the most successful cryptocurrency. It is also considered to be the world’s first decentralized currency. Cryptocurrency is a type of digital currency, which based on cryptographic methods. It also maintains the features of traditional currency but without the approval of any authority. The remaining paper studies the history and risk and trends of cryptocurrency in india.

### LITERATURE REVIEW

Cryptocurrency is a digital currency designed for the recent market scenario. The first crypto currency Bitcoin was created in the year 2009. The idea set out behind the creation of the coin is to use the white paper by one of the mysterious individual Satoshi Nakamoto, whose identity has not yet been recognized (Nakamloto 2013). The idea of the named of Bitcoin is that a paper is termed as bit and the currency as the coin. The concept behind the creation of Bitcoin is the easy transfer of the money without paying a large amount of transaction fees. In the view point of Ron and Shamir (2013), the traditional online payment charges fees for online payment. As pointed out by Jarecki et al. (2016), it must be a clear concept that there is no physical evidence of the Bitcoin. It shows only as balance in the account of the user of the Bitcoin profile. The balance maintained keeping all the accounting in mind such as the ledger or the balance sheet. At the time of transaction, a kind of verification done to ensure that transaction of the money has undertook without any kind of trouble or mishandling. The coin was available in various denominations as swell such as millibitcoin and microbitcoin. There have been more that 21 millions of bitcoins issued till 2016 (McCallum 2014).

## RESEARCH METHODOLOGY & OBJECTIVES

Content analysis about the cryptocurrency was done to answer the below objectives. Content analysis is considered an appropriate method as it helps in recording data in an objective, systematic and quantitative form Berelson (1952). A random search was on Google was done for details, trends, & current issues on cryptocurrency. These initiatives were recorded using a variety of key words like "Cryptocurrency", "Cryptocurrency in India", "current market of cryptocurrency" etc. This content analysis was done to answer the following:

1. To understand the whole concept of cryptocurrency.
2. To deliberate the evolution to circulation of cryptocurrency
3. To understand the risk involved in investing in cryptocurrency..
4. To examine the trends of cryptocurrency in india.

## MEANING OF CRYPTOCURRENCY

A cryptocurrency is a digital or computer-generated currency that customizes cryptography for security. A cryptocurrency is hard to forge because of this security feature. A most fascinating feature of a cryptocurrency, is its organic nature; it is not issued by any central authority, executing it theoretically resistant to government intervention or manipulation. The unspecified nature of cryptocurrency transactions makes them well suited for a host of disreputable activities, such as money laundering and tax evasion. The first cryptocurrency was Bitcoin, which launched in 2009 by an individual named Satoshi Nakamoto. As of September 2015, there were over 14.6 million bitcoins in movement with a total market value of \$3.4 billion. Bitcoin's success has hatched a number of competing cryptocurrencies, such as Litecoin, Namecoin and PPCoin.

### History of Cryptocurrency

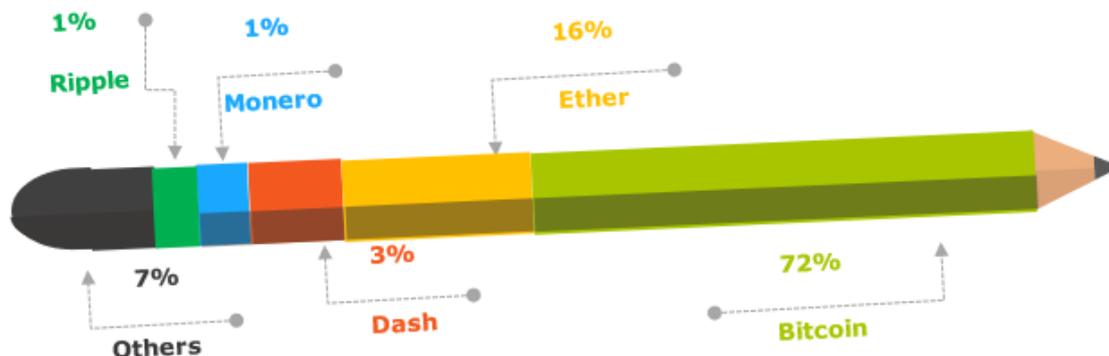
It is so happening with a mass of people across the globe that yesterday their entire consideration of currency revolved around the piece of paper that they held in their hands, and today they are storing value digitally in something called a cryptocurrency. It is suitable to feel that it is a little too much to digest in one go. However, this outwardly explosive shift is actually a result of decades of advanced thinking, mathematical research, and strong-gut attempts at profoundly changing the world's long existing, centrally controlled economic order (which, by the way, is one mammoth of a task). Businesses and dealers offered virtual currency to their customers for a long time, which was effectively a token representing the fiat currency. This tradable virtual currency can be further use for purchases, transfers to other people or just stored as credits. People began toying with the idea of digital cash and virtual currency as early as the 1980s, when the earliest of ideas translated into experiments around money. In Netherland American cryptographer David Chaum known as DigiCash invented the first form of internet money. It was an extension to the popular encryption algorithm RSA. In a very short span of time eCash got much media attention. Moreover, Microsoft offered \$180 million to Chaum's company to put DigiCash on every Windows PC in the world. However, Chaum's company made many mistakes (including not selecting to take money from Microsoft) during its course and caught antagonistic attention of the Netherlands' central bank (De Nederlandsche Bank) which led to its eventual bankruptcy in 1998. The next wave of virtual currency was emerged from the previous failures in the space. Startups created payment solutions and virtual money systems with little pinches here and there. However, PayPal emerged a clear winner because it understood what the users actually wanted: a money on the already familiar web browser. PayPal offered an unbroken peer-to-peer transfer mechanism and a neat way of accepting payments for the merchants. Today PayPal has become a successful company in the digital money market.. On the similar platform concept of eGold was introduced in which physical gold was accepted and gold credits was issued to their accounts. This attempt increases a good volume of tractions across the world. However, e-Gold was shut down after development of Ponzi schemes, deceitful high-yielding investment programs and scams. The 2008 economic crises in the USA became a frontier in the historical timeline of world economy because it brought a much-needed eyeopener for the heartless behaviour that had percolated into the evangelists of global finance. This incident saw the occurrence of an anonymous Good Samaritan who went by the name Satoshi Nakamoto (it is still unclear whether this was an individual or a group of people because the identity is yet to be confirmed). Nakamoto published a white paper in 2009 elucidating the concept, technology and source code for execution of blockchain. Moreover, he introduced the first cryptocurrency in the world named as, Bitcoin. Nakamoto's invention was not incremental or troublesome, but it was a foundational technology. Blockchain inherently challenges to replace all forms central authority with a decentralized, peer-to-peer, and open source trust protocol. There are over 16 million Bitcoins in circulation as of today, which create a total market capitalization

of around \$50 billion. It is gaining popular support and acceptance from developer, user, and business communities alike. Countries like Japan, Canada and Australia have already synchronized Bitcoin under their law and taxation outlines.

### Number of Cryptocurrency

Cryptocurrency has emerged as revolutionary concept in the world of digital market. It provides a decentralized system where sender need not trust bank as a mediator. Moreover dealing parties need not to have similar goals and trust each other, can keep the records of the transactions. Currently there are 1564 cryptocurrencies traded all over the world. Their market share in 2016 was as follows.

Figure 1: Global Cryptocurrency Market Capitalization Market Share, By Cryptocurrency Type, By Value, 2016



Some of the cryptocurrencies are discussed below:

- Bitcoin:-** it is a digital currency created in 2009. It follows the ideas set out in a white paper by the Satoshi Nakamoto, whose identity has yet to be verified. Bitcoin offers the promise of lower transaction fees than traditional online payment tools and is operate by a decentralized authority, unlike government-issued currencies. There are no physical bitcoins, only balances kept on a public ledger in the cloud that – along with all Bitcoin transactions – is verify by an enormous amount of computing power. Bitcoins are not issued or backed by any banks or governments, nor are individual bitcoins valuable as a commodity. Despite being not a legal tender, a Bitcoin chart is high on demand, and has triggered the launch of other virtual currencies mutually referred to as Altcoins.
- Litecoin (LTC):-** Litecoin, launched in the year 2011, was among the initial cryptocurrencies following bitcoin and was often referred to as ‘silver to Bitcoin’s gold.’ The Litecoin was created by The Charlie Lee, a MIT graduate and former Google engineer. Litecoin is base on an open source global payment network that is not measured by any central authority and uses "scrypt" as an evidence of work, which can be decoded with the help of CPUs of consumer grade. Although Litecoin is similar to Bitcoin in many ways, but it has a faster block generation rate and hence offers a faster transaction approval. There are many merchants all over the world who are accepting Litecoin.
- Ethereum (ETH):-** It was a decentralized software Launched in 2015, that permits Smart Contracts and Distributed Applications (DApps) to be built and run without any downtime, fraud, control or interference from a third party. The applications on Ethereum are run on its platform-specific cryptographic token, ether. Ether is like a means of transportation for moving around on the Ethereum platform, and is sought by mostly developers looking to cultivate and run applications inside Ethereum.
- Zcash (ZEC):-** Zcash, a decentralized and open-source cryptocurrency propelled in the latter part of 2016, looks promising. “If Bitcoin is like http for money, Zcash is https,” is how Zcash defines itself. Zcash offers confidentiality and selective transparency of transactions. Thus, like https, Zcash claims to provide extra security or confidentiality where all transactions recorded and published on a blockchain, but details such as the sender, recipient, and amount remain private.
- Dash:-** Dash (originally known as Darkcoin) is a more private version of Bitcoin. Dash offers more anonymity as it works on a decentralized mastercode network that makes transactions almost undetectable. Launched in January 2014, Dash experienced an increasing fan following in a short span of time. This cryptocurrency was created and developed by Evan Duffield and can be quarried using a CPU or GPU. In March 2015, ‘Darkcoin’ was rebranded to Dash, which stands for Digital Cash and functions

under the ticker – DASH. The rebranding didn't change any of its technological features such as Darksend, InstantX.

- **Ripple (XRP):-** Ripple is a real-time global settlement network that offers immediate, certain and low-cost international payments. Ripple “enables banks to settle cross-border payments in real time, with end-to-end transparency, and at lower costs.” Released in 2012, Ripple currency has a market capitalization of \$1.26 billion. Ripple’s accord ledger -- its method of conformation -- doesn’t need mining, a feature that differs from bitcoin and altcoins. Since Ripple’s structure doesn't require mining, it reduces the usage of computing power, and minimizes network dormancy
- **Monero (XMR):-** Monero is a safe and sound, reserved and undetectable currency. This open source cryptocurrency was propelled in April 2014 and soon spiked great importance among the cryptography community and fanatics. The development of this cryptocurrency is completely donation-based and community-driven. Monero has been launched with a robust focus on decentralization and scalability, and enables complete confidentiality by using a special technique called ‘ring signatures.’ With this technique, there appears a group of cryptographic signatures including at least one real contestant – but since they all appear valid, the real one cannot be isolated.

### Investing in Cryptocurrency: The Risks

- 1) It is vulnerable to market fluctuations as like any other commodity or stock would be. The market can move up and down—and, as is the nature of a young and active commodity—it can sometimes do so quite wildly.
- 2) Digital currency coins are encrypted to keep them secure—but there's a potential drawback there. This coding identifies the currency itself, but not its owner. Whoever holds the coin's encryption code becomes its owner, and there's nothing in the coin's coding that says it belongs specifically to you—or to anyone else. This built-in anonymity feature means when a coin is stolen, it has gone—, and you have little to no recourse in getting it back.
- 3) Finally, cryptocurrency in theory can become worthless; Bitcoin admits as much on their FAQ page. Investor interest could drop off, the overall effects of world economies could become so severe as to affect cryptocurrency value,—even with safeguards in place, extreme factors could have an effect.

### Global Circulation of Crypto Currency

According to the chief executive of a top digital currency exchange, the market of cryptocurrency will reach a total value of \$1 trillion this year. Year 2018 will witness accelerating growth in cryptocurrency market. The current market cap of all cryptocurrencies stands at around \$417 billion, according to data from industry website CoinMarketCap. It hit an all-time high of more than \$800 billion in early January, before falling dramatically as a result of a huge cryptocurrency sell-off. Traders are fear about the regulatory signals recently as government ministers in South Korea and India have both upped their rhetoric against virtual currencies. Also, European Union regulators issued a warning to consumers about the risks associated with buying cryptocurrencies.

Figure 2: Total Market Capitalization of Cryptocurrency from April 29, 2013 to March 17, 2018.



Figure 2 shows the journey of cryptocurrency market from 1 billion in 2013 to 800 billion in 2018. It shows the smooth growth until February 2017, afterwards there is sharp rise in its investment. The value of the cryptocurrency market has surged rising more than 1,200% in 2017. So, for what drove this sharp increase, analysts pointed the several factors.

- **Growing Interest in Cryptocurrencies:-** Many analysts cited growing visibility as a major reason that the digital currency market has been rising in value. This increasing visibility is illustrated by Google Trends data, which shows that search interest in the term "Bitcoin" reached an all-time high on November 12.
- **Surging Investment:-** The digital currency market has drawn some very robust inflows this year, and this in turn has been reflected in the total market cap of these assets. Several analysts noted that a rising number of institutional investors have been getting involved with cryptocurrencies.
- **The Sharp Increase In ICOs:-** The rising number of Initial Coin Offerings (ICOs) has caused the digital currency market to gain value, doing so in two separate ways. First of all, these sales create new value for the cryptocurrency market, as tokens are sold and given monetary value. Second, participating in ICOs involves exchanging Bitcoin and Ether for newly created digital tokens, which in turn provides significant headwinds for these major cryptocurrencies.

### **Trend of Cryptocurrency in India**

India was a late entrant to crypto adoption. Due to restrictions in foreign currency remittances and allowable overseas investments, Indians often does not get to trade in international financial instruments. During the time when bitcoin was picking up pace in China, Indians struggled to transfer money to the overseas Bitcoin exchanges and thereby missed the Bull Run.

However, things changed drastically after the demonetisation drive announced by PM Narendra Modi. This action meant to curtail counterfeit cash, but it also left many people panicking. In the panic, Indian residents turned to Bitcoin. Google recently reported that searches from India about Bitcoin have reached all-time highs, and the value has too.

Once the local exchanges started functioning in India, the Bitcoin users got a feasible option to purchase Bitcoin using local currency and the adoption of Bitcoin started increasing considerably. Owing to the shortage of Bitcoin sellers in India, the Indian Bitcoin price often ran at a premium of over \$400 from the international market price.

Earlier India seems to be legalising Bitcoin, but the finance minister in his Union Budget 2018 speech said, "The government does not consider cryptocurrencies legal tender or coin and will take all methods to eliminate use of these crypto-assets in financing dishonest activities or as part of the payment system." However, the government has recognized blockchain and said that a "distributed ledger system or the blockchain technology allows organization of any chain of records or transactions, without the need of intermediaries. The government will explore use of blockchain technology proactively for ushering in digital economy."

now that the government has agreed to regulate Bitcoin. The Indian government has agreed that regulating Bitcoin could be beneficial and is currently creating the laws to do so. The Reserve Bank of India is also considering using the blockchain technology in banking. In India, the Department of Economic Affairs, Ministry of Finance has constituted an inter-disciplinary committee to examine the existing framework around Cryptocurrencies and submit a report by July. The committee will not only examine the present scenario of crypto currencies in India and around the globe, but will also suggest measures and means to deal with consumer protection, education, and money laundering.

Bitcoin exchanges was not happy with this wait and watch approach right now. "There is no consequence of the Budget announcements to what we are doing right now. Until and unless the authorities make a more solid comment, for us it is business as usual. Their worry is that the common man is going to enter it because of the price gush. But that has been the stance since December 2013 when the Reserve Bank of India (RBI) first issued advisory notes. Though government is taking a cautious approach on cryptocurrencies, it is buoyant on the use of blockchain. Cryptocurrency industry believes that blockchain and cryptocurrencies have to go hand in hand.

## CONCLUSION

Taking into consideration the new technology, the Internet applications and mobile phones, electronic currencies emerged and played a very important role. This paper discusses about the concept and trends of crypto currency in India. Trends show the accelerating growth in the market of cryptocurrency. Not only are the investors, young graduate's also showing keen interest in this. Looking forward, virtual currencies are a part of an emerging market, which encourage both investment and risk. With proper regulatory policies, the world of digital currency can be considered a success also for governments and its users. This work provides conceptual clarity of crypto currency.

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## Contribution of Indian Banks in Sustainable Development

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### ABSTRACT

*Sustainability is now increasingly recognized as central to the growth of emerging market economies. While banks play a crucial role in promoting sustainable development, the industry got off to a late start in acknowledging sustainability as an item of agenda. The major shift happened when bankers realized poor environmental performance on the part of their clients represented a threat to their business success. The investment and management decisions taken by various financial institutions could be brought into play for the benefit of environment. Financial institutions also have some direct environmental impacts from their own operations such as power usage, paper use, and business travel. A key issue in the inclusion of environmental issues is the significance of environmental issues- while potentially of some relevance; many environmental issues are of insufficient importance to be a priority, particularly in view of other concerns and practical difficulties. There is still potential to reinforce the link between environmental performances, notably through the use of economic instruments such as environmental taxes.*

**Keywords:** Sustainability, Sustainable Development, Financial Institutions

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### INTRODUCTION

Sustainability is one of the most important issue which is been neglected by many. After the negative impact on the environment, it has now been focussed on by various countries. The awareness is increasing about Corporate Social Responsibility (CSR), Sustainable Development and Non-Financial Reporting (NFR). CSR means acting responsibly towards society, and environment along with achieving the respective goals- profit making, social service, philanthropy, etc. Sustainable development means meeting the needs of present economic goals without depleting the natural resources in long term. NFR means disclosing all information except daily transactions and non transactions of the companies. The information could be company's social, environmental and human rights information. It is also known as Environmental, Social and Governance information (ESG) or triple bottom line coined by John Elkington. TBL framework includes social, environmental and financial aspect; which is adopted by many organisations to evaluate their performance for creating business value. All the financial institutions including banks play a pivotal role in sustainable development, as they finance the economic and developmental activities of the world. Especially, in developing countries like India, commercial banks mobilise the financial resources of the community and make them flow into the desired channels. In this context, there comes the urgency for banks to act as responsible citizens in the society, their activities should support the human rights.

### OBJECTIVES

Integration of sustainability into banking means, supporting environmentally or socially responsible projects, innovative technologies and **sustainable** enterprises. A sustainable business considers the interest of all and ensures a long term health and survival of business and is associated with the social, economic and environmental system. Sustainability for this paper means, to maintain a balance between the banking industry and the society, doing business activities without wasting the resources of the nature for the development and betterment of the society. The objective of this paper is to define the role and contribution of banks towards sustainable development in current scenario, to find out the issues and challenges, and to define the sustainable banking. This paper is an exploratory work which is based on the past literature review that is secondary data, including published research, websites, books, journals etc.

### **The Role of Financial Institutions**

It is valid to know the roles played by financial institutions in achieving sustainable development. Many financial institutions have neglected sustainable development without realising its importance thinking that only government is responsible for it. It is of little importance for them when it comes to running their businesses for short term goals. When it comes to long term goals, sustainable development becomes much more crucial. With long term goals, comes the responsibility to satisfy each and every stakeholder.

One definition of sustainable development is "a process of development which leaves at least the same amount of capital, natural and manmade, to future generations as current generations have access to". This definition makes clear that sustainable development is about capital which is the core of financial markets activity. The capital should be safeguarded and eventually multiply. Therefore the capital in a broader sense has to be preserved for sustainable development that includes natural environment. When it comes to the practical level, sustainable development will need huge investment in environmental technology, new energy systems, environmentally sensitive infrastructure and information technology. The private sector will contribute less to the necessary investment as compared to the public sector. Also the financial markets cannot alter their operations just to satisfy the sustainability. They are only concerned about removing obstacles to accessing finance and ensuring if it is readily available at lowest practical cost. Incorporating sustainable development in the financial sector requires innovation for developing new mechanisms for the new markets. This may also involve working with policy makers and other stakeholders to ensure the appropriate structures are established to enable quick financing. Financial institutions are also directly affected by environmental issues which affect its core business practices. A contaminated land on the business of insurers is an environmental liability or the changes in the insurance industry due to climate changes; are critical issues. Thus for incorporating environmental and social considerations into the decision making of the financial institutions, they have to be convinced as they are only considered about profits in a narrow sense. They have to be presented with evidence that good environmental performance leads to good business, with this they will start paying attention on environmental issues and take decisions accordingly. This would lead to enhanced management, governance, communications, and stakeholder relations.

### **The commercial banking sector**

The financial sector is expected to play a vital role in supporting the national and international development goals and to facilitate a green and a low carbon credit economy. But the latest financial crisis has put the Financial Services sector under the spotlight. The activities of Banks and other Financial Services Institutions are more than ever under scrutiny, not only by the local and international Regulators, but also by a wider public including clients, employees and investors. The society's expectations are high and this does not just only relate to sustainable development. The activities of banks should fit the changing world. "Sustainable Finance" is a term used by banks, lobbying groups, industry associations and development agencies. The financial capital and risk management products and services need to be provided in such a way that promotes or does not harm economic prosperity, the environment and social well-being. The sustainability goal reflects both risks and opportunities to banks and other financial institutions as there are strategic decisions to be taken around desired market positioning. Many market participants ignore the opportunity behind this topic, but they can't ignore the basics of risk and compliance management. A few leading banks have taken activities further and have started to take a wider view of environmental factors in credit assessment, including developing checklists and other procedures. Small businesses can be encouraged for managing their environmental impacts by providing practical support through information packs, new financial products and other supports. Environmental Management Systems and reporting has been developed for banks to focus on environmental impacts of financial products rather than merely the impact of internal operations. For systematic approach to business by commercial banks, further use of EMS appears to be an effective way forward for the sector.

### **The Investment sector**

This sector has potential to influence many companies. It can send signals to industry in the pricing the new capital for companies and in the valuation of quoted companies through the use of its rights as shareholders and owners. The investors are probably less interested in the environment than bankers as they are only concerned about monetary aspects. Some leading companies have become frustrated with the failure of the investment community to reward the environmental progress they have made. In particular, the international business organisation, WBCSD (World business Council for Sustainable Development) has been active in developing the concept of eco-efficiency and encouraging its use among investors. There is also growing interest from individual investors in environmentally responsible investment, and this has resulted in the development of

some progressive environmental investment funds. Some institutional investors have started to explore this area, reassured by the good investment performance of such funds. The potential market is substantial for a “green” product with no price or quality premium. Some environmental NGOs, have started to target fund managers and investment banks over their investments and involvement with environmentally damaging companies. They had major no success, but have started to influence the entire sector. Finally some of the organisations among the investment sector have started to take environmental issues more seriously which will create some peer pressure for change. There exists some scepticism regarding the issue but there are signs that attitudes may be changing. An important issue is the relationship between environmental performance and investment performance. There is an argument that environmental performance does contribute to good financial performance. But, many in the investment sector are not convinced, and action is needed to convince doubters and reinforce things e.g. through the development of environmental taxation. For encouraging the investment sector to incorporate environmental issues a number of obstacles need to be overcome. The two main obstacles are market inertia in investment practices, and the balance between long term and short term analysis. However, the most important issue is difficulties in obtaining good quality information in ways that the sector can understand and use. Some ways need to be found to provide relevant information to the sector.

### **The Insurance sector**

Risk assessment and risk management are very important for every business to run as they are the first things to look at. Dealing and understanding different kinds of risks is the expertise of the insurance sector. As a result, the connectivity between sustainable issues and the insurance sector is very strong and will be highly appreciated by broader society. Due to the requirement, sustainable Insurance have evolved in the economy strategically and all activities in the insurance value chain, including interaction with stakeholders, are done in a responsible and forward looking way by identifying, assessing, managing and monitoring risk and opportunities related to environmental, social and governance issues. Sustainable insurance aims to reduce risk, develop innovative solutions, improve business performance, and contribute to environmental, social and economical stability. The potential of insurance sector in achieving sustainable development lies in its ability to price various types of environmental risk and to help pay for environmental damage. The industry has also become clearly concerned about the potential impact of climatic change on its business. Changing climate at best undermines the historic basis for evaluating risk and at worst could significantly increase losses, from increased storms and floods, to the extent that even the very viability of the industry could be threatened. In response, the leaders in the industry have developed a comprehensive set of measures, ranging from an increasing lobbying at the climate change convention, through working with governments on research and preventative measures, to adjusting premiums and their areas of activity.

### **Indian Banks and Sustainable Development**

Sustainability in banking means adoption of environmental and social responsibility in a bank’s routine operations via environmental initiatives (e.g. recycling programs, less use of paper, improvement in energy efficiency and so on) and socially responsible initiatives (e.g. financial inclusion, support for community events, etc.). The integration of sustainability into bank’s core business also includes incorporation of environmental and social considerations in to the bank’s strategy and the development of green products. However, as compared to other sectors in the economy, banks usually do not use the same amount of energy and water, nor are they responsible for any large scale emissions and pollution. Banking is seen as relatively a friendly industry. Indian banks have taken up the challenge of socially responsible finance by providing no-frill accounts, participating in priority sector lending; linking up with Self-Help Groups for lending to weaker sections etc but have still not addressed the issue of environmentally responsible banking. Today, the focus of banks is to meet the minimum compliance standards as they have to take care of the basic criteria for meeting the bank’s operations. No bank in India follows the Equator Principles (EPs); in fact awareness of these principles is very less. None of the bank has an environmental cell or an environment policy, and no environmental factors are present in bank’s risk management systems.

- **Sustainable reporting:** It documents the institution’s sustainability efforts and includes disclosures of its performance across economic, environmental and social parameters. Such reporting would show financial institution’s adherence to global standards such as Equator Principles and attract investments from socially responsible investors, who only invest in environment friendly projects. Most banks have adopted several international standards, particularly IFC and Equator Principles. They are also engaged in collaborations to advance their sustainability practices as mentioned in “Sustainable Banking as a Driver for growth”, a study done by deloitte [2017].

- **Retail banking measures:** The promotion of electronic banking- use of internet banking, mobile banking, ATM operations, ECS facility, electronic remittance, fund transfers, and so on. All these will help in reducing the use of paper. Such facilities offer win-win opportunities for all stakeholders- customers save time and money; the bank front office faces less travel, less emissions and using less paper. These measures may appear to be less significant but with huge volume of transactions they would multiply into significant savings on all fronts. Banks could also promote these facilities among their retail customers through awareness sessions and basic training, etc. Banks could also ensure that its corporate and institutional customers begin to include these modes of banking and fund transfers with prospective shareholders or debt holders.
- **Efficiency in resource use:** Various uses of resources such as water, energy and paper offer great scope for contribution to environment management. Some of these areas include: Management of emissions such as video conferencing, green commuting and other approaches to reduce business travel, encouraging carpooling among employees, providing a single vehicle for commuting can help in reducing traffic congestion. Energy consumption reduction strategies such as optimal use of daylight, energy efficient equipment, use of CFL bulbs, timely maintenance of equipment etc. Banks could also consider the use of solar energy for office lighting, operation of ATMs etc.
- **Green lending:** Banks could also promote green housing and energy-efficient homes through differential pricing of home loans and mortgages at the retail level. Banks should encourage small enterprises to adopt environmentally healthy practices, these entities lack knowledge, expertise and the resources to do so themselves. The biggest impact will come in the case of corporate customers and project finance. Corporate customers have the sufficient resources to absorb the extra costs arising out of compliance with environmental norms.
- **Green Investments:** A banks can invest in sustainable development funds in India such as ABN Amro Sustainable Development Fund, BNP Paribas Sustainable Development Fund, Fortis Sustainable Development Fund, all launched in 2007. All such funds where the portfolio comprises equity and equity related securities of socially responsible Companies focussing on sustainable.
- **Carbon Credit Business:** A new financial markets have emerged in few years, offering business key incentives to slow down the emissions growth and possibly global warming as well. The main feature in emissions trading, or cap-and-trade schemes, that allow companies to buy or sell 'credits' that bind all the participating companies to an overall emissions limit. The market operates for pollutants such as GHGs and acid rain, but the biggest emissions markets is carbon. Trading in carbon credits or Certified Emissions Reductions (CER) presents good business opportunities.

### Issues and Challenges

None of the public or private sector banks except for YES Bank in India have been able to integrate sustainability into their corporate strategy due to certain issues. It is due to the lack of coordination between regulators MCA, SEBI and RBI that has jeopardised proper implementation of sustainability reporting in true sense. There is agency to cross check reporting authenticity in India. Some Major Banks feared of losing business to peers. Another problem is unavailability of talented staff, lack of training by RBI and detailed guidelines leads to negative response from Indian banks. Indian customers and investors are not fully aware and due to their lack of interest response is poor. Sustainability reporting framework is very complex.

### Solutions and Recommendations

Firstly, Indian Banks should give environmental and social issues such importance that they are used to launch innovative products for the untapped population of India via Micro Finance, Financial Inclusion and Environmental insurance. This can be done with the help of No Frills Accounts and Financial Literacy programs which will make people and Investor more aware about responsible banks and role played by them in climate change. They must get sustainability report published in the public domain to make its operations transparent and for attracting investors, shareholders and depositors attention. Secondly, promoting e-banking with the help of internet banking, mobile banking, ATM operations, ECS (Electronic Clearing Services) facility, electronic remittance, and fund transfers, the usage of paper would be less and there will be no need to travel. It would reduce the cost of day to day operations, cost of human power and would create an efficient image before the customers. Thirdly, measures such as video conferencing, green commuting, car pooling among employees to reduce traffic congestion and other approaches can be used to reduce the business travel. Solar energy can be used by banks for office lighting, ATM operations and so on. Also recycled paper can be

used for account opening forms and other documentation which would save paper subsequently. Fourthly, Banks should do efforts in promoting green loans and green funds and lending them to environment friendly borrowers as well as investors. Banks must participate in carbon credit trading and CDM projects as intermediary for green companies. Banks should try to green buildings for their office and employee accommodation. These measures will reduce their carbon footprint and save the operational costs considerably. Banks can use green banking strategies for initiating various social responsibility services such as tree plantation camps, maintenance of parks, pollution check-up camps, etc. Finally, Banks can make direct investments in sustainable development; they must also leverage their indirect control over investment and management decisions for influencing business to fulfil broader social and environmental goals. There are a lot of opportunities in the area of environmentally responsible finance, which banks can grab profitably. RBI should play an active role in passing the mandates, rules, regulations to tackle the critical issue of climate change.

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## Low Productivity in Government Organisation

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### ABSTRACT

India is an economy which operates on mixed economic model, which means that in India both public and private sector co-exists. The private sector is highly appreciated for the intellect and productivity but when it comes to the public sector appraisal, it scores high in intellect but highly dissatisfactory in terms of productivity. The role of public sector (often we say government organisation) is more of a facilitator than a business entity in the country. It means the govt. organisation lays down the framework for all other economic activity in terms of rules, regulations, policies etc. in the country. But the productivity of govt. organisation is very low due to its working human resource. This dissatisfying element is more present in the lower level jobs (clerks) and because the higher level jobs (IAS, Directors etc.) are directly accountable to ministers or secretaries thus, productivity is also good. During the research tenure, it was found that the performance of govt. employees is very dissatisfying because of several reasons such as nature of govt. jobs (perks promotion), no. of hierarchy levels, complex processes used in operations etc. It was also found that some employees even do not justify their salary in terms of their performance. In order to match the standards of private sector employees' productivity, the govt. has initiated many steps such as bio-metric attendance system, effective training sessions on regular time intervals, increased compensation etc., but the results of such steps are negligible. In order to revive their performance many other steps can be taken such as non-monetary incentives, training in information technology, direct accountability in terms of salary cuts etc. These steps might help the govt. organisation to revive and match the standards. The revival is highly important because low productivity in this sector hampers other sectors too and in totality the economy itself and as a result there is a delay in developmental process of the country.

**Keywords:** Economy, Govt. Organisation, Productivity, Performance etc.

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### INTRODUCTION

India as economy operates on mixed economic model, which means that private and public sector (central and/or state) co-exists. The majority of the business activities is carried out by private players in the market and on the other side the public sector intervenes to control and regulate private enterprise in several ways. Also, the activities of welfare nature is carried out by public sector in order to benefit the citizens best possible. It can be easily derived that the role of public sector is to facilitates all other activities in the economy. Indian economy is a booming economy in the world these days. And, in these both private and public sector contributes. However, there is a dis-parity in the scores of Performance Appraisal (PA) of both the sectors. The score of private sector is more shining in terms of cost-effectiveness, punctuality and productive output than that off public sector. The main reason for such low performance is the working force in the public sector. The majority employees in public sector of India are not as productive as the employees of private sector. This is mainly due to the lathergic nature of employees as they are well aware about their job security and regular increments in pay. These symptoms are generally seen in the lower grade jobs (mostly clerical jobs) and also in the employees who have got their job under any quota (like widows etc.). However, the higher grades personnel are more efficient in their output. Sometimes the citizens are directly affected by their careless behaviour in some of the departments like Pensions, Banks, Railways etc. Another major reason for their lower productivity is their resistance to change in terms of skill enhancements and technology upgradations. Due to such inefficient work, most of the work is delayed and public resources gets wasted in terms of time and cost efforts and more. This is also to be noted that some departments of government like External Affairs, RBI, Defence, Govt. Co. (SAIL, BHEL etc.) are having better scores in PA. The departments which lack in their PA are the typical ministries of government, banking and insurance sector etc. Gradually, the government realised the problem of such

inefficiency, and took many firm steps like third party recruitment, bio-metric attendance system, linking the ID cards with Aadhar etc. in order to monitor and control better but the result can be gradually seen in the upcoming years.

## OBJECTIVES

The research paper aims on the following topics:

- 1) To understand the role of government organization in Indian economy.
- 2) To examine probable reasons the lower productivity of government sectors.
- 3) To provide the relevant suggestion in what ways government can improve their productivity.

## RESEARCH METHODOLOGY

### Nature of Research

The study is descriptive and is based on the status of problem of lower productivity in the organisation and its impact on the private sector and economy as whole. This research can be applied as it provides the relevant suggestions to overcome the problem.

### Data Collection:

The appropriate information about the concerned research paper is collected from secondary sources of data collection. The authentic websites of research concerns were surfed for collection of data. Majority of research matter is taken from the references given below.

## ANALYSIS

After the rigorous research over this particular topic of lower productiveness of government organisations of India it was found that the productiveness of public/government sector hampers the private sector and economy as whole in several ways. Some of the ways are discussed below:

1. **Role of Facilitator:** The public sector is unable to perform its role as facilitator to the private sector, thus hampering the economic growth. Due to their working style, they often delay many works like granting licenses, permissions and clearances to the private manufacturing and service concerns, thus their work gets delay.
2. **Low Contribution in GDP:** The contribution of public sector is very less in the economic growth, majority comes from service sectors. Though the primary aim is to serve the society but there are some government business organization which incur loss on regular basis such as railways, public sectors banks etc. And in this by and large the inefficiency of the employees is present.
3. **Wastage of Resources:** Lower productivity of public sector employees affects the monetary (public finance) and non- monetary (reputation, credibility) resources. Delays due to inefficiency leads to higher operating costs in terms electricity and other energies. This acts as an opportunity costs of tax money but in negative ways.

Gradually, it was realised by government (both central and state) and many firm steps were taken to modernise the working of public sector in order to match the standards of private sector and contribute in economic growth. Some of the measures are:

1. In recent years, SSC and UPSC have toughened their exam patterns and reduce the recruitment, rather now governments are going of third party recruitment in order to save cost and get the employees with no job security. This is the very harsh step taken by government.
2. Telengana Government has introduced a firm step towards licensing. In that in 15 days the concerned authority is required to issue the license or permission or clearance else on 16<sup>th</sup> day the applicant can assume that the license is issued and can start his work.
3. Both state and central government regularly provides training to their employees on their skills and knowledge so that they can perform better and add to economic growth.
4. The many state and central governments have introduced bio-metric attendance system in order to track and monitor employees in more modern way.

Thus, now its on the part of public sector employees, that how they choose to work/perform and show their potential despite many positive steps taken by government.

## CONCLUSION

From the research paper it was derived that:

1. The whole of economic activity of Indian economy is jointly done by private and public sectors.
2. Public sector is not able to perform upto the standards of private sector. Neither it is able to perform its role as facilitator to private sector.
3. The PA score of private sector is more than that of public sector. Also, the addition in GDP is more from private service sector.
4. The lower productivity of public sector is due to the nature of its employees and some motivational factors supporting them such as regular increments and job security.
5. Due to such inefficient style of working the economic growth and reputation of economy is at stake.

Hence, there is a need of hour for government to take firm actions in order to get the public sector on track and make them perform well as per their role in the economy in order to grow economy at a steady rate.

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## Hurdles in the path of Indian Economy Going Cashless

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### **ABSTRACT**

*It's time to go cashless. The main purpose of demonetization is to remove black money and also to encourage cashless payment. A cashless method is more transparent because every transaction can be traced easily as it leaves its footprints. Many smart people have switched to new cashless payment options. The cashless payment methods are new to the Indian society and due to high money laundering cases, high poverty and low education rate people are finding it hard to adopt to it. There is not much secondary data available about the reasons people use cash transactions over cashless transactions. So, this is an attempt to study the reasons of this preference. The objective is to determine the reasons that affect the individual choices and find the most dominant factor amongst them. The type of research that has been conducted is Empirical and Exploratory Research wherein conclusions have been drawn by means of direct and indirect observations. Primary and Secondary data has been taken for analysis and interpretation. Illiteracy, difficulty in accessing of devices used for making cashless payments by the people, cashless technology being less popular in backward areas and elderly people, lack of availability of POS terminals and internet charges required to be paid for making online transactions were concluded as the main hurdles in the Indian economy going cashless.*

**Keywords:** Cashless Transactions, POS Terminals, Black Money, Money Laundering

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### **INTRODUCTION**

It's time to go cashless. The main purpose of demonetization is to remove black money and also to encourage cashless payment. People should adopt a cashless method for the transaction instead of standing in long queues. A cashless method is more transparent because every transaction can be traced easily as it leaves its footprints. Many smart people have switched to new cashless payment options.

The various types of cashless payment options are:

- Cheque
- Demand draft
- Online transfer (NEFT or RTGS)
- Credit Card/ Debit Card
- E Wallets
- Mobile Wallets
- UPI apps
- Gift Cards
- Aadhar Enabled Payment System(AEPS)
- Unstructured Supplementary Service Data(USSD)

### **Benefits of the Cashless Economy**

1. Quicker transactions – reducing queues at point of sales.
2. Better hygiene on site – eliminating the risk of bacterial spread due to handling notes and coins.
3. Improved sales
4. Cash collection made easy – time spent on collecting; counting and sorting cash is reduced.
5. Managing staff

It is also noted : It reduces transfer/processing fees, increases processing/transaction time, offers multiple payment options and gives immediate notification on all transactions on customers' account. It is also helpful to the banks and merchants; there is large customer coverage, international products and services, promotion and branding, better customer satisfaction and better relationship with customers and easy documentation and transaction tracking .

E-payments have several advantages, which were never available through the cash payment modes of payment, some of which are; privacy, integrity, compatibility, good transaction efficiency, acceptability, convenience, mobility, low financial risk, anonymity. E-payment tends to help businesses by increasing customers base, increasing cash flow, reducing costs, better customer service and improving competitive advantage.

#### **Five reasons why e-payment improves customer service – the five C's ;**

1. Choice – like competitors, it offers a wide range of payment methods.
2. Convenience – removes the need for receipts, cheques, cash and Banks Automated Clearing System (BACS).
3. Credit – allow purchases that would have been delayed.
4. Concessions – discounts to encourage online purchases.
5. Competitive edge – if you don't offer the complete range of payment options, but your competitor does.

#### **Five reasons why e-payment increases profitability;**

1. Convenience – removes administrative resources required for invoices, cheques and cash.
2. Immediacy – credit cards enable purchasing without any delay
3. Improved cashflow – payment at the time of purchase reduces the pressure caused by 30-days invoicing.
4. Growth – opens additional payment channels through the phone, mail order, and internet and increase customers' base.

### **RESEARCH PROBLEM**

The cashless payment methods are new to the Indian society and due to high money laundering cases, high poverty and low education rate people are finding it hard to adopt to it. There is not much secondary data available about the reasons people use cash transactions over cashless transactions. So, this is an attempt to study the reasons of this preference.

### **OBJECTIVE OF THE STUDY**

The objective is to determine the reasons that affect the individual choices and find the most dominant factor amongst them. People can educate themselves about the facilities and various methods of cashless transactions and then try to adopt them in their everyday life which would bring all the transactions under the government notice and help in avoiding the problem of black money and money laundering in India, thus, making our economy stronger.

### **REVIEW OF LITERATURE**

Research related to my study has been found in 'An Appraisal of Cashless Economy Policy in Development of Nigerian Economy' by Liu et al P.V.C.Okoye, Raymond Ezejiofor. They examine the inadequacy of Nigeria in adopting and implementing the cashless economy policy. They examine its significant benefits and essential elements, and check the extent to which it can enhance the growth of financial stability in the country. Two research hypotheses were formulated in line with the objectives of the study. The descriptive research design was adopted for the study. The convenience sampling technique was used. The questionnaire which was structured was the main instrument used for data collection. The data collected was subjected to face validity test, and was tested with ANOVA and chi – square (x<sup>2</sup>) technique was used to test the hypotheses.

### **RESEARCH METHODOLOGY**

The type of research that has been conducted is Empirical and Exploratory Research wherein conclusions have been drawn by means of direct and indirect observations. Primary and Secondary data has been taken for analysis and interpretation. This data includes the data of POS terminals available, credit card and debit card users, no. of ATM available, no. of NEFT transactions made every year for the period of 6 years(2011-2016). The source of the same is rbi.org.in. The primary data has been collected through the means of questionnaires filled by 50 respondents. ANOVA has been used as a tool for analyzing and interpreting the data , determine

and analyze the hurdles people find in going cashless in the Indian economy through grouping them on various basis and testing the differences between means. Analysis of Variance (ANOVA) is a statistical method used to test differences between two or more means. For the purpose of presentation of data, line charts have been prepared for various cashless methods used over the years and the same have been interpreted for comparison.

The data collected through the primary and secondary source have been analyzed for a period of 6 years.(2011-2016) to draw conclusions on the hurdles people find in going cashless in the country.

**Data of various cashless payment devices over the past 6 years**

	No. of POS terminals	No. of Credit card users	No. of Debit Card users	No. of ATMs	No. of NEFT
October 2011	5,96,463	1,76,19,053	25,55,55,596	84,309	19251388
October 2012	7,64,674	1,85,20,189	30,68,33,366	1,02,542	34843661
October 2013	9,63,491	1,85,78,309	37,41,92,339	1,33,313	56912269
October 2014	11,11,576	1,99,54,598	44,16,11,701	1,73,697	73293967
October 2015	12,36,933	2,28,80,984	61,53,67,242	1,90,859	114604683
October 2016	15,12,068	2,73,44,842	73,92,81,001	2,05,151	133213109

The questionnaires were filled by 50 respondents and the following is the analysis:

1. The data was grouped in three ways : according to the area where the respondents reside, their age and their income
2. The mean values of all groupings were calculated.
3. ANOVA was applied on the means of all three groupings.

ANOVA based on area of residence.

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	42.04045	28	1.501445	0.812045	0.722328	1.670551
Within Groups	107.2401	58	1.848968			
Total	149.2806	86				

After collecting the data and grouping it based on area of residence an analysis has been done using an ANOVA and found that F-ratio has a p-value of .722328 this result is insignificant! However, this doesn't support the hypothesis that people give similar responses regardless of area of residence this only supports that they find much hurdles in going cashless.

ANOVA based on age groups.

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	48.27957	28	1.72427	13.93403	7.96E-17	1.670551
Within Groups	7.177227	58	0.123745			
Total	55.4568	86				

After collecting the data and grouping it based on age groups an analysis has been done using an ANOVA and found that F-ratio has a p-value of 7.96 this result is insignificant! However, this doesn't support the hypothesis that people do not find much hurdles in going cashless. There surely is Variation in responses of people and difference in their thinking. ANOVA based on Monthly Income of people.

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	58.07967	28	2.074274	1.603437	0.050529	1.605796
Within Groups	112.5469	87	1.293642			
Total	170.6265	115				

Since there is no variation, it is significant. People give similar responses regardless of their income. After collecting the data and grouping it based on income an analysis has been done using an ANOVA and found that F-ratio has a p-value of .050529 this result is significant! However, this only supports the hypothesis that people give similar responses regardless of their income. This only supports that they do not find much hurdles in going cashless.

Mean results of the sample taken of 50 respondents to analyse the hurdles found by people for going cashless.

	No laptop/ computer	difficult	illiterate	Unsafe	No pos terminals	Not user friendly	Poor banking services	Avoid internet charges
Mean	.88	1.54	1.2	1.68	1.36	1.76	.78	1.98

Above 1 is high and below 1 is low

### Interpretation

This shows that problems like difficulty in operating the devices, illiteracy, threats of hacking etc., lack of availability of POS terminals and internet banking charges hold people back from using the cashless methods of making the payments whereas the lack of computer or banking services are not a problem. During the overall analysis it has been found that the majority of people who are holding themselves back from using the cashless methods of making payment are segregated on the basis of different areas of residence i.e. the cashless payment method technology is unable to reach the masses residing in rural and semi urban areas and also on the basis of age groups, the younger population finds themselves more adaptable to the new technology than the elder population.

### CONCLUSION

It can be concluded that although the cashless methods of making payments are increasing over the years still there are hurdles coming in the way of India going cashless because of illiteracy, difficulty in accessing of devices used for making cashless payments by the people, cashless technology being less popular in backward areas and elderly people, lack of availability of POS terminals and internet charges required to be paid for making online transactions. The Indian Government should work on reducing the illiteracy, making the cashless payment methods popular amongst the rural areas as well, making the online portals user friendly and increasing the availability of POS terminals so that people can make payments easily by cards as and when they want. And also not charge fees on making online transactions.

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## ANNEXURE

Sample of the questionnaires filled by the respondents.

As part of my Masters in Financial management research for dissertation on the topic “Hurdles in the Path of Cashless Economy” under the guidance of Dr. Sanjay Rastogi at Amity University, I conducted a survey that investigated the attitudes of customers towards using the cashless methods of making transactions.

## QUESTIONNAIRE

1. In which age group do you lie?  
(a) 18-30                      (b) 30-50                      (c) Above 50
2. What is your monthly income?  
(a) Upto 5000                      (b) 5000-15000                      (c) 15000-30000                      (d) Above 30000
3. Where do you reside?  
(a) rural area                      (b) semi-urban                      (c) urban
4. Do you have a computer/laptop?  
(a) yes                      (b) no
5. Do you have a smartphone?  
(a) yes                      (b) no
6. Do you have internet access?  
(a) yes                      (b) no
7. Do you have a bank account?  
(a) yes                      (b) no
8. Do you use a Debit/Credit card?  
(a) yes                      (b) no
9. Do you make online transactions?  
(a) yes                      (b) no
10. If yes, what is the frequency per month?  
(a) 1                      (b) 2                      (c) 3                      (d) 4                      (e) 5 and above
11. If yes, what's the purpose for making online transactions?  
(a) shopping                      (b) Bills                      (c) forms                      (d) payment                      (e) others
12. If yes, rank the following methods on a scale of 1 to 5
  - a) Mobile
  - b) Debit/Credit Card
  - c) Paytm
  - d) Online Apps
  - e) Online Banking
13. If no give reasons and scale the following as part of your reasons for not making online transactions
  - a) Do not have a laptop or smart phone or internet access
  - b) Difficulty in accessing the device or internet
  - c) Cannot read or write properly
  - d) Do not find it safe
  - e) Nopos terminals available
  - f) Do not find it user friendly
  - g) Unhappy with the online banking services etc.
  - h) Do not wish to pay online payment charges and other such charges
  - i) Others

## Role of Media in Consumer Protection

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### ABSTRACT

*Media is often known as the fourth pillar of a democratic nation after Judiciary, Executive and Legislature. Being the fourth pillar of the society, media is an integral part of our lives. The role of an independent media is to make people aware and inform about various social, economic and political changes. Media also has to keep a check on public policy by throwing a light on government actions. This let people voice their opinion on government and enable them to bring change. It is the responsibility of the press to supply timely and relevant information to the people, allowing them to change their own behavior and to demand higher social standards for the society. Media is not only responsible for the development of the nation, but also works effectively for human growth by providing an opportunity to the public to express their views and opinion. Since media is considered as the fourth pillar of the society, considering this fact, media is also responsible for addressing various social issues including consumer grievances. The problems of consumers are expressed by media in whatever form they are including consumer grievance, atrocities against consumer, need for educating the consumer and creating awareness amongst the end user. This is done by disseminating the right information at the right time. The objective of writing the paper is to understand the responsibility of the media towards the consumers and the need of protecting them from the malpractices of the vendor. The research methodology adopted is evaluating different research papers and case study which is an empirical method.*

**Keywords:** Fourth Estate, Consumer, Consumer Protection

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### INTRODUCTION

Media is often known as the fourth pillar of a democratic nation after Judiciary, Executive and Legislature. Being the fourth pillar of the society, media is an integral part of our lives. The role of an independent media is to make people aware and inform about various social, economic and political changes becoming the mirror to the public. Media is considered as the most effective way of disseminating the information because of its ability to cover the whole heterogeneous population of a country. The most significant function of media is to create awareness among the masses, bringing to light the major issue of social concern. This let people voice their opinion on government and enable them to bring change. The reach of mass media is extended to the whole heterogeneous masses of the nation. Due to the vast reach of mass media, it is considered as the most reliable and effective medium to communicate with the masses. Media has the most important role to play in the escalation of a society by empowering the general public, creating a political pressure, eliminating misconceptions and providing their view points on the issues that are in significance to the general public.

A nation can be developed when there is a constructive process of engagement of all citizens in building unity, economic prosperity and political stability in a nation. It is important for the growth of nation that the society must actively participate in the course of development. Thus, the involvement of the citizens is essential in nation building. In the process of development, not only the society but media also plays a vital role, by encouraging community to participate in development by influencing public opinion leading to social change. This is done by providing timely and relevant information to the people. Without communication no society can exist, develop or survive. Media is not only responsible for the development of the nation, but also works effectively for human growth by providing an opportunity to the public to express their views and opinion. The press in India has always been responsive in performing its duties so that those who are involved in the matters of policy making can give justice to their duties. It is because of the media that people have become more aware, informed and cautious. They have now their own views, opinions, understand and analyze a situation and take a firm decision. However, the role of media has widened as it is not only stagnant to the escalation of the nation, the press is also responsible towards the consumers. The problems of consumers are expressed by

media in whatever form they are including consumer grievance, atrocities against consumer, need for educating the consumer and creating awareness amongst the end user.

### **OBJECTIVES**

1. To evaluate the responsibility of the media towards consumers.
2. To assess the accountability of the press to protect the customers from consumer exploitation.
3. To understand the initiatives taken by the media to generate consumer awareness.

### **CONSUMER PROTECTION**

Consumer is any person who buys the product and service for personal use. A consumer is the person who decides whether to purchase the product or not. Since consumer is always the end user, there is always a possibility of consumer exploitation by the producer for his personal benefit which can cause an obnoxious effect on the consumer. Major causes of consumer exploitation are deceptive ads, unethical and monopolistic trade practices, duplicity of products, illiteracy and ignorance on the part of consumers. Thus, in order to protect the consumer from such malpractices, government of India has come up with certain laws and regulations to ensure a fair trade competition and to promote a free flow of truthful information in the market. The prime purposes of such laws are to prevent the marketers to engross in deceptive and unfair trade practices against the patrons. In order to protect the consumer from the malpractices of the sellers, government has pioneered many laws to protect and maintain the interest of the customers. Government tries to protect the rights of the consumers in the form of Consumer Protection Act, 1986. The Act was enacted in 1986 to provide a provision for the establishment of consumer councils for the settlement of consumer disputes. The Act provides certain rights to the consumers such as:

1. **Right to Safety:-** It involves the right provided to the consumers to be protected against goods that are hazardous to life.
2. **Right to Information:-** It is the right of the consumers to be well informed about the quality, quantity, purity and standard of goods.
3. **Right to Choose:-** The right provides an access to the customers the freedom of choice. The customers have a right to choose products of their choice from the vast competitive market without any pressure of sales from the sellers.
4. **Right to be Heard:-** It assures the customers' interest will receive the consideration at appropriate forums.
5. **Right to seek Redressal:-** The right to get relief against unfair trade practices.
6. **Right to Consumer Education:-** It is the right of the consumer to acquire knowledge and skills to be an informed citizen. The consumer should be aware of the rights granted by the government in order to be sheltered from the unfair trade practices of the sellers.

Due to a vast and competitive market, it has become a chaos for the customers. The era of competition, has drastically changed the face of marketing and advertisements. Advertisement is one of the most important media for the marketers to publicize their products and can influence the purchasing decision of the customers. Thus, affecting the day to day life of the customers. However, to protect the interest of the costumers and to maintain the ethical functioning of advertisers, government has also established Advertising Standard Council of India (also known as ASCI) to ensure the truthfulness and honesty in representation of claims made by an advertiser. The primary objective is to ensure the advertisers maintain a standard of public decency in the advertisements, to protect the consumers from being exposed to the products that are hazardous to the society and to promote fairness in the competition between the sellers. According to IRDA (Insurance Advertisements and Disclosure) Regulations, 2000, misleading advertisements are those that claim beyond the ability of the product, give information in a misleading ways and makes unfair comparisons with the competitors. Out of all the initiatives and steps taken by the government the most highlighted campaign covered by both print and electronic media (radio and television) in the form of advertisements is the "Jaago Grahak Jaago" campaign. The campaign throws light on the various issues regarding consumer exploitation thereby making people aware and informed about the misconduct of sellers. Through such campaigns the objective of media is the protection of the consumers from adulterated food grains, corruption, black marketing, smuggling and artificial scarcity of goods. Consumer awareness is an imperative matter that needs to be given immediate consideration that helps in liberating the society from many problems, thereby making the society civilized. However, there are many countries including India that still face the problem of consumer exploitation by the hands of traders. There are

various forms in which a consumer can be exploited such as providing misleading information to the consumers in the form of advertisements, exaggeration of claims, vending of faulty and defected products. Such problems are expressed by the press. Due to the gigantic reach of media, a large section of the society is influenced by the media, becoming a silent opinion maker. Media provides a podium to the layman to express their views, arguments and grievances. Since, media is termed as a fourth pillar; there are many important roles the media has to perform. One such imperative role is in making the system more informed and empowered. This is done by informing the uninformed, generating awareness about the policy and the policy makers, highlighting various socio economic and political issues of the society. Be it a problem of national integration, economic injustice or upliftment of disadvantaged group, media take up such issues and provide justice to those involved in the matter. Media influence the society and change their behavior and pattern for the lives towards many important issues. One of the major problems of the modern time that needs to be given utmost importance is the prevention of consumer exploitation by the hands of business houses. Press plays a major role in promotion of consumer protection in a country. This has been effectively done by adopting various innovative means. For example The Economic Times publishes a column called "Caveat Emptor" which solely deals with current problems and grievances against marketers. Promoting awareness by spreading information is the foremost task of media towards development of consumerism. By instigating certain innovative campaigns against consumer exploitation, media make people aware about the false claims made by advertisers, the hollowness of sales and other sales gimmicks of the merchants. Thus, press plays a major role in promoting consumers. Newspapers often publish stories related to consumer's interest stressing upon their problems or incidents related with consumers. Newspapers also express their views regarding consumer protection through editorials in which they emphasize the government policies or decisions. They also provide suggestions or recommendations to solve consumer agony.

### **CASE STUDY**

This is a case of automobile company called Bajaj, which was reported by Times of India. The case is of Bajaj CT 100 motorbike, where dealer had promised a mileage of 100 Kms. Since, the customer could not get the promised mileage, the customer approached the dealer. On subsequent checking, the product was found to be defective. The customer demanded compensation. On being refused by the company, the customer approached the consumer forum. The case was finally settled by the forum and a replacement of the product along with the compensation was provided to the buyer. The case was reported by Times of India.

### **CONCLUSION**

Media in its various forms like print, electronic (radio and television) and social media, plays a crucial role in the lives of the people by providing the information that is vital for the public. In today's scenario we are entirely dependent on the media for information. Thus, media has a tremendous impact on the way society shape itself. Media also helps not only in generating awareness but also in influencing the mindsets of general public thereby making the society more empowered. Media understand its responsibilities towards public, hence it project various socio economic and political issues that can directly influence the lives of the citizens. In today's scenario, the most important issue that needs to be given immediate attention is consumer protection from unfair trade practices of the vendors and ensuring a strict code of conduct for the businesses. Media not only ensures the ethical functioning of marketers, but also tries to generate awareness among masses regarding the misconduct of sellers towards customers. This awareness is generated through media which includes advertisement campaigns, news stories that are covered by both print and electronic media. Publishing stories related to consumer's interest, stressing upon their problems or incidents related with consumers, facilitates in making an informed and aware society.

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## Automatic Speed Control and Accident Avoidance of Vehicle using Multi Sensors

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### **ABSTRACT**

*The Objective of this project is to develop a system to keep the vehicle secure and protect it by the occupation of the intruders. The main aim of this project is to develop a system automatic speed control of vehicle and accident avoidance using speed control sensor and ultrasonic sensor. It will control the speed whenever any obstacle is detected while the vehicle is running on the road. Suppose a driver is driving a car on a highway and the speed limit is 90 km/hr. If the driver will drive the car at 100km/hr., it's Okay. But if a driver exceeds the speed limit, the speed control sensor will display a warning alert on its touchscreen music system to alert the driver. The ultrasonic sensor system continuously sends signals and monitors any car or other obstacles are in front of car. The distance up to which ultrasonic sensor can work may be up to 4 meter. When any obstacle or vehicle detected by ultrasonic sensor system it will send signal to the embedded base station. After receiving the signal embedded base station sends a signal to the cars electronic control unit to reduce the speed of the vehicle immediately. Vehicle is controlled automatically without any manual operation when the vehicle is at 4 meter distance away from the front vehicle. Also give warning alert to the driver. Many accidents at High-ways take place due to over speeding or close running of vehicles all of sudden, then it is quite difficult to the following vehicle driver to control his vehicle, resulting accident. To avoid this kind of accident, the warning system which contain alarm and control the speed of the vehicle? In order to overcome this drawback we go for a new system of accident avoidance system with efficient utilization of sensors.*

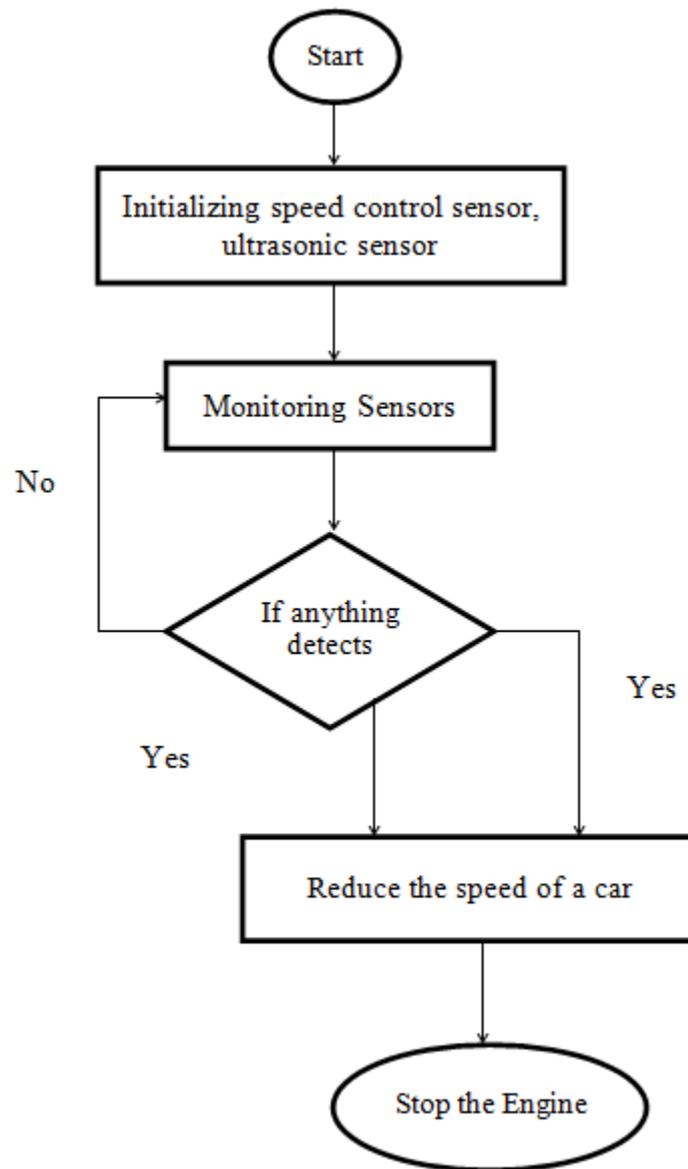
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### **INTRODUCTION**

An accident avoidance system is an automobile safety system that avoids unpleasant event that no one wants to occur in their life. It affects the life of many people causing tremendous losing the life of their family members. Preventing accidents refers to the activities designed to reduce the severity (condition) of an accidents. It uses speed sensor and ultrasonic sensor to detect an obstacle. Once the detection is done, these systems either provide a warning to the driver or take action autonomously without any driver input (by reducing the speed of a car). Car accidents have a great effect on the average of total facilities every year all over the world. Most of these accidents are due to excessive speed as drivers do not committee to the highway speed limit. Every year 1.5 Million people die in car accidents (40% - 50%) due to excessive speed. Prevention of these accidents remains on one side as a huge question mark but rather on the other hand we look up for something as a life saving measures to safeguard our self in case of occurrences of any accidents. Many lives would have been saved if the emergency service could get the crash information in time.

Collision avoidance system feature are rapidly making their way into the new vehicle fleet.

- Flow Chart:



- Hardware Requirement:
  1. Microcontroller
  2. Power Supply
  3. Speed Control Sensor
  4. Ultrasonic Sensor
  5. Alcohol Sensor Detector
  6. LCD Display
  7. Buzzer
  8. DC Motor

## ARCHITECTURAL DESIGN

### Ultra Sonic Sensor

Bulletin 873M general purpose ultrasonic sensor is design to detect solid or liquid targets by using sound wave. These compact sensors provide enhanced flexibility for areas with limited space and are excellent for standard packaging and assembly application. They are ideal for sensing targets that are challenging for photoelectric sensors to detect.

### **Alcohol Sensor Detector**

This alcohol sensor detects alcohol concentration on your breath, just like your common breath analyser. It has a high sensitivity and fast response time. Sensor provides an analog resistive output based on alcohol concentration. The drive circuits are very simple all its need is one resistor.

### **Speed Control Sensor**

It is a sender device used for reading the speed of a vehicle, to reduce the speed of a vehicle if obstacles are in front of car.

## **ARCHITECTURAL DESIGN**

### **Prevention System**

**Method 1:-** If a driver exceeds the speed limit, the speed control sensor will display a warning alert on its touchscreen music system to alert the driver. If he will not decrease the speed of a vehicle the speed control sensor automatically reduce the speed of a car.

**Method 2:-** Here we use an alcohol sensor fitted near the driver seat in such a way it can sense the alcohol content in the breath of a driver. If driver consumed alcohol and it has been detected by the sensor, the sensor automatically jammed the lock so the driver can't even able to start the vehicle or if the driver consumes an alcohol while driving the car the speed control sensor automatically reduce the speed of a car at 40 km/hr. to avoid the accident.

**Method 3:-** The next method to avoid rash driving we are fitting an ultrasonic sensor in front of the vehicle which covers the wide area at the front. If the ultrasonic sensor detects any vehicle closer to the immediate vehicle, the system automatically slow down the vehicle by using the automatic speed control sensor and fixed the vehicle engine immediately.

## **CONCLUSION**

The project "Automatic Speed Control and Accident Avoidance of Vehicle using Multi Sensors" provides excellent results concerned with preventing accident caused by rash driving and drunk and drive. The system provides efficient results as compared to the existing system and sustain even in case of failure of any one of the sensors.

### **Advantages**

- Low cost, less complexity
- By using of this system we can easily control the speed of a vehicle
- Reliable
- Easy to implement

### **Application**

- This system can be used to avoid accidents
- Transportation Application

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## Contribution of Corporate Social Responsibility to the Triple Bottom Line

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### ABSTRACT

Earlier business success has been largely considered by one thing: The bottom line- Net profit or Net loss in their income and expense statement. However, Corporations being members of the community have various moral responsibilities similar to those of other citizens of the world and these responsibilities fall into four categories: financial Responsibility, Legal Responsibility, moral Responsibility and Philanthropic Responsibility. Triple Bottom Line is a theory which works on this assumption and focuses on sustainability. It requires that any company should weigh its activities on three independent criteria: financial sustainability, social sustainability, and ecological sustainability. The triple bottom line (TBL) approach additionally considers environmental and social factors also and not just Profitability and unifies the three pillars, which are often also referred to as 'people, planet, profit'. To achieve the above said Three Pillars, Corporate Social Responsibility is a framework for businesses helping them to incorporate sustainability into all areas and operations. Implementing corporate social responsibility can help a business to improve its performance in terms of cost reduction or improved efficiency and product quality. Also, it can improve the brand image, reputation and customer loyalty. It is therefore a win-win state for both business houses and the society. In this paper, we have discussed in detail how the framework of Corporate Social Responsibility helps a business achieve the triple bottom line i.e. People, Planet & Profit.

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### INTRODUCTION

CSR is defined as "the obligations of Corporations to pursue those policies, to make those decisions or to follow those lines of action which are desirable in terms of the objectives and values of our society. The CSR view is that corporations are members of the ethical community and therefore, They have responsibilities that are similar to those of other citizens of the country, and these responsibilities fall into four groups:

1. financial Responsibility
2. legal Responsibility
3. moral Responsibility
4. Philanthropic Responsibility

The **financial Responsibility** is the responsibility of a business to make money. The **Legal Responsibility** is the responsibility to obey the letter and the spirit of the law. The **moral Responsibility** is the responsibility to do the right thing even when neither the spirit nor the letter of the law applies to the situation. **Philanthropic Responsibility**, is a responsibility to contribute to society's projects even when they're independent of the particular business. These four principles are ordered from the **most** grave to the **least**. This means that businesses must attend to the financial, Legal, moral, and Philanthropic responsibilities in that order. This does not mean that the financial responsibility to maintain a profitable business always trump the other three. It means that a business which is profitable must also act within the bounds of the law, and that they must act within the bounds of ethics. At the bottom of the list, a business might be required to behave philanthropically.

### **Triple Bottom Line**

Another theory of corporate social responsibility is the Triple Bottom Line. Like the CSR theory, Triple Bottom Line works on the assumption that the corporation is a member of the moral community, and this gives it social responsibilities. This theory focuses on sustainability, and requires that any company weigh its actions on three independent scales: **financial** sustainability, **social** sustainability, and **ecological** sustainability.

These three tabulations are all aimed at long-term sustainability. **financial** sustainability must focus on the long term because this is the nature of a constant company. A decision which creates an financial benefit in the short-term, but causes long-term harm, would likely reduce this bottom line to such a degree that the action would be indefensible.

**Social** sustainability gives precedence on the balance of financial power in the society. Competition in the business arena is common, and expectant, but maximizing the bottom line in social terms requires that a business promote an environment in which all can succeed. It will also promote good-will of the company in the society that it exists in.

The requirement of **ecological** sustainability stems from the recognition that resources are not endless, and leads to the analysis that too much degradation will worsen the lives of ourselves, our children and so on. Members of the moral community should not cause excessive harm to the people around them and the natural resources, and so this bottom line values some defence of the environment. Efforts should be made to renew some of the natural resources that have been harmed in the past, and these environmental harms and gains belong on this bottom line.

The reasoning behind this theory is that if businesses calculate their gains and losses in this way they will be more likely to take actions which are to the benefit of both the business and the community. It is easy, when the numbers are large enough, to ignore the social and ecological dimensions of a business decision. This is because the average business decision is made by comparing the expected costs and benefits in terms of dollars and, only then, considering the other dimensions of that decision. Triple Bottom Line requires that a business decision be composed of all of these elements from the beginning.

### **CSR Instruments to Achieve Sustainability**

**Global Reporting Initiative and Sustainability Reporting:-** The Global Reporting Initiative (GRI) is a framework for standardizing sustainability reporting. Sustainability reporting refers to a company's reporting on its environmental and social performance and governance. Earlier organizations were faced with three major challenges in this type of reporting. They were experiencing heavy and dissimilar demands for information on their performance, companies providing these reports were uncommon, conflicting and mismatched with one another, and various sources in different countries were providing their own frameworks and guidelines for this reporting. The Coalition for Environmentally Responsible Economies (CERES), with endorsement from the United Nations Environmental Program (UNEP) created the Global Reporting Initiative in 1997, which later developed their sustainable reporting framework. With support and participation from various international organizations, the GRI was developed into a global standardization format to address the growing issue. The GRI standards are the standards which are voluntary and adjustable to all types of organizations. They are based on multi-stakeholder involvement and each year an increasing number of companies adopting the guidelines to improve their reporting. The guidelines serve to provide many benefits such as the ability to lessen environmental and social impacts, and to make easy stakeholder understanding of slight performance and intercompany performance comparisons. Further benefits include improved understanding of opportunities and connected risks, improving long-term strategies and highlighting the connections between financial and non-financial performance.

**Environmental Impact Assessment:-** The Environmental Impact Assessment (EIA) is another useful tool in environmental management and CSR. It is a process for assessing "the impact of planned activity on the environment in advance, thereby allowing avoidance measures to be taken. The process involves a series of steps that can be categorized under four phases, screening, predicting and evaluating, presentation of findings, and post-decision monitoring. In the first step the project is screened to determine if an EIA is necessary. If the project is deemed to have environmental impacts, all significant or critical effects are identified and any alternative are considered. The project and its purpose are described with all relevant details including report of the state of the environment before and after the project is carried out. Both negative and positive impacts are identified and taken into consideration during this phase. Phase two involves predicting and assessing the significance of impacts in enquiry. It aims to determine the degree of change in the state of the environment as compared to the state if the project does not take place. Here project managers are also able to propose

measures or plans to lessen possible threats to the environment. In the third phase, the findings of the EIA are presented in the Environmental Impact Statement (EIS). The EIS is reviewed and a decision is made by the regulatory body as to whether or not the project will move forward as presented. One key element included into the first three phases of the EIA process is public participation, which enables the viewpoints and concerns of the public to be represented in the overall assessment. Post-decision monitoring entails impact certification after the decision has been made to go forward with the project. This is a significant and efficient element of project management in general, aids in evaluation of the actual impact in relation to those in the initial forecast, and can be very useful in assessing the overall dependency of similar EIAs down the line.

**Life Cycle Assessment:-** A life-cycle assessment (LCA) is a tool for evaluating how a product or service affects the environment. The Environmental Protection Agency (EPA) describes the life-cycle assessment as "a technique to assess the environmental aspects and potential impacts associated with a product, process, or service, by compiling an inventory of relevant energy and materials inputs and environmental releases; by evaluating the potential environmental impacts associated with identified inputs and releases; and interpreting the results to help you make a more informed decision. The phases of the LCA involve defining the product or process, identification of the boundaries of environmental effects, the concrete components being used and connected ecological bi-products, assessing the possible ecological effects of these components, and interpreting the results of the information gathered. The LCA can be used in combination with other performance data to identify products or services with the least ecological impact and is thought to assist in avoiding the shifting of harmful environmental impact from one area to another or from one production phase to another. It helps to identify tradeoffs that otherwise may not have been taken into account. Some drawback to performing LCAs include boundaries to data availability as well as the time and resource demand of performing accurate assessments with valid and reliable results. And although the LCA can help to identify which products are the least impactful environmentally, it does not identify the best or most cost efficient product and must therefore be used with other cost and performance tools in managerial decision making.

### **Brand Management and Consumer Ethics**

A company's brand is one of its most valuable assets and increasingly, more companies are using CSR as a means for increasing the demand of their brands. Marketing is a critical element in building this reputation and is very important as a means of communicating social and ecological performance and conveying the desired image to the consumer. Audiences need to be informed about the firm's activities, as well the social and ethical issues being confronted by their actions. Strong CSR programs have developed as a means for companies to stand apart from other competitors in their marketplace. However, with consumers making comparisons, increasingly complete CSR programs are favourable. Corporations that wish to enhance their image using CSR must integrate these values into all levels of its operations; otherwise they are subject to inspection and distrust regarding its motivation. While promotional CSR does have some benefits, institutional CSR programs are far more beneficial to corporations. Similarly, firms will benefit more from apparent social motivation as opposed to profit driven initiatives. The timing of a company's initiative is also of importance as consumers may be more disbelieving of reactive CSR, especially in instances where the firm is considered to be guilty for the stressor.

### **CONCLUSION**

Each company is driven to institutionalize CSR programs into their organization because of perceived benefits to the corporation. They practice CSR in order to differentiate their business and improve their corporate brand or image, for better stakeholder relations, and because they simply consider it the right thing to do. Undertaking social causes in an organization can be a tool for employees to feel as though they are a part of a company with a purpose bigger than themselves. Regardless of the scale of the investment the company has made, or whether standards are employed, all companies are more and more interested and also have identify importance of adapting CSR in monitoring and measuring the development, payback and apparent usefulness of their CSR initiatives.

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## Corporate Social Responsibility and Community Relations- A Case Study of ITC Ltd.

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### ABSTRACT

Corporate Social Responsibility is a management concept whereby companies integrate social and environmental concerns in their business operations and with stakeholders' interactions. Generally, Corporate Social Responsibility is understood as a way through which companies accomplish a balance of economic, environmental and social imperatives or the "Triple-Bottom-Line-Approach"). In India, after the recent amendment of Section 135 of Indian Companies Act, 2013 CSR has been made mandatory for a certain category of companies in India. The business responsibility report (BRR) of ITC Ltd is studied and analyzed to find out missing elements and information in its disclosures. The study specifically analyzes the disclosure made by the company with respect to the Principles from Section 135 of Indian Companies Act, 2013. Case study method is used and an in-depth analysis of the disclosures made by the company is undergone on the basis of these five parameters 1) Disaggregated information 2) Sustainability quantification 3) Stakeholder engagement 4) customer engagement and 5) Consumer satisfaction. This paper tries to find out the quality of disclosures made by ITC Ltd. in its Business Responsibility Report (BRR) with respect to social, economic and environmental responsibilities. The main aim of the paper is to analyze the effect of social responsibility practices on different stakeholders. The author tries to find answers to these following questions- Does the Business Responsibility Report (BRR) submitted by the companies as part of their Annual Reports really lead to value creation for the stakeholders? Or the reports try to create only a façade of their social responsibility practices to deceive the stakeholders? We try to show the real image behind their reporting practices to find out their actual social behavior.

**Keywords:** ITC, Corporate Social Responsibility (CSR), Business Responsibility Report (BRR), Community Relations, Stakeholders

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### INTRODUCTION

Corporate Social Responsibility (CSR) is a business approach that contributes to sustainable development by delivering economic, social and environmental benefits for all stakeholders. Corporate Social Responsibility (CSR) is a concept with many definitions and practices. Its understandability and implementation differs for each company and country. In India, Corporate Social Responsibility (CSR) has gained a significant level of importance post amendment of the Indian Companies Act, 2013. According to Greenfield's assumptions organization is considered as a legal person and being a person that belongs to the society, it has some obligation towards people at large. (Aguero Aan & Martinez Luis Juan, 2005)

#### Legal Mandate in India

Under Companies Act, 2013 any company with a

- Net worth of the company to be Rs 500 Crore or more or
- turnover of the company to be Rs 1000 Crore or more or
- Net profit of the company to be Rs 5 Crore or more.

Has to spend at least 2% of last 3 years average net profits on CSR activities as specified in Schedule VII and as amended from time to time. The rules came into effect from 1 April 2014.

- Further as per the CSR Rules, the provisions of CSR are not only applicable to Indian companies, but also applicable to branch and project offices of a foreign company in India.

- Further, the qualifying company will be required to constitute a CSR Committee consisting of 3 or more directors.
- The CSR Committee shall formulate and recommend to the Board, a policy which indicates the activities to be undertaken, allocate resources and monitor the CSR Policy of the company.
- If the company did not spend CSR, it has to disclose the reason for not spending. Non-disclosure or absence of the details will be penalized from Rs 50,000 to Rs 25 lakh or even imprisonment of up to 3 years.
- India is the first country in the world to enshrine corporate giving into law.

#### **How does it benefit the companies?**

- **Consumers are socially conscious** - Many consumers actively seek out companies that support charitable causes. Therefore CSR attracts customers.
- **Competitive advantage** - Businesses that show how they are more socially responsible than their competitors tend to stand out.
- **Boosts employee morale** - CSR practices have a significant impact on employee morale, as it reinforces his confidence on company's empathy.

#### **How can companies contribute towards CSR?**

CSR is a commitment to support initiatives that measurably improve the lives of underprivileged by one or more of the following focus areas as

- Eradicating hunger, poverty & malnutrition
- Promoting education improving maternal & child health
- Ensuring environmental sustainability
- Protection of national heritage Measures for the benefit of armed forces
- Promoting sports Contribution to the Prime Minister's National Relief
- Slum area development etc.

#### **National/ International Guidelines on Social Responsibility**

##### **National Voluntary Guidelines (NVGs)**

These guidelines are brought out by the Ministry of Corporate Affairs in association with India Institute of Corporate Affairs (IICA) to help Indian companies and also Multi-National Corporations (MNCs) operating in India to carry out the social responsibilities towards different stakeholders. These guidelines provide nine principles and advocate that the companies (whether large or small) should follow all these principles rather than choosing the ones that might suit them.

##### **ISO 26000**

International Organization for Standardization (ISO) is a body which formulates various product and service standards and certification schemes so that globally organizations adhere to certain standards in conducting their business practices. ISO 26000 was developed in 2010 following a multi-stakeholder approach wherein views of different stakeholders were integrated and incorporated. ISO 26000 provides only guidance to firms in carrying out their social responsibilities. It neither provides certification nor is a regulation, it is only a voluntary set of guidelines which an organization should voluntarily respect & obey to become a socially responsible entity (ISO26000, 2010)

##### **GRI G3.1 Sustainability Guidelines**

Global Reporting Initiative (GRI), located in Netherlands was formed by United States with support of United Nations Global Compact. It is a non-profit organization that provides sustainability guidelines and reporting framework. „G3 Third Generation“, GRI's Sustainability Reporting Guidelines were introduced in 2006. „G3.1“ are an updated version over G3. Guidelines for G3.1 consist of economic, social and environmental performance indicators. Following this as a standard of measuring and reporting sustainability performance provides transparent and accountable disclosures and hence helps increase the stakeholders' confidence. (G3.1 sustainability reporting guidelines, 2011). „G4 Fourth Generation“ Guidelines are a recent addition to GRI Standards. It is an up-gradation of G3.1 Sustainability Guidelines and is the result of constant advancement and improvement of the standards laid down by GRI.

## **FMCG Sector**

Fast Moving Consumer Goods includes all the daily use commodities that the consumers require in their day to day lives. It is one of the biggest industries in the world. These include various everyday items like, shampoos, soaps, toothpastes, coffee, tea, soft drinks, cosmetic products, nondurable consumer electronics, stationery products etc. The commodities included in the FMCG sector are high on consumption or and are routine items, thus are frequently purchased.

This sector is one of the fastest changing and continuously evolving sector as the needs and preferences of consumers change quickly. India is the second most populated country in the world and thus there is a huge demand for these daily consumer goods. This sector in particular has a wide reach including various urban and rural areas. These companies connect directly with the consumers as these companies need to know their consumers' interests to gain a significant profit. As this sector directly touches the consumers on an everyday basis, it would be interesting to find out as to how does the social responsibility behavior of a company, ITC Ltd., belonging to this sector effect one of the largest stakeholders' group i.e. consumers.

### **About the Company- ITC Ltd**

ITC limited or ITC is an Indian conglomerate based in Kolkata, West Bengal. It is India's biggest cigarette manufacturer. Its diversified business includes five segments: Fast Moving Consumer Goods (FMCG), Hotels, Paperboards & packaging, Agric business & Information Technology. The biggest profit maker of the company still remains its cigarette business at 80%

### **History**

ITC was formed on 24 August 1910 under the name of Imperial Tobacco Company of India Limited, and the company went public on 27 October 1954. The earlier decades of the company's activities centered mainly on tobacco products. In the 1970s, it diversified into non-tobacco businesses.

In 1975, the company acquired a hotel in Chennai, which was renamed the ITC-Welcom group Hotel Chola' (now renamed to Welcom Hotel Chennai).

In 1985, ITC set up Surya Tobacco Co. in Nepal as an Indo-Nepali and British joint venture, with the shares divided between ITC, British American Tobacco and various independent domestic shareholders in Nepal. In 2002, Surya Tobacco became a subsidiary of ITC and its name was changed to Surya Nepal Private Limited.

In 2000, ITC launched the Expressions range of greeting cards, the Wills Sport range of casual wear, and a wholly owned information technology subsidiary, ITC InfoTech India Limited.

In 2001, ITC introduced the Kitchens of India brand of ready-to-eat Indian recipes, which are produced and sold internationally, at first in cans and later in retort packages, and more recently online and at festivals.

In 2002, ITC entered the confectionery and staples segments and acquired the Bhadrachalam Paperboards Division and the safety matches company WIMCO Limited.

ITC diversified into body care products in 2005.

In 2010, ITC launched its hand rolled cigar - Armenteros - in the Indian market.

The company began online sales in 2014.

### **Sustainability Report Analysis-**

During the analysis of ITC Ltd. it was found that the company in its Sustainability Report does not talk about a very material aspect i.e. the effect of its major line of operation Cigars and Tobacco on the health of the society. It highlights the fact that many farmers get employment during the process but over sees the health risks and effects that its tobacco products offer. ITC Ltd has been a synonym for tobacco industry in India. Since its inception as the Indian Tobacco Company, it has been a giant tobacco manufacturer and seller in India. Although it has ventured into various other business lines, ITC's biggest profit maker is still its tobacco business. ITC cannot ignore the effects caused by consumption of its tobacco products and must address the same in its report which for now is seen nowhere. The company has completely overlooked this principle of Materiality and Balance as guided by GRI. (ITC Sustainability Report 2017)

### **Disclosure Quality**

The disclosures made by ITC in its Business Responsibility Report (BRR) are not up to the mark and lack correct information. Eventhough ITC Ltd claims to be the first Indian company to follow GRI Sustainability Guidelines on reporting but it lacs a ver important principle that is the maternity principle. The negative aspects

and effects of its biggest selling product line (tobacco, cigarettes, and products of tobacco) are not included in its report.

#### **Stakeholder Engagement-**

Eventhough from the report it looks as if the process of stakeholder engagement was carried out properly but there are no substantial facts to back it up. The company does a good job to mention all the initiatives undertaken to cater to the needs of the community but fails to include their identification process and outcomes and results of their initiatives.

#### **Customer Engagement and Satisfaction-**

ITC claims that it carries out various surveys to record it's consumers' satisfaction and needs but doesn't mention the frequency of these surveys. The company doesn't have any consumer guidelines and code of conduct to deal with various situations. Furthermore, no details are mentioned as to what steps are undertaken to maintain the health and safety of its consumers.

### **RESEARCH FINDINGS**

The first and foremost thing related to the Fast Moving Consumer's Goods (FMCG) sector is their network. The companies of this sector especially ITC, has a huge distribution network which enables them to make their products available even to the most isolated and rural parts of India. This is achieved by a great network of Transportation channels which use every possible medium to reach wide audiences. Transportation despite being such an important activity of the Fast Moving Consumer Goods companies, finds very less emphasis in company's sustainability disclosures. Under Principle 2 of NVGs, Business Responsibility Report pertinently asks the companies in question about their sustainable sourcing including transportation. To this question, ITC Ltd. has answered satisfactorily. The fast moving products are highly consumed. The packages of these products contribute to the environmental pollution to a large extent. For example a wrapper of ITC's Sunfeast biscuit is made up of plastic and plastic is one of the biggest pollutants that we know. For this companies should have campaigns and programmes to collect the empty cartons and wrappers of products from the consumers and recycle these layers and covers. To these aspects ITC has not satisfactorily reported in its BRRs. Again, another major aspect that needs immediate attention by the Fast Moving Consumer Goods (FMCG) sector is on the stakeholder engagement. We find that though ITC is claiming to indulge in stakeholder engagement but the actual picture is different. The company does not mention their level of engagement with different stakeholder groups, the ways and methods followed to engage with the stakeholders, the result of engagement and the activities followed to address the concerns raised during the stakeholder engagement. All these details are missing from ITC's disclosure reports. Moreover, for the Fast Moving Consumer Goods sector their goods are directly connected to the consumers. The consumer is the king both for the Company's survival and growth. So, more proactive engagement is required with the consumers to understand their wants, concerns and demands that's needed to be addressed. On the whole we can say ITC's report has concealed much more than it has reported in its Business Responsibility Reports. Far more disclosure with much more transparency is required from ITC for their survival as well as to transition from a mediocre image to a sustainable and positive image of the company.

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## Cloud Computing Security Issues and Possible Solutions

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### ABSTRACT

*Cloud Computing reworked the IT trade, creating each software and infrastructure even a lot of engaging as services, by reshaping the method hardware is intended and purchased. Cloud Computing services are offered by a third party provider who owns the infr-asturcture. Cloud Computing possess the potential to eliminate the necessities for putting in of pricy computing infrastructure for IT-based solutions and services that the trade uses. Cloud Services can be used from anywhere, any device , at anytime. Advantages of the cloud computing technology include cost savings, Flexibility, Mobility and scalability. It manages to provide a convenient and flexible IT architecture, accessible via internet from lightweight portable devices. In this research paper, we will discuss that how we made a real-time project based on cloud computing naming "Smart hiring system" using salesforce. "Smart Hiring System" is basically a job portal that deals specially with employment and careers. The name of the website is "Career Jobs" which provides you with information of different jobs in different sector at one platform. During the implementation of the project, the challenges we faced and how we implemented it in real-time are all mentioned in the paper. The paper will also include the security issues and the best possible solutions that we can ascertain to deal with. As there are multiple security threats associated with the cloud technology that hampers the growth of cloud. Security and privacy both acts as strong barrier as various organizations are slow in adapting and practicing the technology. Paper will consist of comparison of cloud versus conventional technology, what cloud computing actually is , Service models, its applications. Industries are realizing the significance of investing into cloud because the large capital investment are now minimized and replaced with the small monthly payments. Cloud helps in maintaining the efficient technology staff, which reduces the competitive pressure. This paper is an analytical study that exactly shows how working with cloud technology in real-time can be benefited for increasing profit , and identifying the security concerns with respect to data we store, process and manage. The project we made shows the various aspects of using the cloud technology to an extent where one can understand the advantages of investing into the cloud in consideration with security concerns.*

**Keywords:** *Cloud Computing, Cloud Security, Coud Research Paper, Cloud Real-time project, Cloud Measures,Smart hiring system.*

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### INTRODUCTION

In recent years e-learning tools appear to be growing and are becoming widely accepted as a learning method (Ewuzie & Usoro, 2012). In the last couple of years "cloud computing" has increasingly been discussed in the various forms (Krelja Kurelovic, E., Rako, S., & Tomljanovic, J., 2013). Cloud computing is not a completely new concept but a combination of new and existing technologies. The cloud computing is also a disruptive and evolving technology, which brings computing power, large storage, applications and services to user via Internet. This new computing trend focuses on users requirements, and also driven by the increasing use of various mobile devices such as Laptops, Tablets and Smartphone's. The cloud computing has many advantages with some limitations, both arising from the fact that all data and applications are located on the Internet. Since the data stored and applications on cloud can be access real time and online. It can be used in various activities of everyday life, including in education. Cloud computing is a model for enabling convenient, on-demand network access to the shared pool of resources (e.g. servers, storage, applications and services), which can be rapidly provisioned and released with minimal management efforts. As per the cloud model adapted and the

usage of it are the basis for chargeable commercial value. For formal and informal education, many applications and services on the cloud the access can be provided to students and teachers. The cloud computing allows for greater flexibility and mobility in the use of resources for teaching and learning with greater degree of collaboration, communication and sharing of resources. It also creates a personalized learning environment or virtual communities of teaching and learning.

### **CLOUD SERVICE MODELS**

**Infrastructure as a Service (IaaS):** In this cloud service model the service provider hosts all the required necessary hardware and the Internet connectivity link. The user only share responsibility for the virtual machine hosted on this hardware and the software's (include operating system) which runs on it. As shown in figure 1, this is the last / bottom layer and the software applications run on it. This service provides on demand infrastructure which is storage, computing, networking, management and support components (virtual servers). This infrastructure is accessed via Internet, enabling organizations to move their data to cloud. Resulting in to dissolve or dismantling there in house data centers. Each of these services can be deployed by organizations or individuals either as a private, public, hybrid, and community cloud.

**Platform as a Service (PaaS):** In this cloud service model the user supplies the application they wish to deploy, and the cloud service provider supplies all the components required to run this application which is also called as application hosting. As shown in the figure 1, this is the middle layer between SaaS and IaaS. It provides operating systems and application development platform which can be accessed and utilized via the Internet. Developers use this platform to develop, test, deploy and host web applications as a service via the internet. E.g. providers of such platforms as a service are Google Application Engine, Microsoft Windows Azure and International Business Machine (IBM).

**Software as a Service (SaaS):** In this cloud service model the service provider supplies the software application and all the components required for its execution. SaaS is designed to be a turnkey solution for the customers. Many web-ERP software solutions are hosted on the SaaS cloud and provide accounting and business Information to the user or customer. As shown in the figure 1, this is the top-most layer of cloud computing. This layer involves applications such as text processors, video editors and databases to be hosted by cloud service provider and is made readily available to the users on demand via Internet. Few examples of software as a service includes customer relation management (CRM), email messaging, Google Document (Doc) etc. (Alshuwaier, Alshwaier, & Areshey, 2012).

### **CLOUD DEPLOYMENT MODELS**

#### **Public Cloud**

A public cloud infrastructure is made available to the general public or a large industry group and is owned by an organization selling cloud services. The CP is responsible both for the cloud infrastructure and for the control of data and operations within the cloud. A public cloud may be owned, managed, and operated by a business, academic, or government organization, or some combination of them. It exists on the premises of the cloud service provider. In a public cloud model, all major components are outside the enterprise firewall, located in a multitenant infrastructure. Applications and storage are made available over the Internet via secured IP and can be free or offered at a pay-per-usage fee.

#### **Private Cloud**

A private cloud is implemented within the internal IT environment of the organization. The organization may choose to manage the cloud in-house or contract the management function to a third party. Additionally, the cloud servers and storage devices may exist on or off the premises. Private clouds can deliver IaaS internally to employees or business units through an intranet or the Internet via a VPN, as well as software (applications) or storage as services to its branch offices. A key motivation for opting for a private cloud is security.

A private cloud infrastructure offers tighter controls over the geographic location of data storage and other aspects of security.

#### **Community Cloud**

A community cloud shares characteristics of private and public clouds. Like a private cloud, a community cloud has restricted access. Like a public cloud, the cloud resources are shared among a number of independent organizations. The organizations that share the community cloud have similar requirements and, typically, and implementation.

## Hybrid Cloud

The hybrid cloud infrastructure is a composition of two or more clouds (private, community, or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability (e.g., cloud bursting for load balancing between clouds). With a hybrid cloud solution, sensitive information can be placed in a private area of the cloud and less sensitive data can take advantage of the benefits of the public cloud. A hybrid public/private cloud solution can be particularly

attractive for smaller businesses. Many applications for which security concerns are less of an issue can be offloaded at considerable cost savings without committing the organization to moving more sensitive data and applications to the public cloud.

## GLANCE AT “CLOUD SECURITY RISKS AND MEASURES”

### Software

**Problem:-** Infrastructure software needs to be kept up to date. This is not about the applications and server software. Managed by the end user, it is about the infrastructure management by the cloud service provider. If the platform is not being maintained properly, hackers and crackers may be able to get at your data.

**Solution:-** A good question to ask is, how does the service provider handle updates to the BIOS? When a bug fix comes out for the virtual server software, is it installed in a timely manner? Ask about the age of the software running the virtual machines and what the planned life cycle of the software is. Three years is a lifetime in the computer cloud business.

### INTERNET OUTAGES

**Problem:-** Is there a fail over plan for the Internet? How about the domain name system (DNS)? Will your site be live if one of your service providers' Internet access points becomes unavailable? Having an outside DNS provider that monitors the status of your website and allows you to switch to a new DNS is a must for protecting your high availability sites. Do not forget about the local Internet as well. There are now options to have multiple Internet lines into your office with a load balanced router. If all of your applications and data are in the cloud and you have an Internet outage at your office, you will lose time and money.

**Solution:-** Think about having dual lines at your office with automatic switching or load balancing in order to eliminate a single point of failure at your office.

### DENIAL-OF-SERVICE ATTACKS

**Problem:-** One way to bring a site down is through remote computer networks sending requests to your service provider. This is sometimes referred to as a robot or bot attack. Will they be successful? Is the service provider ready for external attacks? There are high-end routers that can handle and turn away denial of service (DoS) attacks, is it included in your monthly fees or do you have to purchase one?

**Solution:-** Most large firewalls at cloud service vendors will identify a DoS attack and turn it away before it reaches your site, but it is best to check with the vendor to make sure this is the case. For level one hosting providers, the DoS attack should never get close to your hosted system, unless the attack is coming from within your network.

**Hackers:-** Hackers are typically searching for easy prey. You may want to find out who else is managed by your service provider. Are there any high profile companies on the same systems you will be renting? Checking who is in your data center or what types of businesses are in the data center may give you some idea if the vendor or their clients will be a target. There is a whole computer underworld that searches the web for the weakest link and then takes advantage of it for as long as they can.

**Solution:-** Limiting user rights and access will limit what a hacker has access to as well. Be careful about giving out system rights or access to lots of sensitive data.

### OTHER CONCERNS COULD BE

**Reliability:-** How old is the hardware? Will you be informed if you are moved to different hardware? How reliable is the system? How reliable is the power? How reliable is the weather?

**Data Leaks:-** Do you have any fear of data access from the provider? Who has access to your information? Is there any way to tell if your data are accessed from outside your virtual machine?

**Vendor Viability:-** Be careful who you jump in bed with. Is the vendor able to meet their income requirements to stay in business? Are they solvent? Are there pending lawsuits?

**Level of Support:-** What level of support can you count on in case of a problem with the entire system? Are you high enough on the food chain to warrant immediate response or are there bigger fish that put you at the bottom of the list?

### **About the Project [Smart Hiring System]**

The Smart Hiring System is an online-job which provides information about number of vacancies available and also provides information about the amount of salary given for that particular job. Basically it provides information about the number of jobs available in different sectors like government sector , private sector and it also provides information about international jobs and walk-in-jobs with the number of vacancies available for them. Job seekers can upload their resume or curriculum vitae and hence can give their feedback after login with their account.

### **It has the following objectives:**

- **Enhancement:** The main objective of Smart Hiring System to enhance and upgrade the existing system by increasing its efficiency and effectiveness. The software improves the working methods by replacing the existing manual system with the computer-based system.
- **Automation:** The Smart Hiring System supports automation as it automates every activity and increases its throughput. Thus the response time of the system is very less and it works very fast.
- **Accuracy:** The Smart Hiring System provides the user a quick response with very accurate information regarding the jobs available, number of vacancies etc. Information regarding jobs is provided in very accurate manner as and when required.
- **User-Friendly:** The Smart Hiring System has very user-friendly interface. Thus the users will feel very easy to work on it.

### **Implementation of Cloud Computing in Real-time Project**

#### **Planning and choosing the project type**

The first step includes planning and selecting your project type. In our project we planned to develop a job-portal which deals in smart hiring. Planning and choosing a project type plays an important role in project development. Basically in our project jobs of different sectors are available at single website which saves the time of job seekers.

#### **Identify the users**

This step deals in accessibility of individuals. In others words information regarding jobs are available at our website to the job-seekers who are searching for particular jobs in particular departments . This step also includes availability of 'upload resume' button,'feedback' button which appears after registration, when the job seeker becomes the user. The admin controls the website from uploading new jobs to deleting the old ones.

#### **Create objects**

In salesforce, objects act as a database. In other words, the data regarding any button is stored in object created for that particular module. For example:- in our project we created an object "register" which contains all the data of registrations done by the visitors . All the data of registration module is stored in "register" object . Basically for every functioning we have to create an object in salesforce.

#### **Make classes associated with objects**

In salesforce we have to create apex classes for making a button working. In salesforce separate apex classes are created for making the button functioning which are available at the visualforce page. Visual force page is responsible for display criteria. Objects work successfully only when apex class is working.

#### **Relationship between objects**

Relationship between objects plays an important role in developing a project. In this step, relation of objects is defined. For example:- if a job seeker registers then only 'upload resume module' will be available . Relation of objects makes the project working more dynamic.

#### **List down the validation rule and approval process**

Validations plays a significant role in working of the project. When we want a module to deny unnecessary inputs validations are used. For example:- a field designed to take input as name from the user cannot take numbers as input as a particular validation has been applied to that field to take name only as input. In other words a validation is applied to avoid disfunctioning.

### **Designing and updating**

This point deals with the front-end which particularly deals as a graphical user input of the project. Appearance of the project can be made attractive using many designing languages like HTML, CSS.

### **CONCLUSION**

The wider areas of job searching facilitate the quick and easy access to opportunities. The increasing job opportunities and changing scenario of the business environment today has made more people to search for better career and employers to search for better career and employers to search for better potential.

- Posting jobs online is cheaper than advertising in the newspapers. It gives
- 24\*7 access to online collection of resumes. It reduces time for recruitment (over 65percent of hiring time)
- Facilitates the recruitment of right type of people with required skills.

This research paper elaborates the project implementation and popular platforms of cloud computing. It also discusses the security aspects and measures of cloud computing in detail. In spite of the several limitations and the need for better methodologies processes, cloud computing is becoming a hugely attractive paradigm, especially for large enterprises. Cloud Computing initiatives could affect the enterprises within two to three years as it has the potential to significantly change IT. Many organisation are confused by the range of offerings and the terminology used to describe them and will be unsure of the risk and benefits. Plenty of questions are still left to be answered regarding security within the cloud and how customers and cloud service providers (CSPs) will manage issues and expectations, but it would be a severe understatement to say simply that cloud computing has generated interest in the marketplace.

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## **A Study on Trifold Contribution towards Scaling up Sustainable Development in India**

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### **ABSTRACT**

*Sustainable development calls for the cooperation of all sectors. That cooperation must be based on the foundation of the right to development and the need for an equitable distribution of burden. Sustainable development is a concept that considers economic, social and environmental aspects while pursuing any development activity. India is booming and sustainable development becomes increasingly more important. India along with other countries signed the declaration on the 2030 Agenda for Sustainable Development, comprising of seventeen Sustainable Development Goals (SDGs). India has already set for itself more ambitious targets for implementation of SDGs in several areas of economic progress, inclusion and sustainability. Government of India, Industrial Sector and Educational Sectors are playing a pioneering role in the effective implementation of the agenda of the Sustainable Development Goals. The paper highlights the contribution of these sectors for attaining the Sustainable development.*

**Keywords:** Sustainable Development Goals (SDGs)

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### **INTRODUCTION TO SUSTAINABLE DEVELOPMENT**

Sustainable development has become an important issue in society. The concept of sustainable development arises from a worldview which sees the survival, progress, and continued maintenance of the human community as dependent on the continued health and viability of the earth's life support systems. Sustainable development implies processes of fundamental change in our social system and institutions. The thrust of this change relates to addressing the challenges embedded in the new global awareness that the earth is finite, and all the planet's life support system. In order to understand the meaning of sustainable development, we need to understand the meaning of "sustainable" and "development" individually. Sustainable means to succeed at maintaining a positive level. Development means a positive improvement and advancement. Hence, sustainable development is referred to as developing the economy at a positive rate with upholding and if possible improving the current levels. It means to utilize the current resources without compromising for the upcoming generation. Development should not come at the cost of depleting the current resources. Our whole economy and society depends upon the ecosystem, directly or indirectly. We all take something or the other from the natural ecosystem in any manner but do not always substitute it. The concept of sustainable development has been—and still is—subject to criticism. What, exactly, is to be sustained in sustainable development? It has been argued that there is no such thing as a sustainable use of a non-renewable resource, since any positive rate of exploitation will eventually lead to the exhaustion of earth's finite stock.

Ban Ki-moon, the United Nations Secretary-General from 2007 to 2016, has stated that: "We don't have plan B because there is no planet B." This thought has guided the development of the Sustainable Development Goals (SDGs).

They are-

GOAL 1: No Poverty

GOAL 2: Zero Hunger

GOAL 3: Good Health and Well-being

GOAL 4: Quality Education

GOAL 5: Gender Equality

GOAL 6: Clean Water and Sanitation

GOAL 7: Affordable and Clean Energy

GOAL 8: Decent Work and Economic Growth

GOAL 9: Industry, Innovation and Infrastructure

GOAL 10: Reduced Inequality

GOAL 11: Sustainable Cities and Communities

GOAL 12: Responsible Consumption and Production

GOAL 13: Climate Action

GOAL 14: Life below Water

GOAL 15: Life on Land

GOAL 16: Peace and Justice Strong Institutions

GOAL 17: Partnerships to achieve the Goal

### GOVERNMENT INITIATIVES TOWARDS THE ATTAINMENT OF SUSTAINABLE DEVELOPMENT GOALS (SDGs)

India has played an important role in shaping the Sustainable Development Goals (SDGs). Therefore, there is no surprise that the country's national development goals are mirrored in the SDGs.

The expression "Sabka Saath Sabka Vikas," which translates as "Collective Effort, Inclusive Growth" and has been popularized by Government of India, forms the cornerstone of India's national development agenda. To fast track this agenda, the Government of India has just released a draft Three-Year Action Agenda covering years 2017-18 to 2019-20. In parallel, work is in advance stages on a 15-Year Vision, which will also include a 7-years Strategy. Reflecting the country's long-standing federal tradition, these documents are being prepared with active participation of the States (sub-national Governments). Reflecting the country's commitment to the SDG agenda at the highest levels of Government, the Indian Parliament organized several forums including the South Asian Speakers' Summit in February 2017. These forums have focused on the elimination of poverty, gender equality, climate change and resource mobilization for SDGs. For implementing the SDG agenda, the Government of India has launched several ambitious programs, some of which are highlighted below. A noteworthy example of a crosscutting initiative is the Pradhan Mantri Jan Dhan Yojana (PMJDY) which is the world's largest financial inclusion program. In order to achieve the optimum results from the resources available to the country in terms of natural, man-made or even financial, the Government of India (GOI) has taken certain actions/initiatives over the period of time. Some of them are:-

❖ Mid-Day meal	❖ 21 plants per person from MCD
❖ Padhe Bharat Badhe Bharat	❖ Salt water to potable water
❖ Beti Bachao Beti Padhao	❖ Sagarmala Project
❖ Inter linking of rivers	❖ Renewable Energy Global Investment Promotion Meet and Expo
❖ Smart cities mission	❖ RTI (Right To Information Act)

In order to achieve the Sustainable Development Goals (SDGs), the government has been continuously working on them in one way or the other. If we look closely into the government's union budget of the current year, 2018, and of the past few years, we can observe that their focus has been on achieving the SDGs. For instance,

- To achieve good health the government will be initiating a ₹ 10,500 crore project for the 10 crore people living BPL. And to lead a well-being life the government is now aiming to provide the necessities like electricity to each part of the country. Recently, the government could successfully provide electricity to the famous islands near Mumbai, Ajanta-Ellora. They could experience this luxury, 70 years after independence.
- To achieve no poverty, the government has been continuously launching employment schemes like MNREGA 2005. Also, they have regulating the bills for the laborer's like its first kind of Wage Code Bill recently been proposed in the 2018 budget.
- To have sustainable cities and communities, the government is preparing Smart Cities across the nation.

- To support the life of animals on land the government has created parks and sanctuaries all around the country to preserve the endangered species. It has shown positive results especially for the tigers. Their numbers have increased than the last decade.
- To provide sanitation, the government has built and motivated the population of the villages to construct and use toilets instead of going to the farms. And for the clean water, our nation has received a gift from the Israel president Mr. Benjamin Netanyahu, a machine which can convert salt water into potable water. It has been placed on the ports of Gujarat.
- To create and spread affordable and clean energy, the government has placed multiple solar panels, covering the parts of Narmada in Gujarat.
- To be aware of tax reforms, the government has introduced the Goods and Service Tax (GST) in industrial sector for 150+ nations.
- To provide peace and justice the government has created Fast Track Courts for the public.
- To reduce the illegal inequality based on economic criteria and also to counter the black money and the corrupt, the government demonetized the currency in 2016.

### **INDUSTRIAL INITIATIVES TOWARDS THE ATTAINMENT OF THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)**

Research has shown that countries which prioritize building and nurturing of domestic industries have better growth and stability in long-term. A good example of such strong economy would be China which has, in past few decades, made immense efforts in making their domestic industrial sector strong. This has paid off China by being the world leader in manufacturing. Industrial sector play a much bigger role in developing national economies, alleviating poverty, participating in the global economy and partnering with government and educational sector. In addition, the industrial sector restructure the economy by complementing economic institutions with entrepreneurial activities, increasing production capacity, and restoring, preserving and developing traditional and indigenous business activities. The industrial sector supports the educational sector as well by giving employment opportunities to the fresher through campus placements and encourage them to actively and creatively participate towards sustainability. This sector has contributed to the sustainable development goals in many ways. Some of them are:

- Installation of solar panels on the roof to partially substitute the commercial electricity.
- Setting large solar water heaters for hot water all around the year.
- Providing charity to various institutions for children, animals, nature etc.
- Equipping strong laws on employment to defy gender discrimination.
- Providing finances to the employees for their education.

### **EDUCATIONAL INITIATIVES TOWARDS THE ATTAINMENT OF THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)**

Young people in higher education constitute the key leaders, decision-makers and stakeholders of future society. University and college students therefore need to develop the skill and competency to live and work in an increasingly globalized world, deal with climate change challenges, and sustainability-oriented economy. The United Nations decade for Education Sustainable Development (DESD, 2005-2014) has encouraged innovative approaches in education in order to contribute to the societal transition towards sustainability through both the formal education system and non-formal and informal learning settings (buckler and creech, 2014). The importance of the development of attributes and capabilities, rather than focusing primarily on content knowledge, is recognized by the educational institutes, schools and colleges as well. On the environmental front, educational institutes are encouraging the young minds for taking up the responsibility of their own surroundings by keeping it clean and use the renewable resources whenever possible. They have placed several plants and trees in the campus to promote a green living. Many educational institutes have understood the importance and the need of the hour to adopt a sustainable form of development and wishes to fulfill the Sustainable Development Goals as much as possible. Educational sector is the first to effectively reduce the issue of gender disparity with quotas, scholarships and awareness, and have long been gender inclusive with military and religious institutes probably being the most discriminatory. The management committees of colleges and institutes are ensuring a healthy work environment. Apart from this many academic institutes make the students aware about the vitality of sustainable development and encourage them to think

differently, while using their knowledge, empowers them to find sustainable solutions by organizing many programs, workshops, seminars. To help students think more sustainably and achieve a sustainable world schools, colleges and educational institution even organizing competitions to bring enthusiasm in youth to think measurable actions in resolving the issue hindering sustainability by using their skills and innovative ideas. One of such idea which has been introduced by a management student in such competition is:

Who says one cannot make profits out of a sustainable form of living? A business can be carried out which can yield high profits. The idea is to prepare fertilizers from both fresh and dried flowers, along with cow dung and fertile soil in a pre-fixed certain ratio. With this, zero amounts of adulterants will be consumed in the process of preparing the fertilizers and healthy vegetation can be provided to the masses. The flowers can be collected from the various religious institutions across the city. There are hundreds of such institutions and on an estimate in a day, per institution, the flowers can sum up to an estimate of 50 Kgs (a drum). Eventually these flowers end up being thrown away in the water bodies packed in polythene bags, in the name of faith and religion. In the end it pollutes the water bodies and its marine life. This should be stopped immediately as it affects us directly. The water we intake is eventually is, contaminated. Therefore it's not just for the life below water but for the life above it as well. Food is our ultimate resource for living. And when the root of our ultimate resource has been affected there is no chance we can lead a long and healthy life which we all desire for. The above mentioned and likewise knowledge and skills of today's higher education graduates shows how they will manage these transformations in their future lives and workplaces. With current transitions towards a green economy and important transformations in job requirements and tasks, the role of education and learning for sustainability in empowering young people is being increasingly emphasized. And no doubt that the Indian educational sector has been empowering the young people through knowledge, skills and competences that enable them to contribute to the consultations, decisions and actions shaping their future quality of life and career prospects. Sustainable development for India is only truly possible through comprehensive cross-sector efforts that begin with education.

## CONCLUSION

India have been the pioneer in bringing sustainable development agenda on world forum. India is taking many green initiatives and set many ambitious goals. From education for all to renewable energy projects, India made a lot of progress. Now, collective endeavor by most nation is bringing rapid changes. Many countries are now cutting down emissions, making huge investment in renewable energy, set out plans to gradually phase out diesel and petrol vehicles. Where most sector are playing catch up and making up for deficiencies, Education sector around the world is the most successful in resolving several issues. Education is the most accessible basic need, even more than clean water and energy, and to some part helped improve the malnutrition problem in India with mid-day meal program. This incentivized even the poorest sector of community to send their children to school. Education sector have been the first and foremost in providing equal opportunity to both genders. Education sector have equal pay and very conducive work environment for women. MSMEs provide employment to the majority of people in country. MSMEs prove to be particularly crucial in bringing economic equality and opportunities to the remote regions of country. Due to low capital investment and finance provided by various government schemes via banks, MSMEs are more able to innovate and experiment with environment friendly means of production and operation of business. However there is a need to embody this culture in all MSMEs. Countries with stronger MSMEs have steady growth, are better guarded against economic turbulence and international economic fallout. Much of the value, of large enterprises come from its goodwill including relation with the society and government. Such enterprises, find it in their interest to provide good working environment and have clean means of production. Government and public scrutiny keeps check and balance on them. Attaining environmental, social and economic sustainability requires collective effort of all sectors. All sectors need to work in synergy, otherwise effort of one sector can be cashed out by another sector.

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## Cloud Computing: Paradigms and Technologies

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### ABSTRACT

*Cloud Computing has recently emerged as a compelling paradigm for managing and delivering services over the internet. It is rapidly changing the landscape of information technology, and ultimately turning the long-held promise of utility computing into a reality. With such speedy progressing and emerging, it becomes crucial to understand all aspects about this technology. This chapter provides a comprehensive overview on the Cloud's anatomy, definition, characteristic, affects, architecture, and core technology. It clearly classifies the Cloud's deployment and service models, providing a full description of the Cloud services vendors. The chapter also addresses the customer-related aspects such as the Service Level Agreement, service cost, and security issues. Finally, it covers detailed comparisons between the Cloud Computing paradigm and other existing ones in addition to its significant challenges. By that, the chapter provides a complete overview on the Cloud Computing and paves the way for further research in this area.*

**Keywords:** *Cloud Computing, Cloud Services, Customer Aspects, Cloud Architecture, Security*

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### INTRODUCTION

Cloud Computing has recently emerged as a compelling paradigm for managing and delivering services over the internet. The rise of Cloud Computing is rapidly changing the landscape of information technology, and ultimately turning the long-held promise of utility computing into a reality. The latest emergence of Cloud Computing is a significant step towards realizing this utility computing model since it is heavily driven by industry vendors. It attracts business owners due to its ability to eliminate the provisioning plan overhead, and allows enterprises to start from the small scale and dynamically increase their resources simultaneously with the increase of their service demand. Cloud computing promises to deliver reliable services through next-generation data centers built on virtualized compute and storage technologies. Users will be able to access applications and data from a Cloud anywhere in the world following the pay-as-you-go financial model. With such speedy progressing of the Cloud Computing and emerging in most of the enterprise business and scientific research areas, it becomes crucial to understand all aspects about this technology. The aim of this chapter is to provide a complete overview on the Cloud Computing through a comprehensive descriptions and discussion of all aspects of this technology. In this chapter, Cloud Computing anatomy is presented along with the essential definitions from different perspectives and prominent characteristics. The affects of Cloud Computing on organizations and enterprises were also addressed in terms of time, management and operational costs. The architecture design of Clouds has been discussed, as well as the key technologies behind it; such as virtualization and web services.

Clouds are classified according to their deployment models as private, community, public and hybrid Clouds. Clouds also offer different service models; software, platform and infrastructure as service. In fact, the Cloud Computing is built on top of several other technologies, for example Distributed Computing, Grid Computing, and Utility Computing. This chapter covers a comprehensive comparison between the Cloud Computing and preceding paradigms; in terms of architecture, resources sharing, QoS guarantees and security.

The challenges facing the new paradigm; such as security, availability and resources management; should be carefully considered in future research in order to guarantee the long-term success of Cloud Computing. The chapter tackles these challenges and paves the way for further research in this area.

## Anatomy of Cloud Computing

This section presents a general overview of Cloud Computing; including its definitions, characteristics, and organizational affects. Clouds architecture is also addressed, as well as the key technologies on which Cloud Computing rely. Cloud Computing is the new cost-efficient computing paradigm in which information and computer power can be accessed from a web browser by customers. Cloud Computing is the Internet-based development and use of computer technology. Loosely speaking, Cloud Computing is a style of computing paradigm in which typically real-time scalable resources such as files, data, programs, hardware, and third party services can be accessible from a Web browser via the Internet to users. These customers pay only for the used computer resources and services by means of customized Service Level Agreement (SLA), having no knowledge of how a service provider uses an underlying computer technological infrastructure to support them. The service load in Cloud Computing is dynamically changed upon end-users' service requests [1].

Cloud Computing shifts the computation from local, individual devices to distributed, virtual, and scalable resources, thereby enabling end-users to utilize the computation, storage, and other application resources, which forms the Cloud, on-demand [2].

### Definition

Cloud Computing has been coined as an umbrella term to describe a category of sophisticated on-demand computing services initially offered by commercial providers. It denotes a model on which a computing infrastructure is viewed as a "Cloud", from which businesses and individuals access applications from anywhere in the world on demand [3]. The main principle behind this model is offering computing, storage, and software "as a service". There are many definitions of Cloud Computing, but they all seem to focus on just certain aspects of the technology [4].

An early definition of Cloud Computing has been proposed as follows: A computing Cloud is a set of network enabled services, providing scalable, Quality of Service (QoS) guaranteed, normally personalized, inexpensive computing platforms on demand, which could be accessed in a simple and pervasive way [5]. Markus Klems claims that immediate scalability and resources usage optimization are key elements for the Cloud. These are provided by increased monitoring, and automation of resources management in a dynamic environment. Other authors disagree that this is a requirement for an infrastructure to be considered as a Cloud [6].

According to a 2008 paper by Carl Hewitt called "ORGs for Scalable, Robust, Privacy-Friendly Client Cloud Computing" published by IEEE Internet Computing, "Cloud Computing is a paradigm in which information is permanently stored in servers on the internet and cached temporarily on clients that include desktops, entertainment centers, table computers, notebooks, wall computers, handhelds, sensors, monitors, etc." [7].

A Berkeley Report in February 2009 states "Cloud Computing, the long-held dream of computing as a utility has the potential to transform a large part of the IT industry, making software even more attractive as a service" [8].

The US National Institute of Standards and Technology (NIST) has published a working definition [9] that seems to have captured the commonly agreed aspects of Cloud Computing. This definition describes Cloud Computing using:

- Five characteristics: on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service.
- Four deployment models: private Clouds, community Clouds, public Clouds, and hybrid Clouds.
- Three service models: Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS).

### Characteristics

The features of Cloud Computing are that it offers enormous amounts of power in terms of computing and storage while offering improved scalability and elasticity. Moreover, with efficiency and economics of scale, Cloud Computing services are becoming not only a cheaper solution but a much greener one to build and deploy IT services [10].

The Cloud Computing distinguishes itself from other computing paradigms in the following aspects [5]:

- On-demand service: Computing Clouds provide resources and services for users on demand. Users can customize and personalize their computing environments later on, for example, software installation, network configuration, as users usually own administrative privileges.

- QoS guaranteed offer: The computing environments provided by computing Clouds can guarantee QoS for users, e.g., hardware performance like CPU speed, I/O bandwidth and memory size. The computing Cloud renders QoS in general by processing Service Level Agreement (SLA) with users.
- Autonomous System: The computing Cloud is an autonomous system and it is managed transparently to users. Hardware, software and data inside Clouds can be automatically reconfigured, orchestrated and consolidated to present a single platform image, finally rendered to users.

### **Affects**

Recently, there has been a great deal of hype about Cloud Computing. Cloud Computing is on the top of Gartner's list of the ten most disruptive technologies of the next years. Since Cloud Computing makes several promises, in terms of time management and operational costs, enterprises need to understand the affects of Cloud Computing which are focused on the following specific topics [11]:

- The organizational change brought about with Cloud Computing: The type of organizational change that Cloud Computing results in can be demonstrated by taking a look at, for example, IT procurement within enterprise. Simplistically, procurement is based on obtaining estimates for things, then getting those estimates signed-off by management to allow the procurement to proceed. Capital and operational budgets are kept separate in this process, and it can take several months between the decision to procure hardware and the hardware being delivered, setup and ready to use. The use of Cloud Computing can greatly reduce this time period, but there is more significant change related to the empowerment of users and the diffusion of the IT department's authority. For example, a company's training coordinator who requires a few servers to run a week-long web-based training course can bypass their IT department and run the training course in the Cloud. They could pay their Cloud usage-bill using their personal credit card and charge back the amount as expenses to their employee.
- The economic and organizational implications of the utility billing model in Cloud Computing: New Cloud Computing pricing models based on market mechanisms are starting to emerge, but it is not yet clear how such models can be effectively used by enterprise. An example of such models is used by Amazon's Spot Instances, which allows users to bid for unused capacity in Amazon's data centers. Amazon runs the user's instances as long as the bid price is higher than the spot price, which is set by Amazon based on their data center utilization.

### **Architecture**

Many organizations and researchers have defined the architecture for Cloud Computing. Basically, the whole system can be divided into the core stack and the management. In the core stack, there are three layers: (1) Resource (2) Platform and (3) Application.

The resource layer is the infrastructure layer which is composed of physical and virtualized computing, storage and networking resources.

The platform layer is the most complex part which could be divided into many sub-layers; e.g. a computing framework manages the transaction dispatching and/ or task scheduling. A storage sub-layer provides unlimited storage and caching capability.

The application server and other components support the same general application logic as before with either on-demand capability or flexible management, such that no components will be the bottle neck of the whole system [12].

Based on the underlying resource and components, the application could support large and distributed transactions and management of huge volume of data. All the layers provide external service through web service or other open interfaces. Cloud Architecture is depicted in Fig. 1.

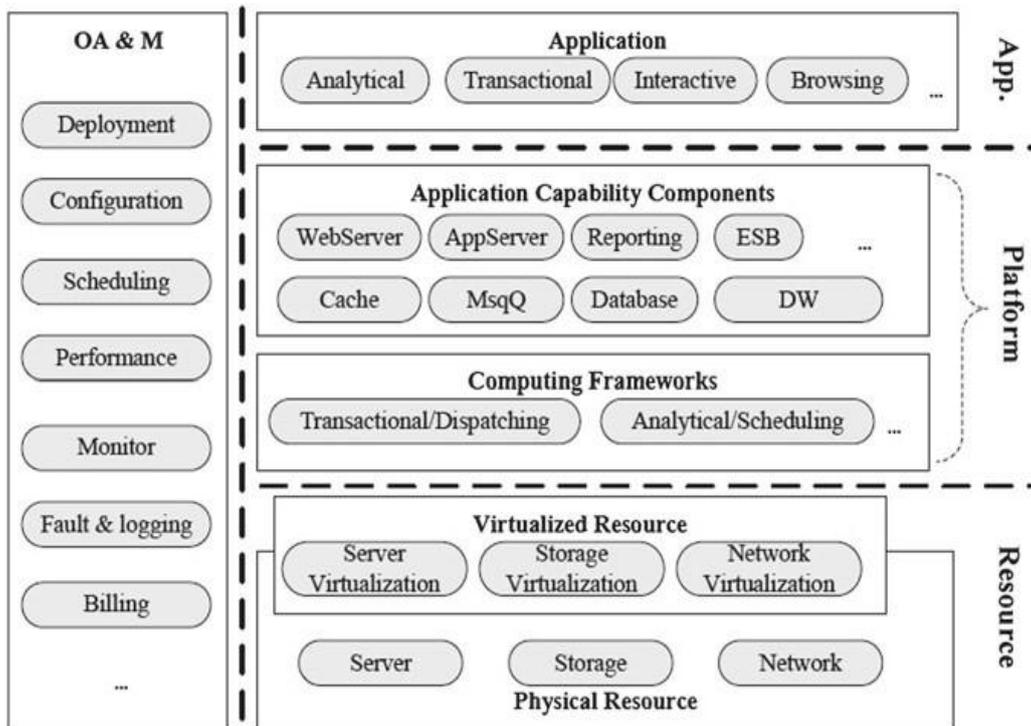


Fig. 1 Cloud architecture

**Advantages of the Use of Cloud Technology**

The advantages of Cloud Computing is that it offers enormous amounts of power in terms of computing and storage while offering improved scalability and elasticity. Moreover, with efficiency and economics of scale, Cloud Computing services are becoming not only a cheaper solution but a much greener one to build and deploy IT services.

The Cloud Computing distinguishes itself from other computing paradigms in the following aspects [5]:

- On-demand service provisioning: Computing Clouds provide resources and services for users on demand. Users can customize and personalize their computing environments later on, for example, software installation, network configuration, as users usually own administrative privileges.
- QoS guaranteed offer: The computing environments provided by computing Clouds can guarantee QoS for users, e.g., hardware performance like CPU speed, I/O bandwidth and memory size. The computing Cloud renders QoS in general by processing Service Level Agreement (SLA) with users.
- Autonomous System: The computing Cloud is an autonomous system and it is managed transparently to users. Hardware, software and data inside Clouds can be automatically reconfigured, orchestrated and consolidated to present a single platform image, finally rendered to users.

**Classifying Clouds and Vendors**

In this section, different classifications of Clouds are presented, as well as vendors are nominated.

There are diverse dimensions to classify Cloud Computing, two commonly used categories are: service boundary and service type [12].

- From the service boundary’s view, Cloud Computing can be classified as public Cloud, private Cloud and hybrid Cloud. The public Cloud refers to services provided to external parties. The enterprises build and operate private Cloud for themselves. Hybrid Cloud shares resources between public Cloud and private Cloud by a secure network. Virtual Private Cloud (VPC) services released by Google and Amazon are examples of Hybrid Cloud.
- From the service type’s view, Cloud Computing can be classified as Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS). SaaS provide services to end users, while IaaS and PaaS provide services to ISV and developers - leaving a margin for 3rd party application developers.

## Deployment Models

The Cloud model promotes four deployment models:

- Private Cloud: The Cloud infrastructure is operated solely for an organization. It may be managed by the organization or a third party and may exist on premise or off premise.
- Community Cloud: The Cloud infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations). It may be managed by the organizations or a third party and may exist on premise or off premise.
- Public Cloud: The Cloud infrastructure is made available to the general public or a large industry group and is owned by an organization selling Cloud services.
- Hybrid Cloud: The Cloud infrastructure is a composition of two or more Clouds (private, community, or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability (e.g., Cloud bursting for load-balancing between Clouds).

## Service Models

Cloud Computing is gaining popularity to the extent that the new XaaS service category introduced will gradually take the place of many types of computational and storage resources used today [13]. Cloud Computing delivers infrastructure, platform, and software (application) as services, which are made available as subscription-based services in a pay-as-you-go model to consumers. These services in industry are respectively referred to as Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS) [14]. Table 1 summarizes the nature of these categories and lists some major players in the field [15].

**Table 1 Cloud computing services classification**

Category	Characteristics	Product type	Vendors and products
SaaS	Customers are provided with applications that are accessible anytime and from anywhere	Web applications and services (Web 2.0)	SalesForce.com (CRM) Google documents Clarizen.com (Project management) Google mail (automation)
PaaS	Customers are provided with a platform for developing applications hosted in the Cloud	Programming APIs and frameworks; Deployment system	Google AppEngine Microsoft Azure Manjrasoft Aneka
IaaS/ HaaS	Customers are provided with virtualized hardware and storage on top of which they can build their infrastructure	Virtual machines management infrastructure, Storage management	Amazon EC2 and S3; GoGrid; Nirvanix

## Cloud Vendors

Commercial Cloud Computing providers offer their services according to three fundamental service models. Table 2 summarizes how these three classes virtualize computation, storage, and networking [8].

Amazon EC2 is at one end of the spectrum. An EC2 instance looks much like physical hardware, and users can control nearly the entire software stack, from the kernel upwards. At the other extreme of the spectrum are application domainspecific platforms; such as Google AppEngine and Force.com, the Salesforce business software development platform. AppEngine is targeted exclusively at traditional web applications, enforcing an application structure of clean separation between a stateless computation tier and a stateful storage tier. Similarly, Force.com is designed to support business applications that run against the salesforce.com database, and nothing else. Microsoft's Azure is an intermediate point on this spectrum of flexibility vs. programmer convenience. Azure applications are written using the .NET libraries, and compiled to the Common Language Runtime, a language independent managed environment.

## **CLOUD COMPUTING ASPECTS**

In this section, customer-related aspects; such as security, service pricing, Service Level Agreements and security; are presented.

### **Cost and Pricing**

Cloud Computing providers have detailed costing models and metrics that are used to bill users on a pay-per-use basis. This makes it easy for users to see the exact costs of running their applications in the Cloud and it could well be that the design of their system can have a significant effect on its running costs.

From a Consumer Perspective, the three pricing models that are used by Cloud service providers are namely tiered pricing, per-unit pricing and subscription based pricing. Tiered pricing is where different tiers each with different specifications (e.g. CPU and RAM) are provided at a cost per unit time. An example is Amazon EC2, where a small tier virtual machine has the equivalent of a 1.0 GHz CPU, 1.7 GB of RAM with 160 GB of storage and costs \$0.085 per hour at the time of writing, whereas a large tier machine has the equivalent of four 1.0 GHz CPUs, 7.5 GB of RAM with 850 GB of storage and costs \$0.34 per hour 5. Perunit pricing is where the user pays for their exact resource usage, for example it costs \$0.15 per GB per month to store data on Amazon's Simple Storage Service (S3). Subscription-based pricing is common in SaaS products; such as Salesforce's Enterprise Edition CRM that costs \$125 per user per month. Elasticity, which is the ability to quickly scale up or down one's resource usage, is an important economic benefit of Cloud Computing as it transfers the costs of resource overprovisioning and the risks of under-provisioning to Cloud providers. An often cited real-world example of elasticity is Animoto.com whose active users grew from 25,000 to 250,000 in three days after they launched their application on Facebook.

### **Service Level Agreement**

The Cloud constitutes a single point of access for all services which are available anywhere in the world, on the basis of commercial contracts that guarantee satisfaction of the QoS requirements of customers according to specific Service Level Agreements (SLAs). The SLA is a contract negotiated and agreed between a customer and a service provider. That is, the service provider is required to execute service requests from a customer within negotiated quality of service (QoS) requirements for a given price [1]. The purpose of using SLAs is to define a formal basis for performance and availability the provider guarantees to deliver. SLA contracts record the level of service, specified by several attributes; such as availability, serviceability, performance, operation, billing or even penalties in the case of violation of the SLA. Also, a number of performance-related metrics are frequently used by Internet Service Providers (ISPs); such as service response time, data transfer rate, round-trip time, packet loss ratio and delay variance. Often, providers and customers negotiate utility-based SLAs that determine the cost and penalties based on the achieved performance level. A resource allocation management scheme is usually employed with a view to maximizing overall profit (utility) which includes the revenues and penalties incurred when QoS guarantees are satisfied or violated, respectively. Usually, step-wise utility functions are used where the revenue depends on the QoS levels in a discrete fashion [11].

### **Security**

Certainly as the Cloud Computing environment matures, security concerns are being addressed more consistently. In October 2008, Google unveiled a new service-level agreement (SLA) that guarantees 99.9 % system accessibility for users of its Google Apps Premier Edition, joining the Amazon S3 SLA that launched in 2007. Other companies are addressing related angles of security. For example, Boulder, Colo.-based Symplified offers a unified access management system built for the Cloud architectures of SaaS. The company's Identity-as-a-Service approach provides on-demand features; such as single sign-on, provisioning, de-provisioning, auditing and compliance, access and authorization, identity synchronization, strong authentication, and identity integration [7]. One of the most serious concerns is the possibility of confidentiality violations. Either

maliciously or accidentally, Cloud provider's employees can tamper with or leak a company's data. Such actions can severely damage the reputation or finances of a company. In order to prevent confidentiality violations, Cloud services' customers might resort to encryption. While encryption is effective in securing data before it is stored at the provider, it cannot be applied in services where data is to be computed, since the unencrypted data must reside in the memory of the host running the computation [14]. The Cloud also offers security advantages. For example, intruders have no access to the source code, and providers often work hard to provide clean, unbreakable barriers between customers. Security can differ greatly from application to application, from platform to platform, and from provider to provider, however. Yet on the whole, the Cloud holds much promise for better security.

## **CLOUD COMPUTING AND DISTRIBUTED COMPUTING PARADIGMS**

The emergence of Cloud Computing continues the natural evolution of Distributed Systems to cater for changes in application domains and system requirements [12].

Cloud Computing builds on top of several other technologies, i.e. Distributed Computing, Grid Computing, Utility Computing and Autonomic Computing, and it can be envisaged as a natural step forward from the Grid-utility model. In the heart of Cloud Computing infrastructure, a group of reliable services are delivered through powerful data computing centers that are based on modern virtualization technologies and related concepts such as component-based system engineering, orchestration of different services through workflows and Service-Oriented Architectures (SOAs) [15].

Cloud Computing is based on the use of distributed computing resources that are easily allocated, de-allocated, migrated and possibly re-allocated on user request. As such, it relies heavily on the use of virtualization technologies, able to offer an almost unlimited amount of virtual computing resources. Virtualization controls the access to physical resources in a transparent way, it is possible to offer computational resources with full control, in that final users can configure them as administrators, without any restriction [16].

### **Utility Computing Versus Cloud Computing**

Cloud services should be accessed with simple and pervasive methods. In fact, the Cloud Computing adopts the concept of Utility Computing. In other words, users obtain and employ computing platforms in computing Clouds as easily as they access a traditional public utility (such as electricity, water, natural gas, or telephone network) [5]. In detail, the Cloud services enjoy the following features:

- The Cloud interfaces do not force users to change their working habits and environments, e.g., programming language, compiler and operating system. This feature differentiates Cloud Computing from Grid computing as Grid users have to learn new Grid commands and APIs to access Grid resources and services.
- The Cloud client software which is required to be installed locally is lightweight. For example, the Nimbus Cloudkit client size is around 15 MB.
- Cloud interfaces are location independent and can be accessed by some well-established interfaces like; Web services framework and Internet browser.

### **Volunteer Computing Versus Cloud Computing**

Both Cloud and volunteer computing have similar principles, such as transparency. On both platforms, one submits tasks without needing to know the exact resource on which it will execute. However, in practice, the Cloud Computing infrastructures differ from volunteer computing platforms throughout the hardware and software stack. From the perspective of the user, there are two main differences, namely configurability (and thus homogeneity), and quality-of-service. Clouds present a configurable environment in terms of the OS and software stack with the Xen virtual machine forming the basis of EC2. So, while Clouds can offer a homogeneous resource pool, the heterogeneity of VC hardware and operating system is not transparent to VC application developers. Clouds also provide higher quality-of-service than VC systems. Cloud resources appear dedicated, and there is no risk of preemption. Many Cloud Computing platforms, such as Amazon's EC2, report several nine's in terms of reliability. Cloud infrastructures consist of large-scale centralized compute servers with network-attached storage at several international locations. The infrastructures are accessed through services such as S3 also provide high-level web services for data management [17].

### **Grid Computing Versus Cloud Computing**

Cloud Computing, born in the e-business context, and Grid computing, originated in the e-science context, are two different but similar paradigms for managing large sets of distributed computing resources [16].

Grid computing can be seen as one of several predecessors to Cloud Computing. Grid computing is often about making large computations using large amounts of resources, while as Cloud Computing is more about making large amounts of resources available to many different applications over a longer period of time. Clouds leverage modern technologies such as virtualization to provide the infrastructure needed to deploy services as utilities. Still, Cloud Computing and Grid computing share a lot of the underlying technology and many concepts from Grid computing can be modified and made suitable for Cloud Computing as well [18].

## **THE ROAD AHEAD**

Despite the fact that Cloud Computing promises to bring sweeping changes to the way of using information technology, decisions-makers are still struggling for insights on the challenges associated with trying to exploit it. In this section, we present the lessons learned so far, discuss the challenges that should be addressed in future research directions.

### **Lessons Learned in Cloud Adoption**

No two organizations had adopted Cloud Computing in exactly the same way or over the same timeframe. So far, the journeys followed were determined by history and accidents (experiments, unplanned trials, recommendations from peers) as well as variations in the structure, industrial context and computing needs of individual organizations. Two main themes, however, did emerge as important, being broadly applicable to multiple cases. In one of these the journey was initiated by the adoption of a Cloud-based service for a single key enterprise application. Good results then led to the adoption of more Cloud-based software development to extend the functionality of standard applications. In the other, the journey began with efforts to improve the capacity utilization of computing resources inside the organization. Servers and computer storage were considered around fewer, larger facilities, and some software applications were virtualized, so they ran anywhere in these facilities rather than on dedicated machines. Good results saw this expanded into an organization-wide strategy, followed by a shift to service providers outside the organization.

There are also many other variations; in one case the journey began with adoption of open source software (installed on premises). The associated shift from up-front software purchasing to pay-as-you-go maintenance led to a broader interest in paying for computer resources using utility-based pricing. In another case, the adoption of web-based email and collaboration tools started the process. In third case, the journey began with a desire to remove computing equipment from hostile work environments. As with the journeys taken, there was a wide variation in the extent of adoption.

### **Challenges and Future Research Directions**

With the flourish of the Cloud Computing and the wide availability of both providers and tools, a significant number of challenges are facing such new paradigm. These challenges are the key points to be considered for future research directions. Challenges to be faced include user privacy, data security, data lock-in, availability, disaster recovery, performance, scalability, energy-efficiency, and programmability.

## **CONCLUSION**

This chapter presents an overview on the Cloud Computing paradigm. First, the Cloud Computing anatomy has been described then it has been defined from different perspectives; such as the service and business models as well as its economical and quality of service aspects. The Cloud Computing distinguishes itself from other computing paradigms, by its promising features including ondemand, flexible and QoS guaranteed provisioned service. The affects of Cloud Computing on organizations and enterprises were also addressed in terms of time, management and operational costs. The architecture of Clouds has been discussed; differentiating between the Cloud core stack and the management. The first has three layers in the core stack: resource, platform and application layers; while the later includes managerial tasks such as billing and scheduling. Enabling technologies contributing to Cloud Computing; such as virtualization and web 2.0, web services and SOA, were also clarified. Second, the Cloud Computing classification is addressed, clearly differentiating between deployment and service models apart, and beneath each of them. That is Clouds are classified according to their deployment models as private, community, public and hybrid Clouds. Clouds are also classified according to their offered service models; infrastructure, platform and software as services. Examples of the Cloud providers and vendors are listed such as Amazon Web Services, Microsoft Azure and Google AppEngine provide the above mentioned services respectively. Furthermore, a comprehensive comparison between Cloud Computing and utility, volunteer and grid paradigms has been conducted; in terms of architecture, resources sharing, QoS guarantees and security. The analysis of the Cloud reports that such technology is based on the use of distributed computing resources that are easily allocated, de-allocated, migrated and possibly re-allocated based

on the user request. Finally, to guarantee the long-term success of Cloud Computing, the chapter tackles some significant challenges that face the Cloud paradigm. Challenges that need to be carefully addressed for future research like; user privacy, data security, data lock-in, availability, disaster recovery, performance, scalability, energy-efficiency, and programmability.

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## Emerging trends in Energy: A Study of Electricity sector & Escerts

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### ABSTRACT

*Electricity sector plays a vital role in the development of any economy. In India, electricity sector contributes 2.84% of G.D.P, generating an output of 1,116.84 TWh in the fiscal 2015-16. This paper attempts to examine the current trends in the electricity sector in India. Also an attempt is to be made to study the functioning of the Escerts in India. For fulfilling the purpose of the research both primary and secondary data has been collected and will be analysed using appropriate statically tools. The research concluded that Escerts saved 10 million tons of oil equivalent and helped in generation of 18735+ jobs and 219 accreditations.*

**Keywords:** Electricity Sector, Escerts, India.

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### INTRODUCTION

The utility electricity sector in India has one National Grid with an installed capacity of 329.23 GW as on 30 June 2017. Renewable power plants constituted 30.8% of total installed capacity. During the fiscal year 2015-16, the gross electricity generated by utilities in India was 1,116.84 TWh and the total electricity generation (utilities and non-utilities) in the country was 1,352 TWh or 1,075.64 kWh per capita. India is the world's third largest producer and fourth largest consumer of electricity. Electric energy consumption in agriculture was recorded highest (17.89%) in 2015-16 among all countries. Draft National Electricity Plan, 2016 prepared by G.o.I states that India does not need additional non-renewable power plants till 2027 with the commissioning of 50,025 MW coal based power plants under construction and additional 100,000 MW renewable power capacities.

### NTPC Limited

**NTPC Ltd.**, formerly known as **National Thermal Power Corporation Limited**, is an Indian Public Sector Undertaking, engaged in the business of generation of electricity and allied activities. It is a company incorporated under the Companies Act 1956 and a "Government Company" within the meaning of the act. The headquarters of the company is situated at New Delhi. NTPC's core business is generation and sale of electricity to state-owned power distribution companies and State Electricity Boards in India. The company also undertakes consultancy and turnkey project contracts that involve engineering, project management, construction management and operation and management of power plants. It was founded by Government of India in 1975, which now holds 69.74% of its equity shares on 30.06.2016 (after divestment of its stake in 2004, 2010, 2013, 2014 & 2016) In May 2010, NTPC was conferred Maharatna status by the Union Government of India.<sup>[8]</sup> It is ranked 300th in the Forbes Global 2000 for 2016.

### OBJECTIVES OF THE STUDY

- To know about the emerging trends in the Indian power sector.
- To mention the advantages of Renewable resources on the conventional sources of generating power in India.
- To know the why Escerts are necessary.

- To know about the working and the process of buying and selling of Escerts.

## DATA COLLECTION

### Sources of Data:

#### • Primary Data

1. For collecting my primary data, I interacted with the employees of National Thermal Power Corporation vidiyut Vyapar Nigam during my internship with them.
2. For purpose of information related to Escerts, I also contacted with several companies in the cement industry.

#### • Secondary Data

1. Data available on the website of central electricity regulatory commission (<http://www.cercind.gov.in/>)
2. Data available on the website of Indian Energy Exchange(<http://iexindia.com/#horizontalTab1>)
3. Several documents and journals which are widely available for the general public on the internet.

## METHODOLOGY & PRESENTATION OF DATA

- The data collected are coded in the tables and charts along with certain bold points to make the things presentable and more effective. The tables and charts help us to understand the given information more easily.

**Research Design:** Exploratory Research Design

## DATA ANALYSIS

### Trends related to ESCerts in current cycle

- As of now, no specified date for initiating the trading of ESCerts has been specified by the Bureau of Energy Efficiency (B.E.E).
- But it is being speculated that might be from 2<sup>nd</sup> week of august 2017.
- Due to the fact that the majority of D.C.'s were able to achieve energy conservation targets set by the ministry of power, it is being speculated that there will be more sellers than the buyers.
- Considering the above stated facts it is likely that the ESCerts will be sold below their value. The current monetary value of ESCerts is equal to ₹ 10,986.
- This is happening because designated consumers are starting to focus on reducing their energy outputs.

Moreover during my time in N.V.V.N, I also contacted with several executives of the cement industry and tried to persuade them along with my superiors.

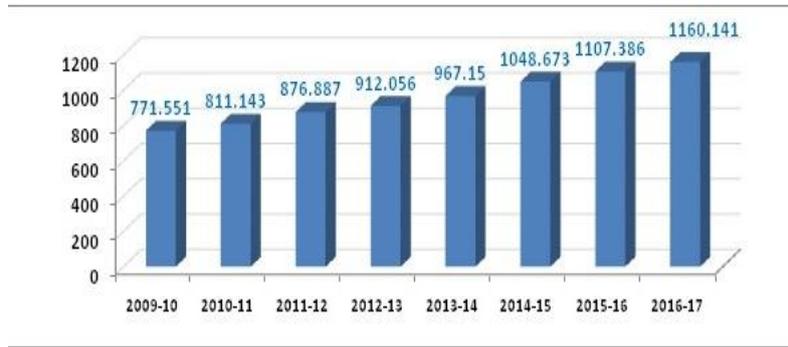
- It was found that the companies have not yet taken any specific decision regarding the Trading of ESCerts
  - Some seem to be interested whereas Some have not yet even decided about it.
  - Some D.C. are actually going to trade their ESCerts themselves rather than getting it done through Electricity Traders or Consultants/ Energy Auditors etc.

### Installed Capacity

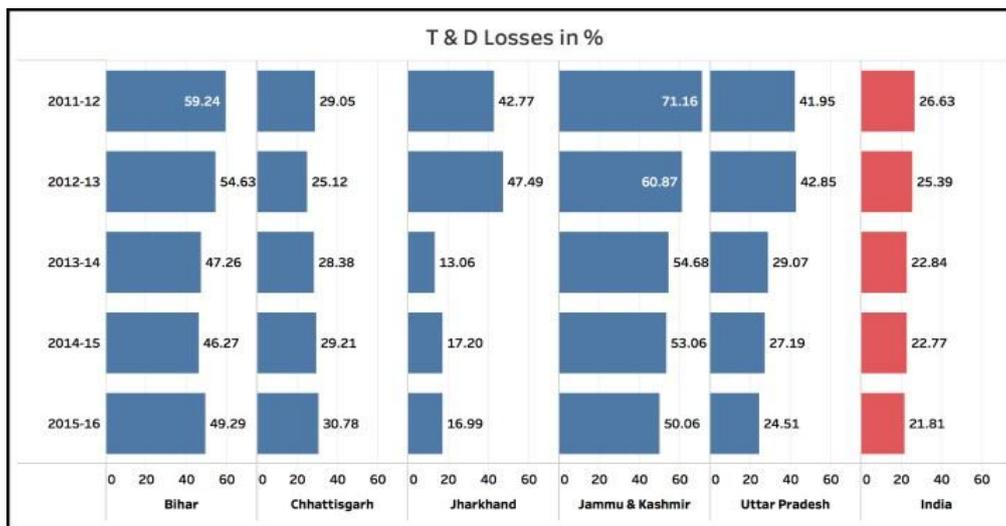
The total installed power generation capacity is sum of utility capacity, captive power capacity and other non-utilities.

Sector	Thermal (MW)				Nuclear (MW)	Renewable (MW)		Total (MW)	%
	Coal	Gas	Diesel	Sub-Total Thermal		Hydro	Other Renewable		
Central	55,245.00	7,490.83	0.00	62,735.83	6,780.00	11,651.42	0.00	81,167.25	25
State	65,145.50	7,257.95	363.93	72,767.38	0.00	29,703.00	1,963.80	104,447.28	32
Private	74,012.38	10,580.60	473.70	85,066.68	0.00	3,240.00	55,283.33	143,590.01	43
All India	194,402.88	25,329.38	837.63	220,569.88	6,780.00	44,594.42	57,260.23	329,204.53	100

Generation (Billion Units)



Transmission and Distribution losses in India



**National Mission for Enhanced Energy Efficiency (NMEEE)**

The National Mission for Enhanced Energy Efficiency (NMEEE) is one of the eight missions under the National Action Plan on Climate Change (NAPCC). NMEEE aims to strengthen the market for energy efficiency by creating conducive regulatory and policy regime and has envisaged fostering innovative and sustainable business models for the energy efficiency sector.

**Perform, Achieve and Trade (PAT)**

PAT scheme is a regulatory instrument to reduce specific energy consumption in energy intensive industries, with an associated market based mechanism to enhance the cost effectiveness through certification of excess energy saving which can be traded. Under this scheme, reductions in specific energy saving targets are assigned to Designated Consumers (DCs) for a three year cycle. The target reduction for each DC is based on their current levels of energy efficiency, so that energy efficient DCs will have lower target of percentage reduction, as compared to less energy efficient DCs which will have higher targets. While calculating the specific energy consumption “gate-to-gate” approach is adopted, thereby including all energy consumption against the total production. A robust process of normalization is adopted to neutralize the impact on specific energy consumption due to factors beyond the control of participating DCs. Verification of the performance of DCs at the end of the cycle is carried out by a cadre of energy professional i.e. Accredited Energy Auditors who are empanelled with Bureau of Energy Efficiency.

**PAT Cycle I – Achievements**

PAT Cycle-I was envisaged to reduce the SEC of 478 designated consumers (DCs) from eight energy intensive sectors viz. Aluminium, Cement, Chlor- Alkali, Fertilizer, Iron & Steel, Paper & Pulp, Thermal Power Plant and Textile. The overall energy saving targets for PAT Cycle –I was 6.686 Million Tonne of Oil Equivalent (MTOE) by the end of 2014-15. The achievement in PAT Cycle-I is 8.67 MTOE which is an over achievement of about 30 percent in comparison to the assigned targets. This energy saving translates in to avoiding about 31 million tonne of CO2 emission.

### Issuance and Trading of ESCerts:

Ministry of Power has already issued energy saving certificates (ESCerts) month of February in lieu of energy saving beyond their targets and entitlement to purchase of ESCerts for compliance to meet their shortfall towards their targets.

There are 306 DCs who have been cumulatively issued about 38.50 lakh ESCerts in lieu of their excess energy saving against the targets and there are 110 DCs that are cumulatively entitled to purchase about 14.50 lakh ESCerts to meet their shortfall to meet energy saving targets. The ESCerts could be traded at two energy exchanges that is Indian Energy Exchange (IEX) and Power Exchange India Limited (PXIL) or bought by other units under PAT who can use them to meet their compliance requirements. Units that are unable to meet the targets either through their own actions or through purchase of ESCerts are liable to financial penalty under the Energy Conservation Act. The trading infrastructure is currently under finalization and trading is expected to start in the month of April/May.

### PAT Cycle II - (2016-17 to 2018-19)

“Deepening” and “Widening” of PAT had been carried out with an objective of increasing the number of Designated Consumers under PAT scheme under this cycle. Under the deepening initiative, 89 additional DCs identified from the existing sectors have been notified under PAT Cycle II. Under widening initiative, three new sectors, Railways, Refineries, and Electricity DISCOMs have been notified and published in the Gazette on 29 December, 2015. 84 Designated Consumers from these three new notified sectors have been included under PAT cycle II. Perform, Achieve and Trade in its second cycle seeks to achieve an overall energy consumption reduction of 8.869 MTOE for which energy reduction targets have been assigned and notified to DCs in 11 sectors (eight existing sectors and three new sectors). PAT Cycle II has commenced from 1 April, 2016 covering 621 DCs, 448 existing and 89 additional DCs) from existing sectors and 84 DCs from new sectors (viz. Railways, Electricity DISCOMs and Refineries).

#### Notified Sectors and Designated Consumers.

Achievements			
S. No.	Sectors	No. of Identified DCs	Savings (Million toe)
1	Aluminium	10	0.73
2	Cement	75	1.44
3	Chlor - Alkali	22	0.13
4	Fertilizer	29	0.83
5	Iron & Steel	60	2.10
6	Paper & Pulp	26	0.26
7	Textile	82	0.12
8	Thermal Power Plant	123	3.06
	<b>Total</b>	<b>427</b>	<b>8.67</b>

Saving of about 8.67 MTOE from the assessed 427 DCs (5.24%) CO<sub>2</sub> mitigation - 31 Million tonne

### PAT Cycle –III (2017-18 to 2019-20)

PAT scheme is currently proposed to be implemented on rolling basis (i.e. annual inclusion of new DCs). In this context, the PAT Cycle III has been notified on 30th March, 2017 to be effective from 1st April, 2017 with inclusion of 116 new DCs. These 116 DCs consume energy about 35 MTOE while they have been assigned energy saving target of 1.06 MTOE at the end of the cycle at 2019-20.

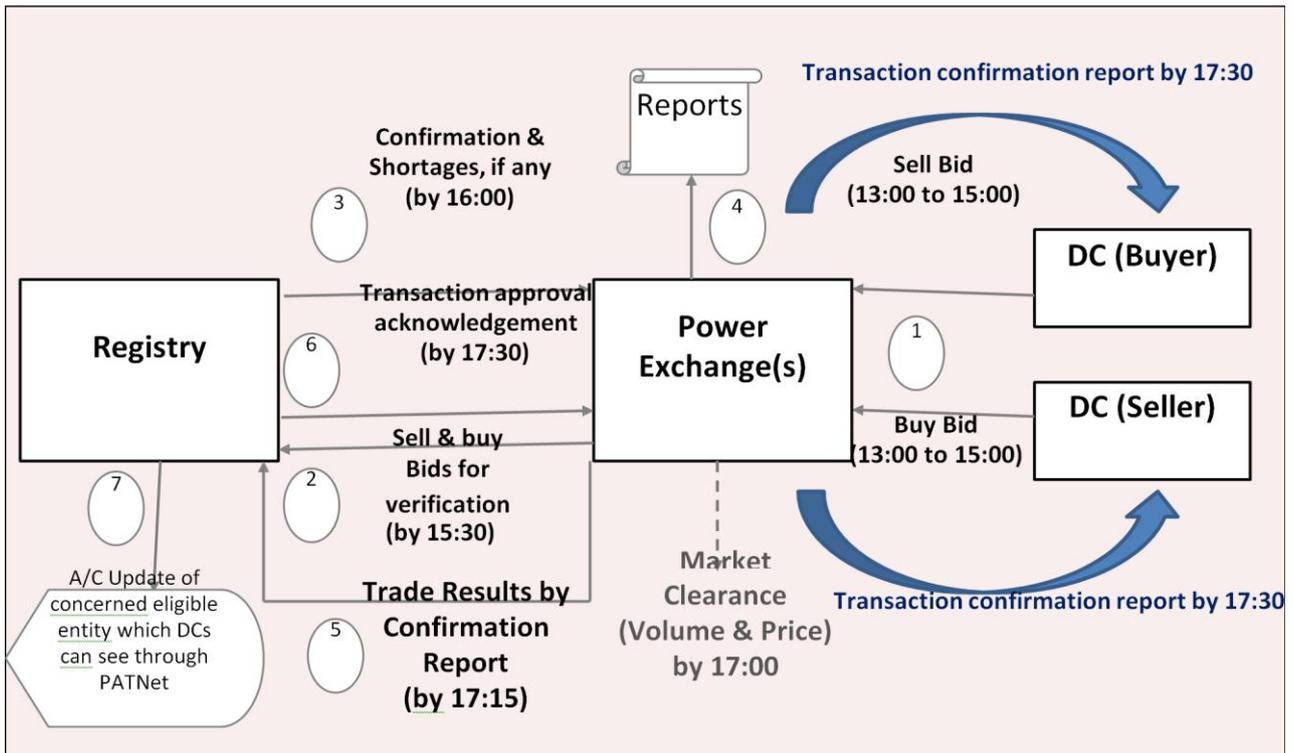
In total, there are 737 DCs (621 DCs of PAT Cycle II and 116 DCs of PAT Cycle III) participating under PAT scheme.

### Energy Saving Certificates (EScerts)

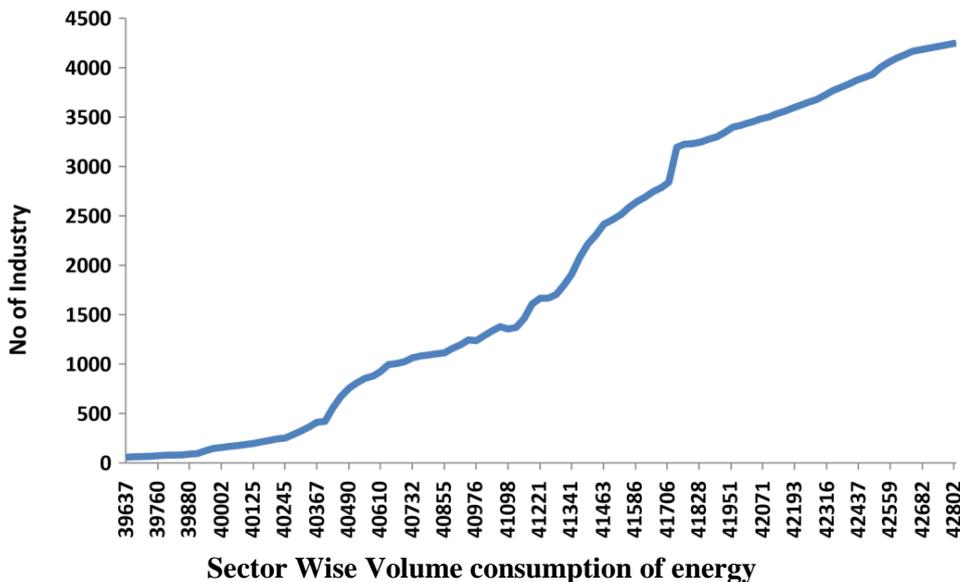
- Under National Mission for Enhanced Energy Efficiency (NMEEE), the scheme of Perform Achieve and Trade (PAT) to reduce specific energy consumption in energy intensive industries, with an associated market based mechanism to enhance the cost effectiveness through certification of excess energy saving which can be traded.
- Perform Achieve and Trade in its first cycle was designed to reduce the specific energy consumption (SEC) in energy intensive sectors under which 478 DCs from 8 sectors viz. Aluminium, Cement, Chlor-Alkali, Fertilizer, Iron & Steel, Paper & Pulp, Thermal Power Plant and Textile.

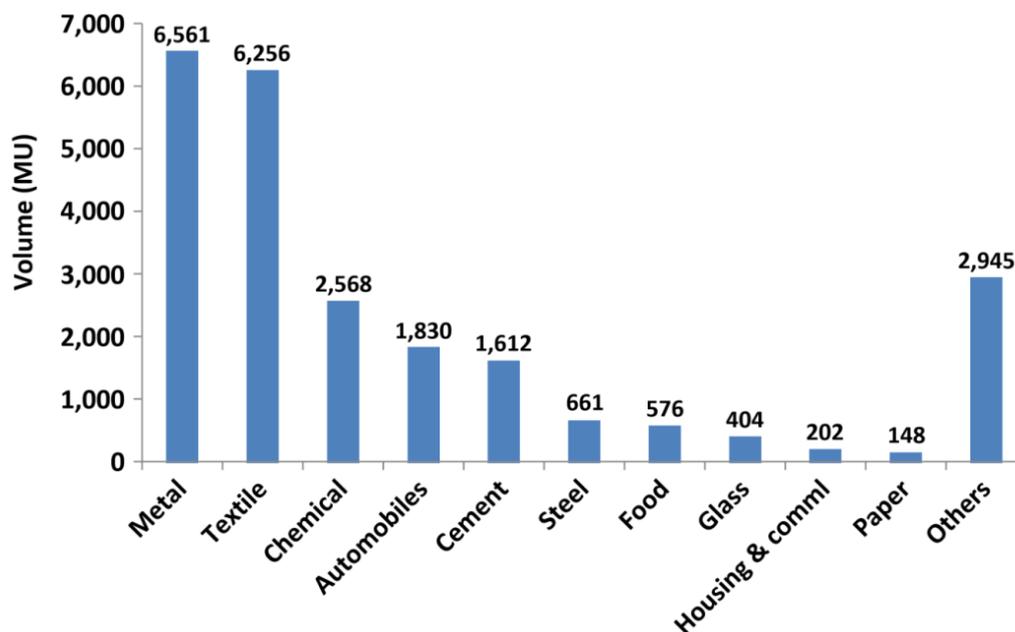
- PAT cycle I has achieved an energy saving of 8.67 mtoe against the targeted energy saving of 6.68 mtoe which is about 30% over achievement. **Ministry of Power has issued approximately 38.25 lakh Escerts to 306 Designated consumers while 110 Designated Consumers have to purchase Escerts for their compliance.**
- PAT Cycle –II (2016-17 to 2018-19) commenced from 1<sup>st</sup> April, 2016 under which 621 industrial units from 11 sectors (8 existing sectors and 3 new notified sectors viz. Railways, Refineries and electricity distribution companies (DISCOMs) have been notified
- PAT cycle III (2017-18 to 2019-20) has commenced from 1<sup>st</sup> April 2017 under which targets for 116 DCs in 6 sectors have been notified.

**Process flow for Escerts trading**



**Growing Participation from Industries**





## FINDINGS

- India is about to become an energy surplus country within this 5 year plan.
  - Currently it at 0.7% deficit.
  - **Demand build up measures** can be initiated to consume the cheaper electricity (average price Rs 2.5 per kWhr) available from the grid instead of running the coal/gas/oil fired captive power plants in various electricity intensive industries.
  - **Key implementation challenges** for India's electricity sector(Governmental Red-tapism).
  - **Lack of clean and reliable energy sources**
  - 38 lakhs os escersts issued till date to 787 DC's.
  - For P.A.T cycle III, D.C.'s have been given a target of 1.06 million tons of oil equivalents.
  - 1 Escerts= 1 mtoe
  - The D.C's which are not able to achieve the pre-determined energy savings targets then it is mandatory for them to either buy them or pay the penalty for it.
  - The outcome of P.A.T cycle I was:
1. **Energy saved:**  
5,635 M.W.  
8.16 mtoe  
This equals 1.25% of India primary energy
  2. **Emission reduction:**  
31 millions of CO<sub>2</sub>
  3. **Savings**  
9500 crores of money saved
  4. **Employment**  
18735+ jobs generated and 219 accreditations
  5. **Investment**  
24,517 crores of money invested into the econom

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<http://iexindia.com/>
- Bureau of Energy Efficiency  
<https://beeindia.gov.in/>

## Online Banking Frauds: A Major threat to Indian Banking Sector

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### ABSTRACT

*Banking sector is the lifeline blood for any economy. With the advancement of technology, online banking has become the blood veins of the economies. But, as the usage of online banking services increases, the online banking frauds also increases at a much faster rate. Not only the volume of online banking frauds increases but the value of these frauds has also increased manifold times. According to Government of India, 25,800 online banking fraud cases have been reported in 2017, but the actual volume is much higher than the stated. Many people don't report if any fraud happens to them because they fear loss of goodwill in the society. As a result, they decrease the usage of online banking services. The loss is not only financial, but mental loss is also there. This paper attempts to highlight the consequences of online banking frauds on the development of any economy with special reference to Indian economy. Also, regulatory framework in India regarding online banking frauds will be discussed. Lastly, measures will be suggested to reduce the risk associated with the online banking frauds.*

**Keywords:** Online Banking, Online banking frauds, Regulatory Framework

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### INTRODUCTION

Internet has become the lifeline blood of any organization. With the advancement of technology, banking sector has also entered in the internet, i.e., it has started online banking to meet the needs of their customers. The major reason of increasing online banking services is extremely cost effective delivery system of all banking services with the least physical efforts required. But, at the same time it has increased in many kinds of risks such as risk of loss of all information data, risk of loss of all finances, etc. Technology has become the source as well as the remedial measure for the risks associated with the online banking. With the continuous upgradation of technology, no government can frame fixed laws to cure the risks associated with the internet and online banking. But, at the same time, strict laws must be framed that might function in the best interest of the consumers who use internet and online banking services. Various kinds of risks associated with online banking are as follows:

1. **Operational Risks:** Operational risk, also referred to as transactional risk is the most common form of risk associated with online banking. It takes the form of inaccurate processing of transactions, non enforceability of contracts, compromises in data integrity, data privacy and confidentiality, unauthorized access / intrusion to bank's systems and transactions etc.
2. **Security Risks:** Security risks arises when unauthorized access to a bank's critical information stores like accounting system, risk management system, portfolio management system, etc is made. A breach of security of could result in direct financial loss to the bank.
3. **System Architect and Design:** Banks faces the risks of wrong choice of technology, improper system design and inadequate control processes. This would also result in increasing the chances of security and operational risks.
4. **Reputational risks:** Reputational risk is the risk of getting negative public opinion, i.e., loss of goodwill, which may result in critical loss of finances or customers. This arises because of some specific actions or events which may result in loss of public interest in banks' ability to perform effectively and maintain good customer relationships.

5. **Legal Risks:** Legal risk arises on the account of violation of or non-compliance of laws, rules, regulations, or practices or when proper rights and obligations of bankers and consumers are not well defined.
6. **Money Laundering Risks:** Since online banking transactions are conducted remotely, banks find it tough in detecting and preventing undesirable criminal activities. Money laundering laws might not be applied on the online payment system. This results in legal sanctions for non-compliance with 'know your customer laws'.
7. **Cross-Border Risks:** This kind of risk is associated with the uncertainties in the regulatory framework as legal regulations vary from country to country. Because of internet, there are no geographical limits, so, this proves as a major advantage for the cyber-criminals.
8. **Strategic Risks:** this kind of risk is associated when a new product or service is introduced in the market. This risk fears the loss of all the information related to a new business plan, new technology, etc.
9. **Other Risks:** Other risks such as credit risk, interest rate risk, liquidity risk and market risks are also associated with online banking. These risks are pertaining at a very high rate because of the high use of electronic channels and the absence of geographic limits.

## **REVIEW OF LITERATURE**

A research work without literature review is impossible. Literature review is important to find out the gaps in the existing research field. Following is the literature review of my research:

Rotchanaktumnui S. and Speece M. (2003) undertook a research to know the barriers to internet adoption through a qualitative study among corporate customers in Thailand. The research was consisted of face-to-face in-depth interviews with corporate customers of banks that offer internet banking. The interviews were conducted in a semi-structured format that allowed the respondents to express their own viewpoints. The findings of the study revealed that security of the internet was a major factor inhibiting wider adoption. Those who were already using internet banking seemed to have more confidence that the system was reliable, whereas non-users are much more service conscious and do not trust financial transactions made via internet channels. Non-internet banking users tend to had more negative management attitudes towards adoption and were more likely to claim lack of resources. Legal support was also the main barrier to internet banking adoption to corporate customers.

Sohil M.S. and Shaikh N.M. (2008) undertook a research on internet banking and quality of service. The study was based on a questionnaire survey conducted in Saudi Arabia. Based on an extensive review of literature, the paper used empirical research to analyze service quality of internet banking services provided by banks in Saudi Arabia. Results based on a factor analysis identify three factors that influence users' evaluation of service quality of internet banking services. These factors were labeled as "efficiency and security", "fulfillment" and "responsiveness". The research made a valuable contribution given the fact that there were only a limited number of comprehensive studies dealing with the assessment of electronic service quality in banking environment.

Giovanis A.N. et al (2012) undertook a research to study the extension of TAM model with IDT and security/privacy risk in the adoption of internet banking services in Greece. The study was based on empirical analysis including off-line banking customers that were familiar with the internet, the author validated a causal model linking the constructs of the proposed service's compatibility, perceived ease of use perceived usefulness, perceived security and privacy risk, customers' demographics and IT competences, with customers' intentions to adopt internet banking services in the future. Partial least squares procedure was used to analyze 212 cases collected from residential customers via personal interviews using a properly designed questionnaire. The results indicated that service compatibility was the key factor, which mostly shapes customers' behavioral intentions toward internet banking adoption, followed by TAM constructs and perceived risk elements. Moreover, TAM and perceived security and privacy risk constructs partially mediated the relationships between compatibility and customers' behavioral intentions, while perceived usefulness partially mediates the relationship between perceived ease of use and customers' intentions. Finally, in terms of the impact of individual differences on customers' beliefs about internet banking compatibility, value and risk elements, younger, mostly male customers, with adequate previous IT experience who found themselves to be compatible with the new service, were a more promising target group to use internet banking, as an alternative channel to

perform their financial transactions in the future. The study explored the influence of an extended TAM model factors on internet banking adaptation behavior of Greek customers.

Bamrara A. (2013) et al conducted an empirical assessment of banking sector to study cyber attacks and defence strategies in India. The researcher had used probability sampling procedure and applied stratified random sampling. Data was collected using a structured questionnaire with Likert scale. The analysis was based on the data on several aspects in tabulated form making use of simple descriptive tools of statistics such as mean, percentage and standard deviation possible relationship had been brought out through cross sectional analysis. These relationships had been highlighted by computing the Chi-square and Karl Pearson coefficient of correlation. The study revealed the varied cyber attack strategies adopted by cyber criminals to target the selected banks in India where spoofing, brute force attack, buffer overflow and cross side scripting were found positively correlated with public and private sector banks. Further, the findings showed a positive correlation between Intruder Detection and cyber attacks, i.e., online identify theft, hacking, malicious code, DOS attack and credit card/ATM frauds as well as online identify theft, DOS attack & credit card/ ATM fraud were found positively correlated with System Monitoring.

Das S. and Dhar P. (2014) conducted a research to study technological security aspects for internet banking. The study was basically exploratory in nature and henceforth the study was done mainly with the help of secondary data available from different websites of Reserve Bank of India, Annual Report of Reserve bank of India, Report on Trends and Progress of Banking in INDIA and also from different research papers related to Electronic Banking. According to the researchers, PC banking and Internet or online banking were the most frequently used designations. Also, according to the researchers, the main objective of the "e-banking Rules" was to provide their e-banking products and services and effective management of risks associated therewith. The rules were primarily derived from PSS Act 2007. With the help of the rules and regulations of e-banking and mobile banking it became possible to come up with the solutions of safeguards against different fraudulent attacks generated in the system of e-banking and mobile banking. In this regard of safety and security in case of electronic banking, the infrastructural development was also of extremely high importance.

Gupta B. (2014) undertook a study on customer's risk perception on e-banking. The research was focused on the risk perception of the customers (of different age group) on e banking. Quantitative research was applied. The author conducted a survey with the help of a structured questionnaire based on different parameter of customers risk perception on a sample of 80 respondents of two age groups (Group A-20-40Yrs, Group-B- 45-65 yrs). Out of which 57 completed responses were considered for the purpose of the study. Apart from the primary survey on the different parameters a chi-square test was conducted on the respondent regarding their risk perception on e banking. The responses were measured through a five point- summated rating scale (Likert scale). Results indicated that the customer perceived e-banking as a risky process. To enrich the E-banking process bank should improve communication links, increase customer personal privacy & the efficiency of ATM machines. The author concluded that the importance of security and privacy for the adoption of e banking was very crucial so the banks should design their website to address security and trust issues.

More M.M. et al (2015) conducted a research to study the current scenario of online banking and cyber attacks. In their research, the researcher focused on cyber crimes related to online banking and new tricks and techniques used by hackers. The researcher also analysed the data on Indian cybercrime Statistics. The study was totally based on the secondary data. To review and analyze the current scenario of cybercrimes, the researcher focused on the annual reports of National Crime Record Bureau (NCRB), Indian Computer Emergency Response Team (CERT), Internet Crime Complaint Centre (IC3), the Global Information Security Survey 2014-15, Press Information Bureau English Releases, Reserve Bank of India publications. The findings of this research revealed that the IT usage and cybercrime related to online banking in India were on the rise. Majority of the cybercrimes had been committed by young people in the age group 18-30 and were male gender. Researcher suggested that Indian law enforcement agencies need to be adequately equipped to overcome and prevent the cyber crime.

Kovacs L. and David S. (2016) undertook a research to know the fraud risk in electronic payment transactions. They wanted to review the regulations on the security of electronic payments, payment innovations and their vulnerabilities and the recommendations elaborated by the European Forum on the security of retail payments. They found that the fraud incidents and the speed of penetration of new fraud techniques and methods caught the attention of payment service providers, customers, supervisors and overseers. The result of their cooperation was the European Forum on the Security of Retail Payments. The forum elaborated three sets of recommendations on security of Internet payments, payment account access services and mobile payments,

which were missing elements of the present Hungarian and pan-European regulations. Both domestic and international regulators should build on the revised Payment Services Directive and the recommendations in question, to avoid fraud incidents like the one this article initially portrayed.

## OBJECTIVES

Research without objectives is null and void. Objectives give clear directions to the researcher for the future. Following are the objectives of my research:

1. To analyze the consequences of Online Banking Frauds on Indian economy.
2. To analyze the regulatory framework in India for Online Banking Frauds.

## RESEARCH METHODOLOGY

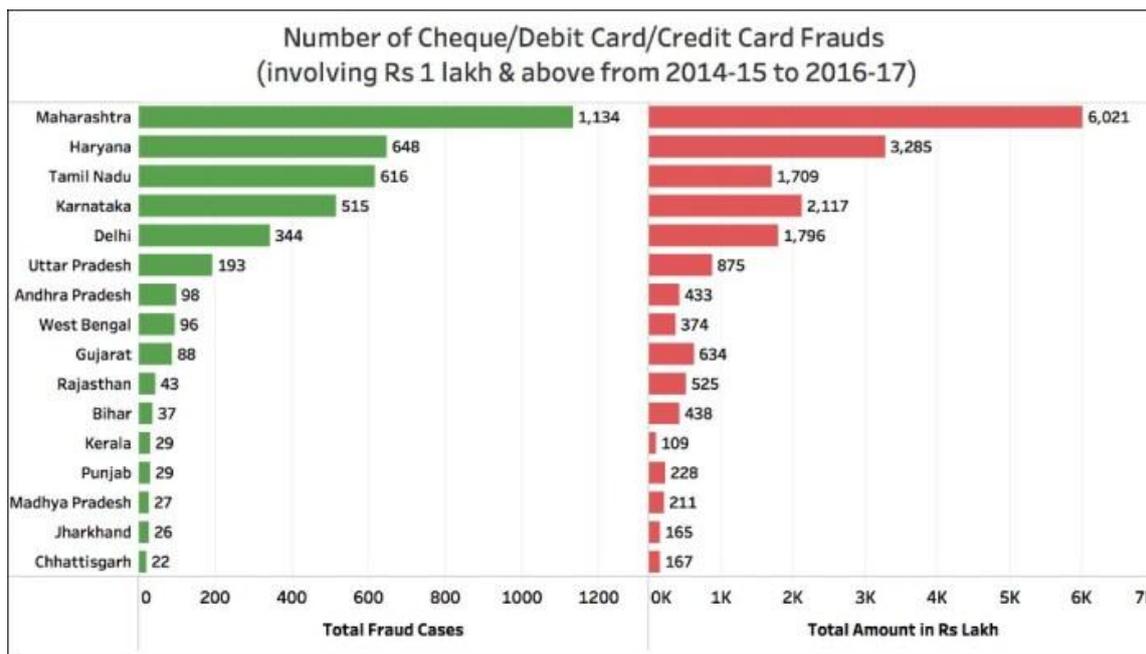
The research is exploratory cum analytical in nature because it is based on secondary data solely. The data have been collected from various sources like journals, RBI and global banking reports, websites and magazines, etc. time period of three years has been taken for fulfilling the purpose of the research, i.e., 2015 to 2017. Also, RBI guidelines for reporting frauds have been discussed in this paper. The data has been analyzed using various statistical tools.

## DATA ANALYSIS & INTERPRETATION

According to the RBI, SBI has reported largest number of fraud cases during a period of 3 years, i.e., 2015-2017. Then Indian Overseas bank reported second largest fraud cases during same period and Central bank, Union bank and PNB reported relatively bigger amount of fraud cases. The amount involved in these cases is also very huge, i.e., Rs. 66,066 crore. Out of all fraud cases, around 15% cases involve bank officials which is a very serious situation raising the ethical working environment in the banks. According to the data shared by the government in Lok Sabha, the Public sector banks reported 8622 cases while the Private Banks reported 4156 cases. So, it is clear that the actual facts and figures are much beyond the stated values of the government.



Source: RBI data via TOI



Source: RBI report

Also, more than 4000 cases of Cheque/Debit Card/Credit Card Frauds has been reported in the aforesaid period, each involving an amount of Rs One lakh and above have been reported by the banks between 2014-15 and 2016-17. The total amount involved in such frauds was Rs 200 crore approximately. Among the states, the maximum number of such cases was reported in Maharashtra (1134), the only state to report more than 1000 cases in this period. Haryana, Tamil Nadu & Karnataka are the only other states to have reported more than 500 such cases each.

#### Guidelines for reporting Fraud

The RBI has also laid down the following guidelines for reporting incidents of fraud. Banks are directed to not only focus on recovery of the amount involved, but also ensure the guilty are punished.

Category of bank	Amount involved in the fraud	Agency to whom complaint should be lodged	Remarks
Private Sector/ Foreign Banks	<input type="checkbox"/> 10000 and above	State Police	If committed by staff
	<input type="checkbox"/> 0.1 million and above	State Police	If committed by outsiders on their own and/or with the connivance of bank staff/officers.
	<input type="checkbox"/> 10 million and above	In addition to State Police, SFIO, Ministry of Corporate Affairs	Details of the fraud are to be reported to SFIO in FMR Format
Public Sector Banks	<input type="checkbox"/> 10,000 and above but below <input type="checkbox"/> 0.1 million	State Police	If committed by staff
	<input type="checkbox"/> 0.1 million and above but below <input type="checkbox"/> 30 million	To the State CID/Economic Offences Wing of the State concerned	To be lodged by the Regional Head of the bank concerned
	<input type="checkbox"/> 30 million and above and up to <input type="checkbox"/> 250 million	CBI	To be lodged with Anti-Corruption Branch of CBI (where staff involvement is prima facie evident)

Category of bank	Amount involved in the fraud	Agency to whom complaint should be lodged	Remarks
			Economic Offences Wing of CBI (where staff involvement is prima facie not evident)
	More than ₹ 250 million and up to ₹ 500 million	CBI	To be lodged with Banking Security and Fraud Cell (BSFC) of CBI (irrespective of the involvement of a public servant)
	More than ₹ 500 million	CBI	To be lodged with the Joint Director (Policy) CBI, HQ New Delhi

Source: RBI notification dated 18 Feb. 2018

## CONCLUSION

Online banking has become the crucial element in the development of any economy. But, with the rise in the usage of online banking services, online banking frauds has also been increasing and that too at a very fast pace. From the research, it is clear that the online banking frauds has been increasing and the largest public sector bank in India, i.e., SBI reports for the maximum number of bank fraud cases. Also, public sector banks have reported for more fraud cases as compared to private sector banks. To cure the problem of increasing number of frauds, RBI has been issuing many guidelines from time to time. But, unawareness among the consumers regarding these guidelines is also another major problem. The banks need to organize various educational seminars and workshops for creating awareness regarding various online banking frauds and how to report for these frauds and precautionary actions to be taken to avoid these frauds.

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## Upcycling- A Sustainable Branding Practice

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### **ABSTRACT**

*As more of the world's most powerful brands aspire to the same social and environmental values, business leaders and marketers face the new challenge of distinguishing their companies, products and services in an increasingly crowded sustainable marketplace. Now more than ever, sustainability requires a re-imagining of the art of branding - just as branding requires a re-imagining of the science of sustainability. The old branding paradigm stamped a commodity with a logo and a slogan. Sustainability brands are products and services that are branded to signify a special added value in terms of environmental and social benefits to the customer and thus enable the differentiation from competitors. And as the green movement continues to accelerate, sustainable brands and businesses are forming entirely new value-chains for their processes and products to minimize the global carbon footprint. With rising awareness for the need to recycle and reuse composite materials, innovators are developing unprecedented ways to repurpose material waste and push ahead with the green revolution. The latest trend behind sustainability breakthroughs that has taken the industry by storm and is set to be the new face of evolving waste management systems in the circular economy is Upcycling. The objective of this paper is theoretical development of Upcycling and illustrating India's experience with Upcycling.*

**Keywords:** Sustainable Branding, Upcycling, Circular Economy, Downcycling

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### **INTRODUCTION**

Upcycling is the process of converting old or discarded materials into something useful and often beautiful, of better quality or for better environmental value. Upcycling is the opposite of downcycling, which is the other half of the recycling process. Downcycling involves converting materials and products into new materials of lesser quality. Most recycling involves converting or extracting useful materials from a product and creating a different product or material. It might sound like an environmentally conscious concept, with a philosophical base that challenges over-consumption (and you'd be right to assume so), it's also a concept that can be seen walking down runways, bringing contemporary business to the world with an unmistakably strong identity

### **History of Upcycling**

The term upcycling was officially coined in 2002, but it was first referenced in a German book in 1996. In 2002, William McDonough and Michael Braungart wrote a book called *Cradle to Cradle: "The Way We Make Things"* about the benefits of upcycling and its place in creating and marketing different types of products. This book solidified the definition of upcycling as a simple real-world method of preventing waste through the everyday recycling of old products into newer ones.

### **Upcycling vs. Downcycling**

The concept is often confused with downcycling, which is similar in nature but has a different end result. Although products are disassembled and then reassembled using their raw materials, the resulting creation is typically of lesser quality. For example, when you recycle plastic bottles or cans, they are downcycled into a weaker product. For eg. Tree Peace, a wood handicraft company, take reclaimed wood and cardboard and turn them into something of higher value and create jewellery such as upcycled bracelets. and upcycled necklaces.

### **Meaning of Upcycling**

Upcycling can be popularly understood as creative reuse. It is the process of transforming by-products and waste materials from items that are otherwise useless or unwanted and transforming them into new materials or products of better quality or for better environmental value. Recycling on the one hand, uses discarded consumer materials, largely plastic, paper, metal and glass packaging and breaks them down before repurposing the composites to create a new product that is often of a lesser quality to the original material use.

Upcycling on the other hand, does not break down the materials but alternatively refashions them, using the same materials at the start of the process to make the new product. The upcycled item's goal is to be of better, or at least equal, quality than the original product sent to waste.

The critical result is that this waste by-product is given a new life as something useful or creative and, in many cases, uniquely innovative.

The main thing that separates upcycling from traditional recycling, is that the reused item must be better than its original form. In this way it has captured the hearts and minds of sustainability innovators.

### **CASE STUDY: UPCYCLING AND PET**

While recycling programs are gaining traction in popularity, the average PET (polyethylene terephthalate) bottle used by consumers will still, most likely, end up sitting inert in a landfill due to inefficient or misunderstood recycling practices.

To address this problem, innovative plastic companies have been exploring a range of solutions to close this gap in the circular economy and ensure that plastic waste is managed from product conception to reuse.

These post-consumer PET plastic bottles are now being looked at as a mine of untapped potential raw materials for use in a unique chemical upcycling process pioneered by forward-thinking research teams from companies such as SABIC Innovative Plastics (SABIC).

SABIC's unique solution focuses on reusing post-consumer PET in resin.

Conventional PBT resins have traditionally been formed through a chemical process that use non-renewable crude oil or natural gas as a raw material whereas SABIC's 'iQ resins' uses proprietary chemistry that produces these high-quality PBT resins while also using post-consumer PET as its main source, reducing the hydrocarbon-based fuels needed in the mix.

The process regenerates and upgrades the PET waste material saving it from landfill and giving it an efficient and practical usability. Plus, the iQ resin manufacturing process is more energy efficient from cradle-to-gate, consuming a staggering 55-75% less fossil fuel than other engineering thermoplastics across the market, it also reduces CO2 emissions by a comparable amount.

In this way, SABIC's innovative upcycled resins are a true 'drop-in solution' for traditionally manufactured composites, blends and alloys containing PBT.

The resins can extend and transform the life of a standard PET plastic bottle by an impressive 20 years, by converting the composites into high-performance products for automotive, electronics, furniture or fiber OEMs. Finished products made from iQ resins may contain up to 65% post-consumer PET waste, with zero impact on mechanical or aesthetic performance.

The importance of upcycling chemicals is emphasized by the SABIC Innovative Plastics team;

The world around us is changing. Raw materials and energy are in shorter supply than ever, while solid waste is becoming a problem. It isn't enough anymore for engineering resins to deliver high mechanical, aesthetic and processing performance. They must also deliver environmentally sustainable solutions.

### **Everyday Upcycling**

As a wider concept, upcycling has been around for generations. Thrifty families with few economic or material resources would reuse items, periods of hardship such as wartime rationing brought to life this spirit of maximizing the use of everyday objects.

Popular examples of household, everyday upcycling include reusing grain or coffee sacks to make accessories or dresses, tires to make buckets, bottle glass to make artisan jewellery or old crockery to make lighting solutions

The possibilities are limited only to the imagination.

As a result of the diversity in applications for upcycling, the upcycling movement has taken off across art, architecture and aesthetic based movements causing an increased demand from consumers for sustainable brands that spearhead upcycled materials in their value-chains.

Upcycling has huge potential to create a positive impact on the environment and the way we think about objects otherwise destined for landfill, looking at waste instead as the building-blocks of the something altogether new and useful.

The world is changing and with it markets demands are evolving to increasingly demand new models of sustainability in business practices, innovators such as SABIC Innovative Plastics and 'everyday' household and aesthetic upcyclers are great examples of how upcycling is transforming traditional markets to meet these changing material lifecycles.

## **Some Organizations in India that Creatively Use Upcycling**

### **1. Baladarshan**

Wire plastic baskets, backpacks, pencil cases, mats and more is what you will find at Baladarshan, a fair trade organization (a first in India guaranteed by the WFTO), which was founded in 2002 by an Indo-French couple, Philippe and Denise Malet. The couple was involved in the economic and educational development of the slums through the NGO, namely SPEED Trust, they created in 1999.

They started training youngsters, especially school drop-out teen girls in tailoring and Baladarshan came in support to promote and market their realizations. SPEED also started working with some slum women skilled in baskets weaving. BALADARSHAN designed and developed afterwards a range of baskets, storages; etc using Polyethylene wire sourced from a workshop in Chennai that makes this wire from plastics/bottles converted in PET granulates. Later on they saw that many huts and houses in the slum were covered with flex banners, billboards, and they got the idea to use the same material for bags and accessories.

With some imagination, a wide range of new products can be developed at a cheap price giving in the same time a lot of job opportunities, they says, about the benefits of upcycling.

### **2. Ecowings**

Founded five years ago by Kapil Sharma, Ecowings is an international brand based in central India, which offers export quality upcycled lifestyle products globally (to over 134 countries). They work mainly with truck and bike tire tube and develop functional, fashionable and trendy products out of this material. The material is sturdy, waterproof, robust, and substitute of leather. Wild life was the core inspiration for them. They evolved the upcycling of tire tube and then it gradually became their passion. Their products are saving wild life as truck tire tube is the substitute of leather at the same it is reducing carbon foot print and protecting our environment.

They currently have 23 products, including laptop bags, back packs, wallets, pouches, iPad cases and belts, among others. To save our planet upcycling can be a powerful tool and can open new sustainable ways.

### **3. Kabadiwalla Connect**

Kabadiwalla Connect is a social enterprise start-up dedicated to helping Indian communities handle their recyclable waste responsibly. By leveraging the power of information technology, the team hopes to work together to send less waste into India's landfills. Founded by Siddharth Hande in February 2015, they believe in designing products with integrity and sustainability at its core. "Design must respond to the global crisis of today, and the process of up-cycling and re-purposing materials enables us to shift our perception of 'waste,' viewing it as a valuable raw material instead. Design has a significant role to play to enhance and optimize every stage of our economic cycle, and could help change attitudes towards our collective responsibility towards the natural world," shares Hande.

The team is currently researching locally available materials that they can re-purpose to design their products. For example, including reclaimed wood, reclaimed jute, palm leaf, bamboo, etc. And they are prototyping an elegant modular storage system, that will help you easily segregate and sort your recyclable waste at home. While there are many advantages of upcycling, the only drawback is that "The market for upcycled products is currently only a niche segment; Moreover the perception of up cycled products as having a kitsch/novelty factor is something that needs to be overcome through a strong design vision", says Hande.

### **4. RootBazaar**

RootBazaar, an offline and online store that makes living a zero-waste lifestyle convenient, was founded in 2015.

So what was the inspiration behind starting Root Bazaar? Founders Sabira Lakhani and Sahar Mansoor realized that in today's society, consumption won't stop. "We can encourage minimalism, we can put in structures to process waste, but if we are going to mass consume, we asked ourselves, shouldn't we do it less impactfully? We believe that respecting nature and the earth should be a significant part of our time here on earth. Living a zero-waste lifestyle is not impossible, but it's not simple either. We live in a world that prioritizes convenience, so we want to provide products, kits, information, and education that makes it easy to try and hopefully convert to a more conscious lifestyle," they explain.

They work with locally available raw materials such as coconut oil, rock salt, essential oils, etc. “Our product line is created from all natural ingredients native to your own kitchen and backyard and of course all our products are packaged in zero-waste packaging, using up-cycled glass bottles, compostable coconut fiber twig for tags,” say the founders.

Most Popular Products: Lemongrass bath salt and body scrub is a popular favorite with young moms. Other favorites are Dessert Dry Shampoo and Raw Morning Breakfast Scrub.

### **5. The Upcycle Project**

This is the place to be if you are looking for products like key chains, coasters and clocks, in quirky designs. The Upcycle Project was founded in 2014 by Amishi Shah, who was pursuing her masters in the UK when she stumbled upon the concept of a social enterprise and upcycling. After returning she experimented with upcycling on the weekends whilst pursuing a full time job on the weekdays and after 6 months of doing this, she quit to start her own line of upcycled gifting and decor products.

“The product is conceptualized looking at current decor and gifting trends. At the moment I work with waste Vinyl records that are made from PVC, are toxic and are otherwise non-recyclable. We have a strong supply chain of raddiwalas from whom we source the raw material,” she says.

On the future of upcycling in India, Amishi says, “Upcycling at home is a creative solution to the waste problem and will help inculcate a mind set in both young children and adults of lesser wastage and creative uses of the waste. Waste recycling is multimillion dollar industry and since more waste is generated every day, the future of upcycling and recycling solutions are tremendous since more and more people are becoming environmentally conscious.”

Most Popular Products: Key chains, bookends and clocks. Customers like the minimalist design approach to these products.

### **Problems that Companies face while Upcycling**

#### **1. No Waste Segregation At Source**

One of the biggest issues when it comes to tackling India’s waste problems is that there is no waste segregation happening by the people at source.

When you tell people to segregate waste into dry and wet waste daily nobody actually cares or bothers to understand the necessity of the concept. In fact, in India, waste segregation is not happening at all.

#### **2. Sourcing Sufficient Used/Waste Materials: A Big Challenge**

The craft of upcycling (including material collection) was commonly viewed as time-consuming and this was not reflected in the price. There’s a massive amount of time involved in craft and hand-making processes. Some people say ‘Well, it didn’t cost you anything for the raw materials, so can I have a discount?’ People don’t appreciate the time it takes to source the materials.”

#### **3. Varied Product Quality & Inadequate Quality Assurance**

Varied product quality and inadequate quality assurance were seen as big challenges. Maybe some customers have had poor experiences [with upcycled products] in the past, and don’t want to go down that route? And there’s no quality assurance, regulations, or insurance.

#### **4. Identifying Suitable Marketplace**

Identifying suitable marketplace (both online and offline) was a common, medium scale, challenge in marketing. Regarding the working environment, most sole trader participants indicated that they have a problem finding a suitable space in which to work. They either work from home, dealing with limitations and problems (e.g. limited space for materials and equipment, interrupting family, disturbing neighbours) or pay rent for the work space, which can be expensive.

#### **5. Consumer Attitudes**

Consumers’ preference for mass-produced products was commonly perceived as a big challenge. If your products are beautiful and consumers will come in and look at them, but then they will walk away and buy something mass-produced from big firm because it’s from a known brand. That’s what they like.

## CONCLUSION

This paper attempted to build theoretical base of Upcycling and tried to establish relationship between Sustainability Branding and Upcycling. It showed how Upcycling as a Sustainable Branding Strategy can achieve the larger goals of Sustainable Business Environment. It differentiated between Upcycling and Downcycling. It presented case studies of Indian Organizations that were engaged in Upcycling. At last it also described the challenges that companies face in the course of Upcycling. The common challenges are No Waste Segregation at Source, Sourcing Sufficient Used/Waste Materials, Varied Product Quality & Inadequate Quality Assurance, Difficulty in Identifying Suitable Marketplace and Negative Consumer Attitudes. In the end it could be concluded that the end result of upcycling results in the reduction of raw material consumption. Consequently, energy, air and water pollution, and greenhouse gas emissions have all tumbled and continue to do so. It should be noted that while the term "upcycling" is new, the concept is not. Upcycling is observable in all historical periods. Perhaps the best example is the Native Americans. When forced to kill an animal, they wouldn't let a single part go to waste. Whatever couldn't be used for food was instead used to build. When forced to evacuate a settlement, they tore everything down and used it again when they built the next one.

This is a frame of mind which we could all use.

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# Impact of Corporate Social Responsibility on Consumer Buying Behaviour

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## ABSTRACT

*This article aims at analysing the impact of corporate social responsibility on consumer preferences towards companies products. Companies following CSR activities elicits more favourable consumer attitude towards the company. Differentiating the product in the eyes of consumer by the use of CSR has become quite common. We found in this research that those companies who undertook CSR activities were able to improve consumers' beliefs, attitudes and intentions towards the company and its product offerings.*

**Keywords:** Corporate Social Responsibility, Consumer Buying Behaviour, Impact on Purchases.

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## INTRODUCTION

Companies nowadays are facing pressures to both maintain profitability and behave in socially responsible ways. Being socially responsible and integrating social and environmental concerns in business operations by the companies is what is called as corporate social responsibility. Researches in the past show that being socially responsible somewhere improves companies image in the minds of consumers. CSR involves following Triple bottom line approach by the companies. TBL involves considering all the aspects - economic, environmental and social. It's a strategic business management concept where companies should not only consider the economic aspect but also should be concerned about social and environmental aspects as this would make it responsible in the eyes of consumer and will have a positive impression on their perception and buying behaviour towards company and its product offerings. This paper tries to find out what consumers think about CSR activities. Does consumer feel that corporations have a responsibility to society, what kind of responsibility do they expect from corporate sector, Do consumers really care about corporations social responsibility level and how much do they care and does this have impact on their purchase and investment decisions, what do consumers think about the intentions of companies following CSR. Do they consider it that companies are pursuing self interest or are actually concerned about the society.

## LITERATURE REVIEW

Concepts of CSR given by various people have been reviewed in this paper. Carroll (1991) suggests that CSR includes four kinds of responsibilities or dimensions: economic, legal, ethical and philanthropic. He has taken care of all the stakeholders of the organisation. (eg. Owners, customer, employees, community and the public at large). Kotler's (1991) societal marketing concept can also be used to define CSR. Societal marketing implies doing business in a way that improves both customer and society's well being. Studies that demonstrate the link between social initiatives and positive effective, cognitive and behaviour responses by consumers. (Brown and Dacin, 1997, Creyer and Ross, 1997, Elle; Mohr and Webb, 2001, Folkes and Kamins, 1999, Murray and Voge.)

## METHODOLOGY

The researcher have opted for a secondary database study.

To conduct this study multistep process has been followed. Articles published in leading academic journals were studied. Articles containing the term corporate social responsibility and consumer were given focus.

## ANALYSIS

It has been found on the basis of going through paper that most of the consumers are positive towards business in general and towards social responsible companies. Consumers do not regularly use CSR as a purchasing criterion. Majority of consumers are not committed to socially responsible companies but most have at least

occasionally made a purchasing decision based on such principles. Only few consumers appear completely disinterested or opposed.

## **CONCLUSION**

This research tries to make us understand that consumer buying decisions depend upon csr activities undertaken by companies. Its not important that CSR increases sales but somewhere these activities are considered by the consumers in making buying decisions to some extent.

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## Through the lens into the Three R's

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### ABSTRACT

*This article will provide an overview of the causes and the ways for the better management of garbage or other household waste. Through this paper we will throw light on the "Three R's"-Reuse, reduce and recycle. Out of these three R's "Recycle" is a catchphrase for an environmentally friendly way to manage waste and the better way to manage the household waste. India is a big nation and as a nation it generates a lot of garbage and to use or rather how to reuse this waste we will learn through this article. Through this paper we will also examine few advertisements which focus on "Reuse, Reduce and Recycle". The data collected for this paper will be secondary. As a result, the Three R's "reduce, reuse and recycle", efforts to promote better methods for the waste management and how it has to be used in an effective manner for the betterment of sanitation and maintain hygiene in the society.*

**Keywords:** India, Sanitation, Recycle, Reduce, Reuse, Waste Management.

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### INTRODUCTION

Today, due to different types of pollution and rapidly growing population we cannot stop waste production completely, but everyone can give a momentous contribution. One must think before making a bin! This helps in saving the energy and natural resources, also helps in reducing pollution and reduces the need for landfill.

The one way to reduce the waste production is "waste hierarchy". 'Waste Hierarchy' means the order of priority action to be taken to reduce the amount of waste generated and to improve overall waste management process and programs. It consists of three R's:

- ❖ Reduce
- ❖ Reuse
- ❖ Recycle
  - **Reduce:** Buy only what you need because a better way to reduce waste is by not creating it.
  - **Reuse:** If you have to acquire goods, try getting used ones or obtaining substitutes.
  - **Recycle:** When discarding your waste, find ways to recycle it instead of letting it go to landfill.

They are also called the "three R's" of waste management, and this waste hierarchy is the guidance recommended for creating a sustainable life. People wonder how that is possible to incorporate these changes in our daily life, it is very hard to implement. All we need is to bring a little change in our daily routine to reduce the waste so that less amount of it goes to the landfill that can reduce our carbon footprint.

There are so many things that we can do to help in minimizing the amount of waste going to landfill and which actually effects the environment directly or indirectly. It is just that we have to keep in mind the three R's- reduce, reuse and recycle. We must change our habits in consideration of waste, no matter how small or insignificant those actions may be, but it can bring a great change. One must think about the difference that will come if everyone will pack their lunch in reusable containers instead of disposable cling wrap.

There are many reasons for minimizing the waste that we create that are follows:

1. It conserves valuable natural resources, for example:
  - ❖ Minerals- Copper used in electronic goods, Tantalum used in mobile phones etc.
  - ❖ Energy- used in mining, harvesting etc.
  - ❖ Timber- used to make furniture, cardboard, paper etc.
  - ❖ Petroleum- used in transport goods
  - ❖ Water

2. It is economically beneficial:

- ❖ If we spend less, we get make more out of what we presently have.
- ❖ Waste disposal cost is less, for example in any organization it cost more for garbage bins than collecting waste for recycle purpose.

3. It reduces impact on environment, for example:

- ❖ Fewer natural ecosystems will be affected by mining, harvesting, and landfill of waste if we can manufacture new goods from old goods.
- ❖ Fewer landfill sites will need to be built if we can extend the life of the landfill, which means that the biodiversity of a future landfill site can remain intact.
- ❖ Greenhouse gas emissions would be reduced if we were all to compost and/or worm farm our organic waste.

## **Media and Environment**

Environment is an essential need for all human beings because for every necessary thing we depend on it. For the smooth existence of life on this planet Earth it is necessary to protect environment. This is the only reason that environmental issues are globally important. Every living being must contribute in betterment of environment.

Media plays a vital role in creating awareness and setting perceptions on environmental issues. Different Government bureaucrats, scientists, media personnel have shaped government policies for so many years. When the world saw the picture of the earth, photographed from space during 1960's, awareness of the earth as a whole system, fragile and finite, became a paradigm of our era (Dryzek, 1997).

Each generation inherit from their previous generation about knowledge of science, wealth and natural resources. But today's generation exploit these natural resources excessively. This will ultimately result in forming of less fresh drinking water, less food grains, less fresh air for breathing. The rapid increase in population is resulting in the scarcity of fresh water, air, and land. The world is struggling with the crisis on daily bases like constant melting of mountains, deforestation, and reduction of water in rivers. Every year thousands of people suffer because of lack of fresh water living being is aware of this scarcity.

Living being's existence and their development depends on natural resources. Most of the natural resources are limited and it takes thousands of years to replenish it naturally.

The media helps in creating awareness about environmental issues like global climate change and associated actions. While discussing the role of media, we focus on three key issues-to inform, to educate and to entertain.

The different media can be categorized as:

- ❖ Mass Media (Radio, Television, Newspaper, magazine)
- ❖ Institutional Media (School, Government, Village Leaders)

### **Mass Media**

One of the most effectual ways to disseminate information to the masses is through mass media. Media plays an important role in creating awareness or questions among the large heterogeneous audience. Media has the potential of being extremely effective tool for environmental communication but it has not been sufficiently used for this purpose so far. There are many documentaries which attract few viewers either due to academic or arcane manner in which it is presented. Also there are few newspaper and magazines that publish few articles, features, advertisements on these issues.

### **Print Media**

Print Media is dominating and more influential as compared to electronic media and it plays a major role in informing people about Three R's and environmental protection. Newspapers and magazines print different columns and features on these issues. Media personnel give general knowledge about waste management through their articles.

It is said that India's most influential newspapers like The Times of India, The Hindu, Hindustan Times and Indian Express publish article on environmental issues every alternate day. There are many environment journalists who have chosen these issues as their core subject out of their binder. The issue of environment and waste management is so severe that it is competing with all the other issues that are covered by the leading newspapers reporters' but the interest of the readers in environmental issues is still fairly low. But the increase

in the publication of such article is a proof that readers (especially young generation) are taking interest in these articles either due to awareness or education.

### Examples Pictures in Print Media



### Electronic Media

Radio and Television are the most important and dominating form of mass communication. Print Media influence audience but for a short while, but in case of electronic media especially Television has a great influence on public due to its audio-visual medium. Radio is cheap and easily available and reachable medium of mass communication. Though the radio listeners are relatively less in our country but due to this reason we cannot deny with the fact that the radio plays an important role in creating awareness about waste management and environmental issues among public. Also as per Supreme Court it is mandatory for all media to broadcast programs related to environment. Thus, we can conclude that whether radio is less popular but it has potential in creating awareness among audience.

Television being the audio-visual medium influence more audience and create more awareness among audience about the waste management. With the introduction of Doordarshan in our country, programs related to environment were broadcasted. But with the introduction of DTH, Satellite TV etc. television started focusing more on practical work than the environmental issues. Channels like Discovery Channel, National Geographic, and Animal Planet focus on portrayal of wildlife with drawing attention of common people towards environment, but fail to aware people about the main issues. The main motive for portraying wildlife is commercialization. As many prominent editors think that “you can get no money out of environment”, environment is not an agenda.

### Examples of Advertisements on Electronic Media

<https://www.youtube.com/watch?v=DZE7f5DYESY>

[https://www.youtube.com/watch?v=Kr\\_DGf77OhM](https://www.youtube.com/watch?v=Kr_DGf77OhM)

[https://www.youtube.com/watch?v=OasbYWF4\\_S8](https://www.youtube.com/watch?v=OasbYWF4_S8)

### CONCLUSION

The role of mass media is to raise the environment issue in the community concern for social betterment and creating awareness in the society. Awareness of protecting the environment and sustainable use of natural resources is the only concern of every citizen. The media is actually a platform which is used by the audience to break the silence that surrounds the issue of waste management and environmental problems. Different types of media forums gives chance to audience to discuss about the different issues and problems also encourage more and more people to participate and change their behavior and attitude towards these environmental issues. It is very essential to aware public about the different environmental issues and waste management. Media's endless efforts to raise awareness are remarkable. But the level of involvement of media in creating awareness is event based. These issues are still not the prime agenda of media. Still media fails to take a creative approach in making stories about environment protection and Three R's due to this public gives insufficient attention to

reduce, reuse and recycle. Media still focus on the issues that take place in big cities rather than focusing on grass root level. Moreover media does not give fair and optimal space and time to waste hierarchy. No detailed study is done to check the role of media in creating awareness about the waste hierarchy as it is done in the case of political and economical issues. Although, few activities are undertaken so far this had the positive result, but there is lot more to be done.

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## Social Media in Sustainable Development

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### ABSTRACT

*Triple P (People, Planet & Profit), most often called as Triple bottom line or three major pillars of sustainability are major concerns around the world. Looking at the today's scenario, Sustainable development is a far achievable approach, present is much more in danger. According to the standard definition of Sustainable definition it means that: "Meeting the needs of present without compromising the ability of future generations to meet their own needs". Keeping this concept a reality, 3 pillars (People. Planet. Profit.) Support is needed to achieve this concept. This paper describes the 3 Ps in relation with media context specifically, Social Media, role in Sustainable Development. The paper examines the various case studies. The case presented here illustrates the extent to which Social media role in sustainable development. This paper describes the 3 Ps in relation with media context specifically, Social Media, role in Sustainable Development. The paper examines the various case studies.*

**Keywords:** Sustainable Development, People, Planet, Profit, Social Media

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### INTRODUCTION

"Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs."

This concept of sustainable development can be seen in many different ways, but at its deep root level it is an approach to development that looks to balance the different, and often competing and equally, needs against an awareness of the environmental, social and economic limitations we face as a society. The longer we pursue unsustainable development, the more frequent and severe its consequences are likely to become, which is why we need to take action now.

#### Pillars of Sustainable Development

Elements of Sustainable Development includes: Environment, Society and Economy.

#### Role of media

In this scenario of liberalization, privatization and globalization(LPG) the world has reached our drawing room thanks to social media. Introduction of television in our country in late 70's visual media becomes a very potential tool in informing the current news to the society, entertaining the people and shaping up of public opinion. The Internet technologies have given rise to electronic media where even a common man can express views through blogs, website posts, facebook and twitter like social media. Coupled with traditional print media all these audio video and social media caters to a richly diversified media industry in India. Media helps in fighting against corruption, nepotism, cronyism of institutional machinery and carrying out relentless campaign against them.

### HISTORY AND BACKGROUND

Faced with the over-exploitation of natural resources that accompanied economic and demographic growth, the think tank known as the Club of Rome, created in 1968, advocated zero growth. This group unites scientists, economists, national and international civil servants, and industrialists from 53 countries. It considers the complex problems that face all societies, whether industrialized or developing. In 1971, this private

international association sounded an urgent alarm by publishing 'The Limits to Growth'. Broadly speaking, it presents current economic development as being incompatible with the long-term protection of the planet.

**The United Nations Conference on the Human Environment in Stockholm in 1972 gave birth to the first true notion of sustainable development, which was called 'eco development' in those days.** This founding conference was held in an atmosphere of conflict between the ecology and the economy. Thanks to the support of personalities such as Maurice Strong, Professor René Dubos, Barbara Ward and Ignacy Sachs, the integration of social equity and ecological caution were incorporated into the economic development models for North and South. This would result in the creation of the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP).

As the years have passed, the elements of civil societies, with timid support from governments, have been waking up to the need to implement worldwide solidarity to deal with the risks of chaos disturbing nature's balances. In the 1980s, when the general public became aware of acid rain, the hole in the ozone layer, and the greenhouse effect, etc., this gradually dawning awareness took another step forward. Little by little, the media began to make these topics more accessible to the general public.

In 1980, the International Union for the Conservation of Nature (IUCN) published its world conservation strategy. This document is one of the original sources of the expression 'sustainable development', which is 'development durable' in French and 'desarrollo sostenido' (or sostenible) in Spanish. The concept was born of the following observations: the North/South divide (creating the potential for future conflicts), the search for human development and the ecological risks that give rise to the urgent need to safeguard the environment. The term 'sustainable development' remained virtually unnoticed until its revival in the Gro Harlem Brundtland report 'Our common future', published in 1987. As the Prime Minister of Norway and the chair of the World Commission on Environment and Development (WCED) at the time, she aimed to clarify this concept of sustainable development as 'development that fulfils the needs of the present without compromising the ability of future generations to fulfil theirs'. Since then, the concept of sustainable development has been accepted all over the world.

## OBJECTIVES

The main objective and aim of this paper is to know

- Role of Social media in Sustainable Development
- Is media really Contributing in Development?
- To know the strength of the triple p in sustainable Development

## METHODOLOGY

The paper is based on the secondary data. The secondary data was collected from various published sources like reports, magazines, journals, newspapers and the like etc. The present study is based on several case studies and on the information and data available through secondary sources like newspapers, blogs, journals, internet etc.

It is a qualitative research study and a conceptual presentation of ideas.

### The Issues and Aims of Sustainable Development

Following the Rio conference of 1992, most countries undertook to draw up a national strategy for sustainable development. The implementation of these strategies has turned out to be tricky, because it must address very serious issues within economic and political contexts that are marked by strong inertia. The issues appear at every level and affect practically every area of national policy. The various approaches reflect different points of view, and in particular: more or less constrained free market practices, a desire to place people at the heart of the economy, the greater or lesser determination of the various countries in the world, and the balance between short, medium, long, and very long-term interests. Moreover, there is no denying that the interdependence of modern-day economies means that environmental problems must be dealt with on a worldwide level, which does not simplify the implementation of the necessary strategies, particularly because of differences in levels of development.

The aim of sustainable development is to define viable schemes combining the economic, social, and environmental aspects of human activity. These three areas must therefore be taken into consideration by communities, companies, and individuals. The ultimate goal of sustainable development is to find a coherent and long-lasting balance between these three aspects. In addition to these three main factors, there is a transverse consideration, which is essential to the implementation of policies and actions with regard to sustainable development: good governance.

Moreover, the concept of sustainable development is based on a set of requirements. It must allow the basic needs of present and future generations to be fulfilled with regard to demographic constraints, such as: access to water, education, health, employment, and the fight against hunger or malnutrition. Another aim of this type of development is to improve quality of life, which involves easier access to medical care, social services, culture, and therefore also social well-being. In addition, respect for rights and freedoms and the promotion of new forms of renewable energy such as wind, solar, and geothermal power, are important aspects of sustainable development. Sustainable development must allow the planet's resources and condition to be protected for future generations and natural assets to be shared. The concept of sustainable development also involves narrowing the gaps between rich and poor countries, insofar as these gaps, if maintained or accentuated, could be the cause of violent conflict, which by its very nature leads to regression rather than development.

### 3 Pillar of Sustainable Development

#### **The Environmental Pillar**

The environmental pillar often gets the most attention. Companies are focusing on reducing their carbon footprints, packaging waste, water usage and their overall effect on the environment.

#### **The Social Pillar**

The social pillar ties back into another poorly defined concept – People . A sustainable business should have the support and approval of its employees, stakeholders and the community it operates in. The approaches to securing and maintaining this support are various, but it comes down to treating employees fairly and being a good neighbor and community member, both locally and globally.

#### **The Economic Pillar**

The economic pillar of sustainability is where most businesses feel they are on firm ground. To be sustainable, a business must be profitable.

## **ROLE OF SOCIAL MEDIA IN SUSTAINABLE DEVELOPMENT**

### **Case study**

#### **1. 'CoGen in Africa' initiative**

"CoGen in Africa" Initiative is to promote biomass-based cogeneration in private-sector agro-processing industries across East Africa to realize the potential economic and environmental benefits. The initiative is jointly implemented by the United Nations Environment Program (UNEP), Global Environment Facility (GEF), African Development Bank (AfDB) and AFREPREN/FWD. It has drawn on technical and policy expertise of Mauritius, where over half the country's electricity comes from biomass-fed cogeneration facilities, which is a good example of South-South cooperation. Initially, it focuses on biomass-based agro- industries in 7 project countries. The initiative has been working with other companies in the tea industry, as well as the sugar industry, for example Uganda, the latest high-tech cogen facility is not only helping meet the energy needs of the country's largest sugar factory, the Kakira Sugar Company, but also providing excess clean electricity to the national grid, in place of more costly, fossil fuel-based electricity<sup>4</sup>.

Project activities address key barriers through grants for training, technical assistance, pre-feasibility/full feasibility studies, engineering studies, Power Purchase Agreement (PPA) development / negotiations and mobilization of investment finance etc<sup>3</sup>. Key progresses to date include

#### **2. NGOs, The Internet and Sustainable Rural Development**

##### The case of Indonesia

Today sustainable rural development is of paramount importance in Indonesian development. Yet, different social actors have different perspectives on it. Non-government organizations (NGOs) in Indonesia have established themselves in pivotal positions in the social, economic and political landscape across the country, and a large amount of their work has been connected with development in the rural sector. But, there has been little attempt to understand how NGOs in Indonesia, particularly rural NGOs, engage with the issue of sustainable rural development itself. Since rural development is one of the oldest issues to be discussed among activists, since the early days of Indonesian NGOs, it is interesting to see how they understand the issue of sustainability in rural development and rural reform. An empirical study was conducted recently to see how some Indonesian NGOs, in their endeavour to respond to and broaden the discourse, utilize Internet technology. The study employs a combination of quantitative and qualitative approaches to build a detailed story about how different organizations working in rural development deploy strategies to deal with the issue. By doing so, it

aspires to contribute to the advancement of theory relating to the efficacy of the Internet as a tool for social reform and sustainable development by taking Indonesia as a case study.

### **3. H&M**

In April, H&M utilized a strong social media push to raise awareness for the brand's sustainability programs and reduce the environmental footprint of the fast fashion industry. Using the hash tag #WorldRecycleWeek, H&M encouraged customers to "close the loop in fashion" by recycling unwanted clothes at their stores. While many people have questioned the fast fashion giant's agenda or decried it as corporate green washing, leveraging the power of social media provided H&M the platform to engage with these critics and respond publicly to through exposure and awareness of their sustainability efforts. No matter what you thought, if you interacted with the brand at all, it was there, in your face, and difficult not to notice.

The social media rollout surrounding #WorldRecycleWeek is especially noteworthy in the way that it catered directly to audiences and demographics that might not normally spend much time thinking about issues of sustainability. Rather than using social media to call out facts and data about the environmental ills of non-recycled clothing (very little of which would likely have resonated with an average fast-fashion consumer), an online music video by musician M.I.A. urging H&M's customers to "rewear it" and be part of H&M's sustainability initiative. Through their efforts, H&M used social media to "dress up" its sustainability story.

### **4. Toms**

Outside the realm of environmental sustainability, Toms shoes regularly uses social media to promote initiatives in the arena of social good. Once a year, Toms promotes One Day Without Shoes using the hashtag #withoutshoes on social media to raise awareness about children's health. Last year, they gave shoes to over 27,000 children based on the results of the one-day campaign. As noted in the video that accompanies this article, consistency is a key part of building a corporate social responsibility (CSR) message that resonates, and Toms provides a compelling example of how effective this can be. Last year marked the ninth year that Toms has run the campaign – and it's already planning for 2017. This consistency demonstrates that the brand is dedicated to their initiative for the long term. And, more importantly, it gives the campaign a chance to grow. Next year will likely be bigger than ever.

### **5. SAP**

Outside the realm of consumer-facing brands, the software corporation SAP has also found success in communicating its sustainability efforts through social media. The company created its own separate Twitter account (@sap4good) for its sustainability and corporate responsibility initiatives and posts enough compelling content to gain over 15,000 followers. Much of the company's success rests in the fact that SAP posts more than what it is doing for sustainability on its own end; it also utilizes social media by engaging with users, collaborating with peers and sharing interesting posts from other organizations – creating a truly social community.

## **CONCLUSION**

Social media is one the powerful and useful tool in order to interact with customers and open up innovation efforts. Our case studies of firms aim to outline if, how and why social media is utilised in their product development processes. Use of social media within product development is limited among our respondents, mainly due to limited resources in combination with a low amount of customers. The results show that a low number of customers impede the ability to realise the possible gains of using social media to facilitate communication among a large number of users. Additional challenges are perceived to be the difficulty in controlling content, measuring gains and dealing with security issues. There is no consensus among the respondents with regard to social media's perceived future potential within product development; some are quite hesitant, other companies anticipate increased potential in the future. Social media enables such discussion, broadening it beyond geographically defined communities and existing editorial agendas, and at a scale hitherto unimaginable. As a development organisation that predominantly produces mass media outputs, social platforms allow us to see how people respond to our content and debate the issues we raise in our programmes. It can grant visibility to their experiences, provide a venue for discussion and offer a platform for direct participation, even enabling people to speak directly to the powerful. And because of its built-in multiplier effect, social media can vastly speed up the diffusion of information, ideas, practices, values and social norms that support positive change. In addition it has the potential to reach segments of society who don't consume much mainstream media. Over the last decade, we have seen social media and sustainability play an increasingly important role in the way that businesses conduct and talk about themselves. Together they've

helped push corporations to new levels of transparency, opened up avenues for greater engagement, forced organizations to rethink their role in society, and aligned individuals, businesses and communities around shared purpose. Social media has quickly taken a front seat to other, more traditional ways of receiving information – and the trend shows no sign of slowing down. If sustainability messages seek to reach specific audiences, it stands to reason that those messages should be communicated through the audiences’ preferred channels. But identifying proper channels is only one part of the equation. Organizations must then engage audiences – no short order in light of the amount of messaging vying for users’ attention. According to cio.com, Facebook’s 1.44 billion monthly active users sent out an average of 31.25 million messages every minute – and that’s only one network. That figure doesn’t even begin to account for LinkedIn, Twitter, Snapchat, Instagram, Medium or any of the host of other social media apps available to users. Making sustainability messages stand out in an ocean of noise means doing more than posting links to a report PDF. As twitter, Facebook and other social networks continue to grab share of consumers’ time spent online – whether at a computer or via mobilephone – companies would do well to consider how to tap into the broad reach of these platforms in communicating their progress on sustainability and the environment. Social media is also a cheap and easy way for companies to conduct promotions. Whole Foods is running a contest on twitter wherein its twitter followers are encouraged to tweet philosophies in five words, reports Supermarket News.

Among users of multiple networks, 75 percent said Facebook was their most valuable online social network.

Here is an estimation of how many people log in at least once a month:

- Facebook – 78 million
- MySpace – 67 million
- Twitter – 17 million
- LinkedIn – 11 million regular users

Social networking is not the only way for your brand or company to connect with consumers and other stakeholders on the Web.

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## Study of Methodologies for Detecting Phishing Attacks

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### ABSTRACT

Now-a-days online attacks have been increased to a great extent and the most popular attack among them is phishing. Phishing can be basically defined as one kind of a attack in which various attackers acquire the confidential and sensitive information from the victims. The Phishing is an act which is attempted by an individual or a group to thief personal confidential information such as passwords, credit card information, financial gain and other fraudulent activities. In the phishing attack, the attacker generates the warning message to the user about the security issues, ask for confidential information through phishing emails, ask to update the user's account information etc. In this paper, we discuss the implementation and evaluation results of various tools by comparing various existing Anti-Phishing Tools like PhishBlock, PhishTester, SpoofGuard to check the performance of the anti-phishing system and compared the received data set with the data set of existing anti-phishing tools which will be taken by PhishTank and Google.

**Keywords:** Phishing, Social Engineering, Phishblock, SVM, PhishTank.

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### INTRODUCTION

Phishing is an online form of identity theft in which "phishers" pose as legitimate entities in order to trap users into revealing sensitive personal information. The Phishing is an act which is attempted by an individual or a group to thief personal confidential information such as passwords, credit card information, financial gain and other fraudulent activities[1]. For each phishing campaign, phishers choose an established legitimate site to mimic. Phishing sites are designed to imitate the look and feel of the legitimate site. They also send, to potential victims, emails linking to them; these emails typically include some "call to action" such as sending bank account information. The offenders have at their disposal several means, specifically, innocuous links embedded in emails that redirect to fake sites, pop-up windows that encourage the user to enter their sensitive information, and URL masks that conjure up real web addresses. In this paper we studied *PhishBlock* hybrid system that blocks URLs listed on the blacklist, while its neural network based classifier system evaluate non-black listed websites. This leads to anti-phishing which processing high catch rates. This work is organized as follows, Section II surveys some anti-phishing tools, Section III the implementation part which consists of *PhishBlock* techniques on the applied dataset, taken from PhishTank, Section IV presents the Result of the study implied on PhishBlock and Section V highlights the Future work which needs to be done in future for the betterment of security.

### ANTI-PHISHING TOOLS

#### SpoofGuard

SpoofGuard is an anti-phishing toolbar developed at Stanford University [3]. SpoofGuard does not use whitelists or blacklists, instead, it employs a series of heuristics to identify phishing pages. After being installed, SpoofGuard that runs on Microsoft Windows 98/NT/2000/XP looks like a toolbar. When a user enters a username and password on a spoofed site that contains some combination of suspicious URLs, misleading domain name, images from an honest site, and a username and password that have previously been used at an honest site, SpoofGuard will intercept the post and warn the user with a pop-up that stops the attack. SpoofGuard uses configurable, weighted heuristics to determine the probability that a page is malicious. It analyzes URLs for patterns used by phishing sites, compares images on the site to those from popular domains, and hashes and compares post data to stored sensitive data. SpoofGuard also allows the user to configure the algorithmic weights in order to control the level of false positives. Subsequent studies found that SpoofGuard has a 90% true positive rate, but a 35-48% false positive rate [5], [6]. Chen and Guo [4] improved on the URL

analysis work done in SpoofGuard. After studying 203 phishing emails collected from the APWG [7], they identified five categories of website link obfuscation employed by phishing sites and measured their frequency.

### PhishBlock

*PhishBlock* is a tool for dynamic, proactive detection of both spoofed and concocted websites, based on a hybrid of lookup and classifier systems in one simple browser independent user friendly application. *PhishBlock* is browser independent since the user does not have to use a specific anti-phishing tool for each browser. It is user friendly, with an easy to use GUI without need for any prior knowledge to use it. *PhishBlock* uses an open source code that permits adding to the tool. As shown in Figure 1, if a URL is not white or black listed in the proxy server, it is checked against PhishTank, Escrow Fraud and Google black lists, and if not in any of them it is delivered to the Support Vector Machine (SVM) for features extraction to replenish the lists.

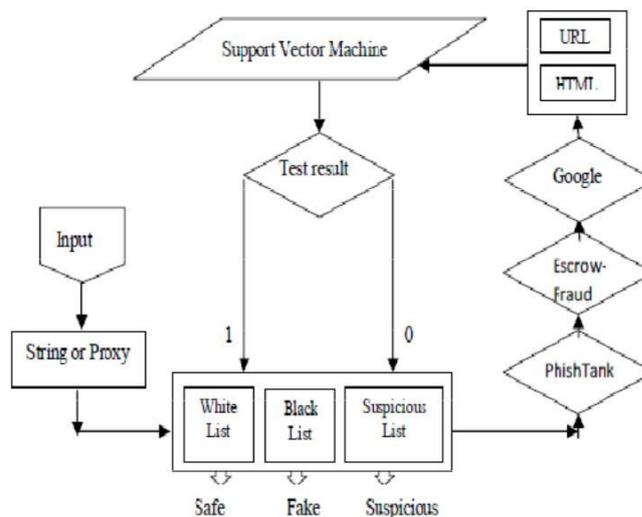


Figure 1. *PhishBlock* design[1]

### Components of PhishBlock

- Lookup System:** Lookup systems use a client-server architecture in which the server side maintains a blacklist of known fake URLs, while the client-side tool checks the blacklist and provides a warning if a website poses a threat. Lookup systems also consider URLs directly reported or rated by system users. Lookup systems typically have high precision since they are less likely to consider authentic sites as fake. They are also easier to implement than classifier systems. However, lookup systems are more susceptible to higher levels of false negatives.
- Classifier System:** Classifier systems are client-side tools that apply rule- or similarity-based heuristics to website content or domain registration information. Classifier systems offer better coverage for spoof and concocted sites than lookup systems. They are proactive, capable of detecting fakes independent of blacklists. The main disadvantage is that classifier systems can take longer time to classify webpages than lookup systems. They are also more prone to false positives
- Hybrid System:** Hybrid systems combine classifier and lookup mechanism. The system blocks URLs on the blacklist, while the classifier evaluate others. *PhishBlock* uses a hybrid system for detecting fake websites, this leads to better results with high catch rates.

### Phishtester

A testing approach has been proposed to detect phishing websites. We are motivated by a number of observations.. First, phishing websites can be considered as web applications. Given an URL, one can consider the site to be a collection of web pages. We denote this set of pages as a web application. We assume that a phishing application is implementing functionalities just like a real web application. As the intention of phishers is to grab personal information, phishers modify real web application pages such as replacing a form target URL with his desired URL. While doing so, phishers introduce inconsistencies in terms of application behaviors (i.e., acceptance of any arbitrary inputs) and navigation of pages (e.g., form submission might result in a page which provides no links to traverse any other page). We consider such inconsistencies as faults. Thus, our aim is to test a suspected web application for phishing by revealing these inconsistencies traditional web

application models cannot be directly applied to model the behavior of phishing web applications as we do not have program artifacts available (e.g., dynamic script code employed by phishing site). Moreover, test coverage criteria defined in these works are not suitable for detecting phishing web applications as we do not know what kind of suspected forms are present unless we visit the suspected pages. To address these challenges, we first model the behavior of suspected phishing web applications through a Finite State Machine (FSM) based on known phishing behaviors. We then propose five test coverage criteria (denoted as heuristic coverage criteria) based on the FSM model. While an application is being tested with random inputs, it is marked as phishing or real, if a particular heuristic is satisfied. If no criterion is satisfied, a manual checking is required for the final decision. Our approach does not depend on any updated black or white lists. Moreover, it is independent of the language and textual contents of websites. Many traditional phishing detection tools are good for analyzing web pages contents or search results that are presented in English [7]. We implement and evaluate a prototype tool to automate the testing of a website for phishing named as PhishTester.

Phishers apply a wide range of tricks that leverage the specification of Hyper Text Markup Language (HTML) and rich features of Document Object Model (DOM). We divide attack techniques into two categories: spoofing the website contents and leveraging the DOM-based features. Spoofing website content: Attackers hide the real content of web pages so that victims trust the content of web pages and give away their confidential information.

- 1. Spoofed anchor:** In HTML, a href attribute points to the next page to be visited, if a user clicks on a hyperlink. However, one can specify an arbitrary domain name in the text portion of anchor tags (i.e., text written between the tags `<a>` and `</a>`) [2]. For example, the code `<a href="http://www.evilwebsite.org"> www.goodwebsite.org </a>` shows `www.goodwebsite.org` in a browser. However, if a user clicks the link, the next page is fetched from `www.evilwebsite.org`. Moreover, browsers ignore anything written before the @ symbol in an URL. For example, TheURL pointed by the site `www.bloomberg.com@www.badguy.com` is actually `www.badguy.com`. Attackers use hexadecimal and unicode representation of URLs to hide plain text URLs. For example, `www.paypai.com` is a spoofed anchor of `www.paypal.com`.
- 2. Domain name inconsistency:** A phishing page shows a deviation between its current domain and the actual domain with respect to a claimed identity [8]. For example, one might specify in the header section of an HTML page "Welcome to Ebay". However, the domain from where the page is downloaded is not related to `www.ebay.com`.
- 3. Fake SSL Certificate:** Many organizations use secured HTTP connections to transfer data between web applications and browsers. To cope with this, phishers might develop websites that support HTTPS communications (i.e., their pointed URLs start with `https://` instead of `http://`) [2]. However, certificates used by phishers are self created and not issued by trusted certificate providers such as Verisign.com. Browsers generate alarms, if there is any inconsistency in different fields of a certificate such as issuer name and expiry date. Unfortunately, end users often do not understand the meaning of different fields and rarely examine these certificates.
- 4. Sub-domain usage:** Phishing URLs contain some parts of real website URLs. For example, the real website of NatWest bank is `www.natwest.com`. A phisher chooses a URL name which contains part of the real URL such as `www.natwest.com.mjhhdr.com`.
- 5. Image:** Images are used to substitute portion of real web pages that might contain menus and logos. Sometimes, images are downloaded from a real website in a phishing page.
- 6. Customizing status bar:** Phishers apply JavaScript code to generate fake addresses in a status bar. Let us consider the code snippet shown in Figure 1. When a user moves the mouse on the hyperlink, he finds that a status bar is showing the site `www.goodwebsite.com`. However, if he clicks on the link, a browser actually visits `www.evilwebsite.com`.

**XSS-based form:** Cross site scripting (XSS) is a common vulnerability in web-based applications, where user supplied inputs are not filtered properly. As a result, arbitrary HTML or JavaScript code can be injected through user inputs that alter the expected DOM of a web page. XSS vulnerabilities can be leveraged to perform phishing attacks by injecting HTML forms that can collect inputs and send them to attacker controlled repositories]. To avoid a user's suspicion, it is common to load a form in an iframe whose source might be loaded from an attacker supplied script code. There are some auxiliary symptoms of phishing web pages that include the presence of a high percentage of objects downloaded from different URL, inappropriate logos of companies, and a large number of dots in the URL [2, 7, 8]. In most cases, a phishing site has no Domain Name

Service (DNS) record. Current techniques have addressed the detection of spoofing techniques. However, current tools cannot detect attacks that use XSS-based forms.

**Implementation**

**Fig.2-Data collected from PhishTank[8]**

ID	Phish URL	Submitted	Valid?	Online?
<a href="#">5394879</a>	<a href="http://topconprecast.com/contact/log2.php">http://topconprecast.com/contact/log2.php</a> added on Dec 22nd 2017 5:16 AM	by <a href="#">JustaPerson</a>	Unknown	ONLINE
<a href="#">5394878</a>	<a href="https://online-unisydneyueu.yolasite.com/">https://online-unisydneyueu.yolasite.com/</a> added on Dec 22nd 2017 5:12 AM	by <a href="#">icthelodesksen</a>	Unknown	ONLINE
<a href="#">5394876</a>	<a href="http://customerregi.sulawesiadalan.com/signin/...">http://customerregi.sulawesiadalan.com/signin/...</a> added on Dec 22nd 2017 5:12 AM	by <a href="#">PhishReporter</a>	Unknown	ONLINE
<a href="#">5394873</a>	<a href="https://alamalsayarat.com/%D9%86%D8%B5%D8%A7%D8%A6%D8%AD-%D8%AE%D8%AF%...">https://alamalsayarat.com/%D9%86%D8%B5%D8%A7%D8%A6%D8%AD-%D8%AE%D8%AF%...</a> added on Dec 22nd 2017 4:53 AM	by <a href="#">alamal1</a>	Unknown	ONLINE
<a href="#">5394868</a>	<a href="https://alamalsayarat.com/%D9%86%D8%B5%D8%A7%D8%A6%D8%AD-%D8%AE%D8%AF%...">https://alamalsayarat.com/%D9%86%D8%B5%D8%A7%D8%A6%D8%AD-%D8%AE%D8%AF%...</a> added on Dec 22nd 2017 4:51 AM	by <a href="#">alamal1</a>	Unknown	ONLINE
<a href="#">5394866</a>	<a href="http://www.uberpresenteonline.com/numero.incrito/c2e65396b496b5309cb8e...">http://www.uberpresenteonline.com/numero.incrito/c2e65396b496b5309cb8e...</a> added on Dec 22nd 2017 4:45 AM	by <a href="#">DefesaDigtal</a>	Unknown	ONLINE
<a href="#">5394865</a>	<a href="http://www.uberpresenteonline.com/fazer.reg.sap/c2e65396b496b5309cb8e9...">http://www.uberpresenteonline.com/fazer.reg.sap/c2e65396b496b5309cb8e9...</a> added on Dec 22nd 2017 4:44 AM	by <a href="#">DefesaDigtal</a>	Unknown	ONLINE
<a href="#">5394864</a>	<a href="http://www.uberpresenteonline.com/promocao/c2e65396b496b5309cb8e9445b1...">http://www.uberpresenteonline.com/promocao/c2e65396b496b5309cb8e9445b1...</a> added on Dec 22nd 2017 4:43 AM	by <a href="#">DefesaDigtal</a>	Unknown	ONLINE
<a href="#">5394861</a>	<a href="http://www.insta-frame.ca/xcvn/mnb/jhfg/emailAUTH/index.php?email=all@...">http://www.insta-frame.ca/xcvn/mnb/jhfg/emailAUTH/index.php?email=all@...</a> added on Dec 22nd 2017 4:41 AM	by <a href="#">cleanmx</a>	Unknown	ONLINE
<a href="#">5394860</a>	<a href="http://www.insta-frame.ca/xcvn/mnb/jhfg/emailAUTH/index.php?email=abus...">http://www.insta-frame.ca/xcvn/mnb/jhfg/emailAUTH/index.php?email=abus...</a> added on Dec 22nd 2017 4:41 AM	by <a href="#">cleanmx</a>	Unknown	ONLINE
<a href="#">5394859</a>	<a href="http://www.insta-frame.ca/xcvn/mnb/jhfg/emailAUTH/index.php?email=abus...">http://www.insta-frame.ca/xcvn/mnb/jhfg/emailAUTH/index.php?email=abus...</a> added on Dec 22nd 2017 4:40 AM	by <a href="#">cleanmx</a>	Unknown	ONLINE
<a href="#">5394858</a>	<a href="http://www.insta-frame.ca/swift/dk/so/emailAUTH/index.php...">http://www.insta-frame.ca/swift/dk/so/emailAUTH/index.php...</a> added on Dec 22nd 2017 4:40 AM	by <a href="#">cleanmx</a>	Unknown	ONLINE
<a href="#">5394857</a>	<a href="http://nevaart.ru/wp-includes/pomo/mail-box/index.php...">http://nevaart.ru/wp-includes/pomo/mail-box/index.php...</a> added on Dec 22nd 2017 4:40 AM	by <a href="#">cleanmx</a>	Unknown	ONLINE
<a href="#">5394854</a>	<a href="http://insta-frame.ca/swift/dk/so/emailAUTH/index.php?email=info@jgaco...">http://insta-frame.ca/swift/dk/so/emailAUTH/index.php?email=info@jgaco...</a> added on Dec 22nd 2017 4:40 AM	by <a href="#">cleanmx</a>	Unknown	ONLINE

**Fig.3-The suspected URL'S taken from the dataset PhishTank[8]**

DateTime	Path	URL	Symptom
22-12-2017 11:12:29	C:\Users\Saksham...	http://www.getvid...	Trojan_Agent_78
22-12-2017 11:12:22	C:\Users\Saksham...	http://download.s...	UPX290LZMAMark...
22-12-2017 11:12:22	C:\Users\Saksham...	http://download.s...	UPXV200V290Mark...
22-12-2017 11:12:06	C:\Users\Saksham...	http://www.getvid...	Trojan_Agent_78
22-12-2017 11:11:27	C:\Users\Saksham...	https://www.sintel...	Win_Trojan_Agent...
22-12-2017 11:11:27	C:\Users\Saksham...	https://www.sintel...	Win_Trojan_Agent...
22-12-2017 11:11:27	C:\Users\Saksham...	https://www.sintel...	Win_Trojan_Agent...

## RESULT

PhishBlock compares well with other tools at a 95% catch rate (accuracy), noticing that IE 8 filter offers a 75% accuracy. Observing the false positive rate, Phish Block provides a 0.1% false positives rate while Spoofguard gives a 36%, which illustrates the power of the neural technique used in Phish Block. PhishBlock antiphishing tool compares well with other lookup based and classifier based tools, providing an 95% accuracy and a very low false positives rate (0.1%). Equipped with dynamic lookup and neural networks based SVM, PhishBlock provides the basis of a stronger hybrid tool. This study suggests that systems relying solely on lookup mechanisms or classifier systems that utilize a small set of features are ineffective in combating phishing.

## FUTURE WORK

The results indicate that future work geared towards further improving the accuracy of anti-phishing tools is warranted. However, it is also imperative to improve methods for conveying tool warnings such that users are less likely to disregard recommendations. This is particularly important in the case of spoof websites, where perceived familiarity often trumps tool warnings. Future work focusing on warning and interface design issues is essential. Education is also necessary. Future work will consist in releasing components of the tools as an add-on for a Web browser such as Mozilla Firefox.

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## Impact of Digital Market on Consumer Buying Behaviour

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### ABSTRACT

*In the highly competitive market and technology advancement with the usage of internet it has shifted the traditional market to digital marketing strategies. Digital marketing grab wide area and in the highly competitive market it involve exploring business model using digital technologies which reduces cost and expand business globally. Today digital marketing have a greater scope of expanding their business in the future as customers are much more satisfied by doing online shopping as they find digital marketing much more safer than traditional marketing. Digital marketing provide opportunity to the customers to have a look on the information of the product provided by the company and can able to do comparison accordingly, so that they are able to enjoy right to choice and can place order at any time 24\*7 at any place. With the updated technologies and increase in the usage of internet engagement, interconnectivity of consumers is increasing day by day as a result of which consumer behaviour changed and organization should understand the behaviour of consumer. This research study analyse the impact of digital marketing on consumer buying behaviour. As a result digital marketing have positive impact on consumer buying behaviour, traditional marketing soon should be shifted to digital marketing.*

**Keywords:** Digital, Digitalization, Technology, Behaviour

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### INTRODUCTION

Digital Marketing refers to online marketing, internet marketing. Digital Marketing not only essential for grabbing wide area for marketing but it also equally essential for customers as it provide number of opportunity to talk directly with customers. In the highly competitive market and technology advancement with the usage of internet it has shift the marketing strategies to digital marketing strategies and the way of dealing with the customers with the passage of time. Day by day it increases the use of digital marketing as consumer gets wide variety of products not only with in particular geographical boundaries but from all over the entire world .The term digital marketing has become popular over period of time. Digital marketing market the product and services mainly on the internet but also on any digital medium like mobile phones. Marketing through digital medium it gives more satisfaction to the customers as they can ask queries and can also give suggestions related to any product and services. In digital market medium for communicating is much more convenient than traditional marketing as medium of communicating is mainly through website, chat, Email, etc. To expand and grow any business worldwide digital marketing is one of the fast way to develop as they use digital tools which makes marketing much easier. It reaches large number of customers from all over world in less number of time. Through analytics it is very easy to measure efficiency of a campaign where as in traditional marketing it is very difficult to measure efficiency of a campaign. In digital market it is very easy to make changes and update information continuously from time to time according to their goals and services and with the help of internet customers at any place and at any time can go through the given information which is beneficial for them.

Today online shopping like Myntra provide various brands and it becomes convenient for customers to shop at any time at any place by just downloading one app by using internet, it also provide 30 days exchange or return policy which increases satisfaction level in the customers. Today all most everyone rely on online shopping for each and every kinds of products weather it is grocery items or it is clothing , today everyone knows how to visit company website and refer to the particular product and make order of particular product and gives feedback. It is the right of each and every customers to get complete information related to every product nothing should be hidden from the customers as they can file complain for any product if they are cheated. With the other related products customers can make comparison and place order at any time according to their preferences , as digital marketing provides 24 hours services to the customers so that they can do shopping at any time whenever they are free . Now there is no need to take out time from busy schedule for the shopping as customers can do it at any time at any place without any fear as there is transparent pricing of the product and they can do comparison from many and buy product of least price. Today digital marketing have a greater scope of expanding their business in the future as customers are much more satisfied by doing online shopping as they find digital marketing much more safer than traditional marketing . Each and every income group of people do online shopping as there is different variety of products available at different prices and different payment methods also available which becomes more convenient for the customers to do online shopping. Today for every organization digital marketing becomes very crucial part in doing business as it not only increases profit margin of the organization but also expand the business globally. Customers become loyal towards product as they become more confident after getting each and every information of the product and they gives their feedback which generate good relationship between customers and sellers.

Digitalization play an important role in today's competitive market as it involve exploring business model using digital technologies which reduces cost and expand business globally . It not only benefited to customers but it also reduces the tension of organization as there is no fear of wear and tear or theft of goods as there is no fixed location of shop. It also ensures quality and reduces fraud as there is transparency in the business and there is highly competitive market so customers are free to make choice. There are various E-Commerce models such as:

- Business to Business E-Commerce (B2B) here both the parties engaged in the business. For example-myntra deals with various brands.
- Business to Customers (B2C) here buyers and sellers of products and services do online transactions. For example-online shopping.
- Customers to Customers (C2C) here both the buyer and sellers are individual. For example- In OLX both the parties involved are individual they sell the old product which is of no use to him digitally by using internet to the one who find it more useful.
- Business to Government (B2G) : It involve selling product and services to the government by using internet.

## REVIEW OF LITERATURE

**Kamlesh K Bajaj, Debjani Nag in their study on E-commerce stated (2016):-** E-Commerce was largely seen as the vehicle to propel and accelerate these changes. Now a days business and economics feel accepted that e-commerce is here to stay, new methods are tried and tested along with the novel methods for exploiting the internet to make business survive in highly competitive market place. With the new opportunities internet has created global digital economy. Through the process of consolidation it has graduated from new technology to a medium technology. E-Commerce transforms the paper transactions into electronic transactions which makes organization much easier.

**Dr.C.S. Rayudu in their study on E-Commerce E-Business titled (2016):-** From Electronic data interchange to e-commerce many changes has been seen. In the highly competitive market growth of the internet has created potential vision of the e-commerce. E-Commerce is nothing but a traditional business by using electronic means. A comprehensive change has been seen from Electronic Data Interchange to e-commerce. With the growth of internet has created the potential vision for Internet. Today traditional market becomes outdated now future depends on e-commerce, new way of doing market research and using new digital strategies. It involves all the process from buying to manufacturing and selling of goods by using Internet. It helps to build closer relationship between both the customers and the sellers and it also allows companies to be more flexible in their operations. For the companies all over the world internet is the global business platform. E-commerce is all

about increase speed, make product globalize, increase productivity and reaching to the new customers in less time.

**P.Sathya S.T.E.T Women's college in their study on A Study Of Digital Marketing And Its Impact (2015):-** Primary purpose of digital market is to understand the customers need and allows the customers to mix the product with virtue of digital media. Digital market allows customers to keep eyes on the information provided by the organization related to the product to the customers, it ensures transparency. With the help of internet customers can have a look on the information provided at any time

at any place and can make order while seating at home, as 24 hours services are provided by digital market to make purchases of any kind of product. Now consumers can easily do comparison on the bases of information given, customers have right to choice. Today almost every customer depend on digital market as it saves their time and most of them are most satisfied while shopping online. Online shopping is more safer for customers today the traditional shopping, each and every group of customers are aware of digital market today. Because of the availability of wide variety of products from all over the world customers feel that online shopping is more easy and less expensive as it eliminates channels in between. In the promotion of digital market, technical advancement is improving day by day. Digital marketing collect feedback of customers very easily and revert back quickly towards the problems of customers and also work on the suggestion provided. It ensures transparency on only before purchase but after purchase also. In the present market digital market have greater future as it has benefit for both customers and sellers.

**Andrew T. Stephen in their study on The role of digital and social media marketing in consumer behaviour titled (2015):-** Technology has become part of trillions of people today. For example In America current usage rate of internet is closer to 100% in coming years especially for higher education group and higher income group. Social media has become crucial part in the growth of usage of internet, as number of hours youth spent time on social media is almost double from last decades. In short today people are more attracted towards internet and social media. By using internet consumer search information provided by organization and makes comparison among others and then finally makes purchase decision and also share their experience with others. So it is very important today for the marketers to understand consumer behavior in digital market and shift to the digital marketing channels. Consumers use mobiles and mobile apps which play very important part of online shopping as consumers can search information by using their smart phones at any time and at anywhere.

### **Factors that are driving the evolution of Digital Marketing in today's times**

There are primarily 4 factors that are driving the evolution of Digital Marketing in today's times

#### **Technology**

With the usage of new technology in the digital marketing customer needs can be easily assessed. Social media is one of the biggest example of technology today, you can easily assess large number of customers at a time and discover and showcase the product in less time. By using marketing software one can easily track everything, for instance:

- You can easily define which social media bring most interaction with the customers.
- Track best time in a day to publish a blog post.
- Which area getting more customer attention and adopting that accordingly.
- Figure out which e-mail get the maximum click through the rate.
- Which page get most form submission.
- For your industry which layout seems to work best.
- Most searched keyword can be easily tracked and target that only.
- customers and potential customers profile can be easily buildup.

#### **Storytelling**

Today almost every business man use various ways to promote and differentiate the business from others. How to grab the attention of the customers and engage them. Content decided by the organization takes in the form of story that the audience can enjoy and easily communicate with the message you wants to give for your brand building. Various opportunities to create remarkable content are: showing online videos, quizzes and polls. Story telling also helps to build emotional relationship with the viewers and also helps to build the loyal customers. Storytelling drawn from four key elements:

- A beginning and an end: In story telling create the situation for the customers so that they invest in the storytelling then create tension and get the response from the customers.
- Emotions: Connecting emotionally with the storytelling build the emotional memories and pull the customers towards the product and also become loyal customers and they also build powerful connections with the brand.
- Authenticity: Story which represent your brand should be true this help the audience to build confidence.
- Relatability: Story must have good connection with the customers and they must be interested in it.

### **First Mover Advantage**

First-mover advantage (FMA) is the advantage gained by the initial ("first-moving") significant occupant of a market segment. It may be also referred to as technological leadership. A market participant has first-mover advantage if it is the first entrant and gains a competitive advantage through control of resources. With this advantage, first-movers can be rewarded with huge profit margins and a monopoly-like status. Not all first-movers are rewarded. If the first-mover does not capitalize on its advantage, its "first-mover disadvantages" leave opportunity for new entrants to enter the market and compete more effectively and efficiently than the first-movers; such firms have "second-mover advantage."

It also allows company to build strong brand recognition and product in the market and loyalty towards your product before other new company entrance.

Various Advantages for first mover in the market:

- Build brand loyalty and impression in the eye of customers.
- Trap new customers.
- Establish product as per the industry standard.
- Technology leadership
- Control strategies and scarce resources.

### **Mobile Focused Digital Marketing:**

Things which affect the digital marketing

- Website should be mobile friendly.
- Create more new videos.
- Create paid campaigns
- Live streaming to build good relationship with audience.

### **Need for digitalization**

The main stress behind this belief is to make full use of technologies which will be beneficial for society as it help in reducing work load and reduction of cost. Digitalization also ensure good quality of product available online which will increase the variety for the customers as they can go through any of seller of his or her choice from any corner of the country or outside the country. Digitalization also builds an image of enterprise as it is the key for competition which increases enterprise ability to play a greater role in international markets. Technologies are used for manufacturing, trade, learning, interaction with customers and many others it also helps in utilization of the raw material from distant locations.

### **Benefits of digitalization**

Digitalization play an important role in today's competitive world as it involve exploring business models using digital technologies which help in reduction of cost and expending business globally. There are various benefits of digitalization which are-

- It build good image of enterprise as technologies are key for competitiveness.
- Reduce wear and tear of product as they are not handled frequently.
- It saves time and reduces cost which will be beneficial for both customers and sellers.
- It ensures quality of product and reduces fraudulent activities as there is transparency.
- It improves business processes and strengthens competitive advantage.
- Access of information anywhere at any time of the day.
- Ability to increase the productivity of organization as market are broadly scattered.

### Traditional marketing vs. Digital Marketing

Marketing is an art and science of exploring, creating and delivering value to satisfy the needs of a target market at a profit. Marketing can be done through traditional as well as modern ways. Traditional marketing refers to any type of promotions, advertising, campaign that has been in use by companies for years. There are various methods of traditional marketing such as newsletters, billboards; flyers and newspaper print ads, broadcast, magazine and direct mail. Modern marketing or digital marketing is the marketing of products or services using digital technologies. The digital marketing can be done through internet, mobile phones or any other digital medium. It includes platforms like social media, blogs, pop ups, e mails and business networking sites. Traditional marketing is more costly than digital marketing. It took almost \$1800 to reach to 2000 customers through traditional marketing where as it took only \$125 to communicate with the customers through digital marketing. Thus it shows us that digital marketing helps us in reaching vast audience at a lower cost and even at a faster pace.

### IMPORTANCE OF DIGITAL MARKETING:

- **Growth opportunities for small business:-** One of the most important advantage of digital marketing is one can select any method for marketing as per the budget and can easily reach large number of audience at less cost. In traditional marketing launching any new product in the market is itself is very difficult task.
- **Convenience for the customers:-** Without setting local outlet marketer can easily market the product on the internet this eliminates the barriers of distance. Now without any spending on distributor channels in different country one can easily export business globally.
- **Less cost:-** Marketing product through retail outlet costs very high a compare to market product on the Internet. One should not have spent on maintenances of stores and on displaying products on the shops, as one can order as per the demand of the product.
- **Personalization of the customers:-** Through digital market customer needs are fulfilled effectively and efficiently, having faster and easy interaction with the customer apart from this it increases customer satisfaction for the product as they can easily make comparison between the products and make purchase decision accordingly.
- **Build good relationship with the customers:-** Internet helps to build good relationship between customers and marketer as it increases the customer retention level. It build a good communication with the customer from the point they purchase the product to the feedback related to the product and also solve the queries if the customers have any.
- **Instant Comparison between the products:-** Customers can easily do comparison between the products and then accordingly make purchase decision. Online marketing allow customers to make free choices of the product and the then take decision as per the satisfaction.
- **Clear Information available for the product:-** In digital marketing all the information are available openly displayed on the internet any customer can go through the information provided and make decision accordingly. On the Internet each and every information in detail are available whereas in retail shops very limited information are provided by the retailer only as per their knowledge.

### DISADVANTAGES

- **Highly reliant on Internet:-** Digital marketing highly depend on internet. Internet facility available only with good internet connections. We have become increasingly dependent on the Internet for things we need to maintain our normal life. If this trend continues, as most expect it will, we may not be able to survive so easily without the Internet.
- **Lack of trust:-** Customer lack trust on online advertisements some consider it fraud. This is one of the major drawbacks of digital market as when customers search for an particular product of a particular company many related competitive products appear on the home page of the same market strategies. This confuse the customers as many option are available to the and they find cheaper product of good quality.
- **Harm the image of brand:-** In the digital marketing duplicacy in the product increases as many product of the same kind are available. This results in customer start ignoring the branded products and go for the cheaper products.
- **Beneficial for only consumer goods:-** This is one of the practical drawback of the digital marketing as the industrial goods and pharmaceutical goods cannot be marketed through digital channels.

- **Lack of Digital literacy in the world:-** There is lack of awareness in many parts of the country, people living in the remote areas still not aware of the digitalization.
- **Unaffordable smartphones:-** When we talk about digital market first thing which come is there should be availability of smartphones. Lack of affordable smartphones results in utilization of the digital market technologies.
- **Increase in cybercrime in India:-** There is no specific measure of security for the cybercrime present in India. India is more prone to the cybercrime.
- **Problem of connectivity:-** India has thousands of villages but with no proper electricity supply, digitalization are far away from these areas. Due to which these villages remain unconnected with digital market.
- **Problem of down server:-** Problem of down server are always there in post digital and pre digital India.
- **Low internet speed:-** With the increase in the usage of internet problem of low internet speed is very common today. For instance- Earlier Airtel was said to be world fastest network but after introducing 4G internet speed and increase in usage of internet speed of internet became slow.

## CONCLUSION

It is very important to know the psychology of the consumers in the dynamic environment. Ever changing buying behavior of the consumers in the digitalized world should be understood properly to make the business sustainable. The revolutionized economy possesses many threats and challenges which are to be faced by the marketers today. People should be made more aware regarding the advantages of digitalized marketing. More efforts should be laid down to make digital marketing safe so that there is an increase in the market size.

The digitalization has brought positive change in behavior of consumers. The greater change can be seen in big cities and among working couples due to lack of time it is convenient for them to do buying, payments at any time anywhere. Also digitalization gives rewards to consumer in form of coupons, gift vouchers, discount, cash back, cash discount which motivates them to use digital transactions. At last to create awareness and increase the usage of digitalization there is need to have promotional campaigns, roads shows, workshops among costumers.

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## Design Intervention in Digital Marketing

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### ABSTRACT

*This paper introduces and discusses key issues related to Digital marketing operations as it involves the implementation of capabilities, processes, structures, and technologies to cost-effectively exploit and scale the interactivity, targeting, personalization, and optimization of digital channels. Digital marketing evolved in the form of website, contact information on the website and then emerging through blogs, inclining to having their own consumer forums in their own domain. It presents a stupendous opportunity to engage consumers, but precious few companies have realized its full potential. In the US, spending on digital advertising in 2017 is on track to surpass spending on television advertising. Globally, certain markets devote more than 40% of their media advertising budget to digital marketing, according to media company Magna. Successful companies are also modifying their ways of working. Classic marketing techniques—including broad segmentation, lockstep campaigns with multiple handovers, and marketing funnels through which all consumers move in tandem. Through the use of digital marketing strategies, firms have not only been able to identify and target market needs accurately, but deliver information to clients real time. Looking ahead, it can be expected that marketing strategy and marketing operations will be even more broadly integrated and blended in the Internet-enabled market environment in the future. This paper shows that firms face internal and external pressures to adopt a digital presence in social media platforms. Firms' digital marketing engagement can be categorized according to perceived benefits and digital marketing usage. By transforming marketing today, companies will reap the rewards for years to come. Emerging from the key findings, a Digital Marketer Model was developed, highlighting the key competencies and skills needed by an excellent digital marketer.*

**Keywords:** *Broad segmentation-* Dividing a broad consumer or business market, *Marketing Funnels:* A theoretical customer journey towards the purchase of a product or service. , *Tandem:* working together, especially well or closely. *Cost- effective.:* producing good results without costing a lot of money.

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### INTRODUCTION TO DIGITAL MARKETING

Digital marketing is the marketing of products or services with the help of digital media, mainly on the Internet, but also including mobile phones, display advertising, mainstream television, etc . The development of digital marketing since the 1990s and 2000s, as this was the time when the whole of the world and India majorly witnessed the changes due to the economic policies like, Liberalization, Privatization and Globalization had come up for injecting growth and development in the veins of the nation, particularly. This led to change in the way brands and businesses used technology for marketing. As digital platforms are increasingly incorporated into marketing plans and everyday life, and as people use digital devices instead of visiting physical shops, digital marketing campaigns started becoming more prevalent and efficient. Digital marketing evolved in the form of website, contact information on the website and then emerging through blogs, inclining to having their own consumer forums in their own domain. Then on crossing it's boundaries and giving birth to the special cells or in the form of an secondary websites which only involved user interaction and proved as getting popular user response which served as a purpose for more companies/enterprises. Digital marketing methods such as search engine optimization (SEO), search engine marketing (SEM), content marketing, influencer marketing,

content automation, campaign marketing, data-driven marketing, e-commerce marketing, social media marketing, social media optimization, e-mail direct marketing, display advertising, e-books, and optical disks and games are becoming more common in our advancing technology. In fact, digital marketing now extends to non-Internet channels that provide digital media, such as mobile phones (SMS and MMS), callback, and on-hold mobile ring tones. This technique is also used in promoting and widespread campaigning for not only marketing but also social causes. Some local groups and many housing societies use this method for their social purposes. For instance, recently there was a major networking conduction with these SMS/MMS to spread the awareness about the movement for the social purpose of joining all the rivers of the nation. The movement got popular on a larger scale through promotions on digital media. Celebrities too got involved for the cause and joined hands in succession for the project to be proposed to the Government. Here also many artists and cartoonists joined to prepare new design campaigns or devising illustrations in favor of the movement.

There are many examples like that, for e.g., the person who is involved or the individual behind such campaigns also indirectly market or advertise itself because the companies get to know and witness about such individuals very rapidly and they capture such persons for their own purpose. It can be only possible by merging their analytical data, general information and creative concepts and content with the design mediums visually and present to the general public.

**The distinctions of Digital Marketing are as follows:**

1. SEM
2. App Development
3. Web Design
4. SEO
5. Video Production
6. Email Marketing
7. Content Marketing
8. Social Media
9. Branding, as seen in Img(1)



**Img(1). Types of Digital Marketing**

It is clearly visible from the above given visual {Img(1)} that design is not only incorporated with digital marketing but its types also matches with the distinctions of digital marketing. Like,

1. Web Design
2. Video Production
3. Content
4. Branding

**PURPOSE OF DESIGN**

The intervention of design plays a major role as design has its way beyond the aesthetic issue, design contributes to the identification of leads with your product and has a direct impact on the customer's buying decision, because the level of service an individual/company renders to its customers should also be expressed

in the marketing it does for itself. For e.g., the marketing should be done in a proper way by generating proper content, analytical data and figuring out concept which will be served to the public. Many times, the concern of visual identity is put aside because it is believed that Design is superfluous, only responsible for making things more “beautiful”, which isn't go in support with the actual fact. Instead, working with design makes way to customize, play and experiment through the content and is an essential element to start a dialogue with your target audience, generate recognition and identification with your product. When, in fact, design is responsible for the technical aspects that make the blog post, document or any other graphic piece more pleasant to reading, directing it more clearly and intuitively to the audience. Along with copy, design is a part of the front line of your campaign and product: these two elements, combined, make the interface producer-buyer or affiliate-buyer. Here, by using the phrase front line, we refer to tagline of the campaign/product. And we know how much a visual identity and a text, with which you identify, which talks to you, can influence the buying decision. But, even though the designer's work is very important and irreplaceable, you don't need to be a professional to create graphic pieces that generate sales and conversion.

Marketing operations is certainly not the amazing part of marketing, but it is becoming the most important one. With businesses unable to keep pace with evolving consumer behavior and the marketing landscape, the pressure is on to put marketing operations—skilled people, efficient processes, and supportive technology AND EFFECTIVE COMMUNICATION STRATEGY MOST IMPORTANTLY—in a position to enable brands to not just connect with customers but also shape their interactions. The word design may appear to be hammered highly but it's not the fact.

Just assume a particular way, if any enterprise or company tries to launch a very unique or special product or a service, then it should also have a proper communication strategy to capture the audience's attention because first an individual's actions should be directed towards the aim to build audience's then to turn them into customers and that to potential customers.

The following is achieved by building up a communication strategy which makes the task clear for the person who is executing the tasks for promotion, so that the deliverables could be planned out properly. It's the same way first the individual should be clear for achieving successful communication between him/her to create audience of it's brand. To do this particulars for the following like screens can be arranged and placed at locations where the launch event is being conducted to display information about the brand and the product by displaying short clippings, subtle info graphics or by organizing a new media interaction. When done well, we've seen marketing operations provide a 15 to 25 percent improvement in marketing effectiveness, as measured by return on investment and customer-engagement metrics. Yet achieving that level of improvement is elusive for many. While marketers are embarking on a wide array of “digital transformations” to reshape their operations and business models, many of these efforts are stymied by marketing's difficulty in delivering on its aspirations. For example, one recent survey found an astonishing 84 percent of marketers do not have a formal content strategy or distribution process to feed their growing bevy of marketing channels, and they lack any kind of formally managed content supply chain.<sup>1</sup> Despite this, content budgets continue to increase. This situation played out at one global consumer-products company, which saw year-over-year content spending rise by more than 25 percent as a result of its efforts to become more customer-centric. There was, however, no unifying strategy, governance, or system to create cohesion, reuse assets, or measure effectiveness across the company's complex supply chain, which consisted of dozens of agencies, production companies, and media partners, producing material for websites, blogs, YouTube, social media, mobile, and customer-relationship management. Establishing a center-of-excellence function to develop and manage a consistent content operating model across divisions resulted in transparency, new governance, and improved processes. That cut the time to generate content, stopped the growth in costs, and brought new discipline into managing the impact of content. As a result, marketing return on investment has improved by more than 20 percent.

## **USAGE OF MODERN DESIGN TECHNIQUES IN DIGITAL MARKETING**

### **Projection Mapping**

The official term is actually 3D projection mapping, which is a complex system of creating “three-dimensional points to two-dimensional plane” or, more simply, the projection is created in such a way, that 3D illusion is created, rather than a static, flat display.

### **Defination**

Projection mapping, also known as video mapping and spatial augmented reality, is a projection technology used to turn objects, often irregularly shaped, into a display surface for video projection. These objects may be complex industrial landscapes, such as buildings, small indoor objects or theatrical stages. By using specialized software, a two- or three-dimensional object is spatially mapped on the virtual program which mimics the real

environment it is to be projected on. It is one of the greatest mediums in executing any concept whether, say Digital Marketing or anything else, as shown in *Img(2)*, *Img(3)* and *Img(4)*.

**Img(2)**



**Img(3)**



**Img(4)**

*Img(2)*, *Img(3)* and *Img(4)* are some of the visuals from the video projection mapping from Sydney Opera House Projection Mapping Chase

Digital marketing and advertising isn't just restricted to the internet – digital, in essence, is technology driven - and projection mapping is no exception, given that it goes far beyond simply casting light onto a flat surface. It's a complex, software-driven process that marries together engaging advertising with cutting-edge technology, something that have been covered off previously.

### **Description**

Projection mapping first came to prominence through guerrilla advertising campaigns and video jockeys for electronic musicians. Large companies such as Nokia, Samsung, Unilever Pakistan, Pakistan Tobacco Company, Bank Alfalah, Brighto Paints, Benson & Hedges, John Players Gold Leaf and BMW have since used video projections to create campaigns for their products in major cities across the world. These advertising campaigns commonly use mapping techniques to project scenes onto the sides of buildings. Projection mapping can also be interactive, as Nokia Ovi Maps did a project in which the projections would mimic people's movements. Projection mapping has been used at conferences as a means of decoration or immersing audience members in an experienced-based theme. This can be as elaborate as projecting onto a flat surface, or projecting onto an unusual object such as a car or a chair. The festival Fête des Lumières in Lyon, a festival to honor the Virgin Mary, has recently also started incorporating 3D mapping into their productions, creating the illusion of a giant pinball machine on the side of a building. Common techniques for these performances included both 3-D mapping techniques and 3D projection to create the illusion of depth, as well as motion such as crumbling

buildings. In the electronic dance music (EDM) community, it is becoming increasingly common for DJs to accompany their music with synced visuals. Though normal projection screens are commonly used, some visual artists are beginning to create custom made, 3D installations to project onto. Many EDM artists employ projection mapping techniques at many of their shows. Artists who are solely visual also use projection mapping as a means of creative expression, believing that it can enhance existing creative mediums such as painting and drawing. Artists may use it as an avant garde form of expression as it is new technology that can turn their creative ideas into 3D projections, connecting with audiences in a new way. Video projections have appeared in urban centers such as New York City and London, where artists have used guerilla projections in public without any necessary approval. This way, artists can show their work in any location as anything and anywhere can be a canvas. Often people also use it as a means of activism; the group Occupy Wall Street has used it to project onto the Verizon Wireless building in New York City as a means to visually spread the word that Occupy Wall Street is still alive. Recently, projection mapping has been used more and more frequently by Walt Disney Imagineering and Walt Disney Creative Entertainment in the Disney Parks. Examples of this include, but are not limited to, The Magic, the Memories and You, Disney Dreams!, Celebrate the Magic, Once Upon a Time, Disneyland Forever, Happily Ever After (Magic Kingdom and most recently Sunset Seasons Greetings at Disney's Hollywood Studios.

### Ambient Media

Ambient media are out-of-home products and services determined by some as non-traditional or alternative media. Examples are messages on the backs of car park receipts, on hanging straps in railway carriages, posters inside sports club locker rooms and on the handles of supermarket trolleys. It also includes such techniques as projecting huge images on the sides of buildings, or slogans on the gas bags of hot air balloons.



Img(5)



Img(6)

### Some examples of ambient media

#### Defination

Ambient media in a larger scale define the media environment and the communication of information in ubiquitous and pervasive environments.

The concept of ambient media relates to ambient media form, ambient media content, and ambient media technology. These new technologies are based on ambient intelligent technology and create new possibilities in ambient advertising. Its principles are manifestation, morphing, intelligence, and experience and have been defined by Artur Lugmayr and its business models are described in Multimedia Tools and Applications.

#### Description

Ambient advertising, as per many advertising agencies, also refers to advertising at locations where people spend more time. These include shopping malls, multiplexes, coffee shops, gyms, sporting clubs, amusement parks, etc. These advertising formats can be static, digital or experiential. Ambient advertising uses 'consumer dwell time' as the core insight behind advertising at these places. It is believed that compared to traditional out-of-home of billboard advertising, ambient advertising gives scope for higher consumer engagement for the ad, as well as drive contextually relevant communication for the advertiser.

This technique supports both dimensions of marketing and design because the purpose is marketing and applicational form is design. But the main media, "Digital" is absent here so nowadays professional tend to make films, videos and photographs and tend to play and experiment to explore the boundaries to understand and execute the concept at a larger level.

## **THE FUTURE OF DIGITAL MARKETING AND GRAPHIC DESIGN**

AI is taking over many of the some of the more mundane design tasks, including color palette creation, color and image matching, font design, and even layout design. The guys over at thegrid.io are fixing to put a hurt on all of the designers who aren't adapting to the new age of design. This doesn't mean that design is going extinct, quite the contrary. It will forever be entwined with marketing, and that one day soon we will witness the extinction of the designers who didn't adapt to the change (much like how the Neanderthals lost out to the Home Sapiens some 40,000 years ago). And on the flip side, there is no more "marketing" school without classes in Photoshop or the like. If you're a digital marketer and you can't change an image's resolution, shrink for web use, or crop the image to fit a different social platform, you aren't a digital marketer. On the other hand, if you are graphic designer and you don't know the first thing about how to fashion a CTA button that stands out, or to create a design that solves a problem effectively, you won't have a job for long.

## **VISUAL COMMUNICATION & GRAPHIC DESIGN**

### **Visual Communication**

Both graphic design and digital media design encompass media development disciplines, but what does this mean? Essentially, these two fields set out to create forms of visual communication media that often relate an idea, image or brand to an audience. Visual communication is communication through a visual aid and is described as the conveyance of ideas and information in forms that can be read or looked upon. Visual communication in part or whole relies on vision, and is primarily presented or expressed with two-dimensional images, it includes: signs, typography, drawing, graphic design, illustration, industrial design, advertising, animation colour and electronic resources. It also explores the idea that a visual message accompanying text has a greater power to inform, educate, or persuade a person or audience to make an impact.

### **Digital Media Design**

Digital media designers are generally trained in motion graphics, screenwriting, video editing, digital audio production and video production. While some graphic design lessons can be taught to digital media designers, most of these professionals are versed in animation or motion graphics of some kind. Courses for digital media designers often include web design, digital imaging, screenwriting and media production. Digital media designers create their products in a digital or electronic format as opposed to graphic designers, who apply graphic imaging to both digital and tangible platforms. Digital media often appears in the guise of a digital magazine or e-book; rather than being designed as a digital replica of print material, the product is created from scratch to be accessed on a digital platform.

## **CONCLUSION**

The digital marketing field is growing fast, and what it means to be a digital marketer is changing at an alarming rate. Technological advancements in this new industry have created an accelerated environment, where what was true last month may not remain true in the next. We know that the future of the industry is heading towards hyper connectivity, hyper-focused marketing, and hyper-relevant content, and as we bear witness over the next 30 years of THE GRAND DIGITAL MARKETING CONVERGENCE, we will see many changes in the definition of what it means to be a marketer, designer, SEO consultant, media buyer, social media manager and countless other job titles commonly associated with this industry. The first "convergence" has already begun, and it starts with the melding of digital marketing and graphic design. These industries have become inseparable; a digital marketer can't do their job well without using some sort of image, infographic, or video, and a graphic designer can't make a good image, infographic, or video, without understanding how it will be marketed. Even if the differences between marketing and design were palpable a year ago, these sentiments are no longer true today. So, no matter what side of the fence you may be on, if you don't possess the skillsets required by both fields, you will soon be left in the dust.

The reason behind the facts mentioned above is as follows-

- No one actually likes reading... almost no one. Put a book next to a TV and see how often the book wins.
- Every good blog post needs a captivating image.

- Every good social media post needs an image that evokes a call to action.
- Every good web page needs images that portray the purpose of the page.
- Call to action buttons and lead generation forms are now being designed instead of looking like an excel spreadsheet.
- Information overload means that we are literally all competing for attention in the same marketplace, i.e., the internet.
- The best image wins the attention war.
- Even videos get more engagement when they start with a captivating image.
- Every captivating image requires the designer to take into account its target audience.
- Images are becoming “interactive” through social sharing, incorporating calls-to-action, incorporating flow charts, etc.

Luckily, businesses like Canva are making the image creation process super easy for marketers, but you still need some design talent in order to build that perfect Canva creation.

And for calls to action, as an embedded sidebar form from Opt-in Monster or a lightbox popup from LeadPages can be used. Both of these tools make it easier for a marketer to design something a little bit better than a cookie cutter form, but require a designer’s eye to perfect. Stock images are a band-aid, used for hiding the wound that is a missing designer and a lack of caring about your own content. Since the agency is literally founded by a digital marketer who wants to be a better designer, and a designer who wants to be a more effective marketer, several mistakes had been noticed on a consistent basis.

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## Technical Security Issues in Cloud Computing

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### ABSTRACT

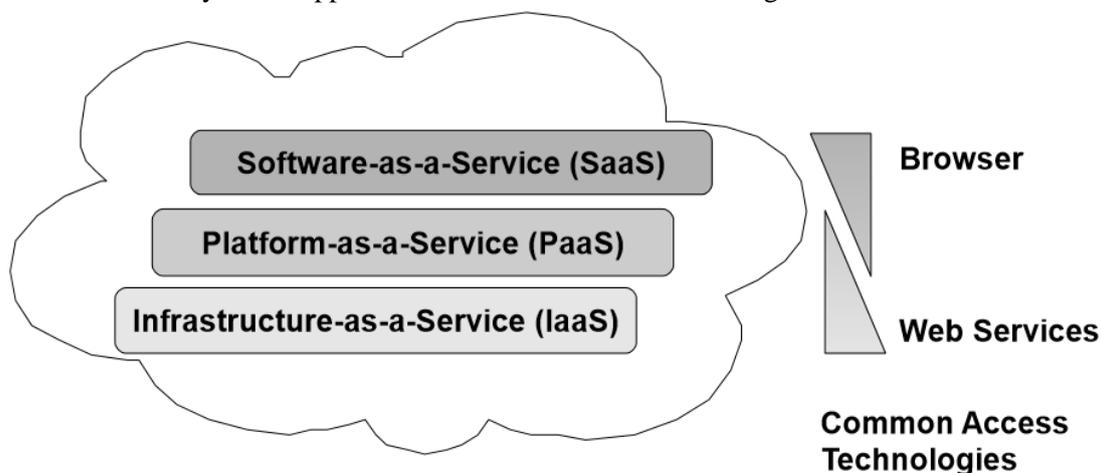
The Cloud Computing concept offers dynamically scalable resources provisioned as a service over the Internet. Economic benefits are the main driver for the Cloud, since it promises the reduction of capital expenditure (CapEx) and operational expenditure (OpEx). In order for this to become reality, however, there are still some challenges to be solved. Amongst these are security and trust issues, since the user's data has to be released to the Cloud and thus leaves the protection sphere of the data owner. Most of the discussions on this topic are mainly driven by arguments related to organisational means. This paper focuses on technical security issues arising from the usage of Cloud services and especially by the underlying technologies used to build these cross-domain Internet-connected collaborations.

**Keywords:** Cloud Computing, Security, XML, Cloud Services, TSL

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### INTRODUCTION

The new concept of Cloud Computing offers dynamically scalable resources provisioned as a service over the Internet and therefore promises a lot of economic benefits to be distributed among its adopters. Depending on the type of resources provided by the Cloud, distinct layers can be defined (see Figure 1). The bottom-most layer provides basic infrastructure components such as CPUs, memory, and storage, and is henceforth often denoted as Infrastructure-as-a-Service (IaaS). Amazon's Elastic Compute Cloud (EC2) is a prominent example for an IaaS offer. On top of IaaS, more platform-oriented services allow the usage of hosting environments tailored to a specific need. Google App Engine is an example for a Web platform as a service (PaaS) which enables to deploy and dynamically scale Python and Java based Web applications. Finally, the top-most layer provides it users with ready to use applications also known as Software Figure.



**Fig 1. Cloud layers and access technologies**

Software as-a-Service (SaaS). To access these Cloud services, two main technologies can be currently identified. Web Services are commonly used to provide access to IaaS services and Web browsers are used to access SaaS applications. In PaaS environments both approaches can be found.

All of these layers come with the promise to reduce first of all capital expenditures (CapEx). This includes reduced hardware costs in the IaaS layer and reduced license costs in all layers. Especially in the IaaS layer it is not required anymore to engineer the own data center for peak performance cases, which occur in general very seldom and which usually result in a poor utilization of the available resources. Additionally, reductions of the operational expenditures (OpEx) in terms of reduced hardware, license and patch management are promised as well. On the other hand, along with these benefits, Cloud Computing also raises severe concerns especially regarding the security level provided by such a concept. Completely relying the own data and execution tasks to an external company, eventually residing in another country with a different regulatory environment, may cause companies not to consider Cloud Computing but to stick to the conventional local data center approach. Although there is a clear demand for in-depth discussion of security issues in Cloud Computing, the current surveys on Cloud security issues focus primarily on data confidentiality, data safety and data privacy and discuss mostly organizational means to overcome these issues [1]. In this paper, we provide an overview on technical security issues of Cloud Computing environments. Starting with real-world examples of attacks performed on Cloud computing systems (here the Amazon EC2 service), we give an overview of existing and upcoming threats to Cloud Computing security. Along with that, we also briefly discuss appropriate countermeasures to these threats, and further issues to be considered in future research on the way to a secure, trustworthy, reliable, and easily applicable Cloud Computing world. The paper is organized as follows. In the next section, we outline the major technologies used in the context of Cloud Computing and security. Then, in Section 3, we provide a set of security-related issues that apply to different Cloud Computing scenarios. Each issue is briefly described and complemented with a short sketch on countermeasure approaches that are both sound and applicable in real-world scenarios. The paper then concludes in Section 4, also giving future research directions for Cloud Computing security.

### Foundations

Various distinct technologies are used and combined to build Cloud Computing systems. Depending on the type of Cloud—either IaaS, PaaS or SaaS as defined above—the access technologies can vary from serviceenabled fat clients to Web browser-based thin clients. This section provides some required foundations in order to set the fundament for the subsequently introduced and discussed security issues.

### WS-Security

The most important specification addressing security for Web Services is WS-Security, defining how to provide integrity, confidentiality and authentication for SOAP messages. WS-Security defines a SOAP header (Security) that carries the WS-Security extensions. Additionally, it defines how existing XML security standards like XML Signature and XML Encryption are applied to SOAP messages.

XML Signature allows XML fragments to be digitally signed to ensure integrity or to proof authenticity. The XML Signature element has the following (slightly simplified) structure:

```
<Signature>
<SignedInfo>
<CanonicalizationMethod
Algorithm="..."/>
<SignatureMethod Algorithm="..."/>
<Reference URI="..." >
<DigestMethod Algorithm="...">
<DigestValue>...</DigestValue>
</Reference>
</SignedInfo>
<SignatureValue>...</SignatureValue>
</Signature>
```

The signing process works as follows: For every message part to be signed a Reference element is created and this message part is canonicalized and hashed. The resulting digest is added into the Digest Value element and a reference to the signed message part is entered into the URI attribute. Finally the SignedInfo element is canonicalized and signed. The result of the signing operation is placed in the SignatureValue element and the Signature element is added to the security header.

XML Encryption allows XML fragments to be encrypted to ensure data confidentiality. The encrypted fragment is replaced by an EncryptedData element containing the ciphertext of the encrypted fragment as content.

**TLS: Transport Layer Security** [2] has been introduced, under its more common name "Secure Sockets Layer (SSL)", by Netscape in 1996. It consists of two main parts: The Record Layer encrypts/decrypts TCP data streams using the algorithms and keys negotiated in the TLS Handshake, which is also used to authenticate the server and optionally the client. Today it is the most important cryptographic protocol worldwide, since it is implemented in every web browser. TLS offers many different options for key agreement, encryption and authentication of network peers, but most frequently the following configuration is used:

- The Web server is configured with a X.509 certificate that includes its domain name. This certificate must be issued from a "trusted" certification authority (CA), where "trusted" means that the root certificate of this CA is included in nearly all Web browsers.
- During the TLS Handshake, the server sends this certificate to the browser. The browser checks that the certificate comes from a "trusted" CA, and that the domain name in the certificate matches the domain name contained in the requested URL. If both checks succeed, the browser continues loading the Web page. If there is a problem, the human user is asked for a (security) decision.
- The browser itself remains anonymous within this TLS configuration. To authenticate the user, most commonly a username/password pair is requested by the server through an HTML form.

This TLS configuration worked fine for all Web applications, until the first *Phishing* attacks surfaced in 2004. In a Phishing attack, the attacker lures the victim to a fake Web page (either using spoofed emails or attacks on the DNS), where the victim enters username and password(s). This is possible even with TLS, since the human user fails to verify the authentication of the server via TLS [3].

### Cloud Computing Security Issues

In the following, we present a selection of security issues related to Cloud Computing. Each issue is explained briefly and accompanied with a short discussion on potential or real-world measured impacts.

**a) XML Signature:** A well known type of attacks on protocols using XML Signature for authentication or integrity protection is XML Signature Element Wrapping [4] (henceforth denoted shortly as wrapping attack). This of course applies to Web Services and therefore also for Cloud Computing.

Since the discovery of wrapping attacks by McIntosh and Austel in 2005 a number of further variations, countermeasures and again attacks circumventing these countermeasures have been published. For example, in [5] a method – called *inline approach* – was introduced to protect some key properties of the SOAP message structure and thereby hinder wrapping attacks, but shortly later in [6] it was shown how to perform a wrapping attack anyhow. However, mostly due to the rare usage of WS Security in business applications these attacks remained theoretical and no real-life wrapping attack became public, until in 2008 it was discovered that Amazon's EC2 services were vulnerable to wrapping attacks [7].

**b) Browser Security:** In a Cloud, computation is done on remote servers. The client PC is used for I/O only, and for authentication and authorization of commands to the Cloud. It thus does not make sense to develop (platform dependent) client software, but to use a universal, platform independent tool for I/O: a standard Web browser. This trend has been observed during the last years, and has been categorized under different names: Web applications, Web 2.0, or Software-as-a-Service (SaaS).

Modern Web browsers with their AJAX techniques (JavaScript, XMLHttpRequest, Plugins) are ideally suited for I/O, But what about security? A partial answer is given in [8], where different browser security policies (with the notable exception of TLS) are compared for the most important browser releases. With a focus on the Same Origin Policy (SOP), this document reveals many shortcomings of browser security. If we additionally take into account TLS, which is used for host authentication and data encryption, these shortcomings become even more obvious. Web browsers can not directly make use of XML Signature or XML Encryption: data can only be encrypted through TLS, and signatures are only used within the TLS handshake. For all other cryptographic data sets within WS-Security, the browser only serves as a passive data store. Some simple workarounds have been proposed to use e.g. TLS encryption instead of XML Encryption, but major security problems with this approach have been described in the literature and working attacks were implemented as proofs-of concept. Our goal is to propose provably secure solutions using TLS, but at the same time encourage the browser community to adapt XML based cryptography for inclusion in the browser core.

**The Legacy Same Origin Policy:** With the inclusion of scripting languages (typically JavaScript) into Web pages, it became important to define access rights for these scripts. A natural choice is to allow read/write operations on content from the same *origin*, and to disallow any access to content from a different origin. This is exactly what the legacy Same Origin Policy does, where origin is defined as “the same application”, which can be defined in a Web context by the tuple (*domain name, protocol, port*). There are many special cases where problems with the SOP occur, but this could be solved if the basic definition of “origin” was sound. Unfortunately, for a distributed application like the WWW, this definition is not sound. In 2008, Dan Kaminski showed that Domain Name System (DNS) caches can easily be “poisoned”, i.e. filled with bogus data [9]. Since the DNS heavily relies on caching, domain names become unreliable. This attack could only be fixed outside the DNS protocol, by using UDP source port randomization, to achieve a moderate level of reliability. Other severe security problems with DNS have been described in the area of home routers [10], and in the end this attack vector renders all content loaded via an URL to be unreliable unless they are secured by other means.

For Web applications with high security requirements, TLS has been used for a long time to protect both data during transport, and to authenticate the server domain name. Problems with this naive approach became apparent with the advent of Phishing attacks for online banking.

**Attacks on Browser-based Cloud Authentication:** The realization of these security issues within browser-based protocols with Cloud Computing can best be explained using Federated Identity Management (FIM) protocols: Since the browser itself is unable to generate cryptographically valid XML tokens (e.g. SAML tokens) to authenticate against the Cloud, this is done with the help of a trusted third party. The prototype for this class of protocols is Microsoft’s Passport [11], which has been broken by Slemko [12]. If no direct login is possible at a server because the browser does not have the necessary credentials, an HTTP redirect is sent to the Passport login server, where the user can enter his credentials (e.g. username/password). The Passport server then translates this authentication into a Kerberos token, which is sent to the requesting server through another HTTP redirect. The main security problem with Passport is that these Kerberos tokens are not bound to the browser, and that they are only protected by the SOP.

If an attacker can access these tokens, he can access all services of the victim. Whereas Passport used a REST type of communication, its successors MS Card space and the SAML family of protocols definitively belong to the world of Web Services. However, the same security problems persist: Groß [13] analyzed SAML browser profiles, and one of the authors of this paper described an attack on MS Cardspace [14], [15], which can also be applied to the SAML browser profiles (both token and artefact profiles). To resume: Current browser-based authentication protocols for the Cloud are not secure, because (a) the browser is unable to issue XML based security tokens by itself, and (b) Federated Identity Management systems store security tokens within the browser, where they are only protected by the (insecure) SOP.

**Secure Browser-based Authentication:** However, the situation is not hopeless: If we integrate TLS and SOP in a better way, we can secure FIM protocols. In previous work, we identified four methods to protect (SAML) tokens with the help of TLS.

- **TLS Federation** [16]. In this approach, the SAML token is sent inside an X.509 client certificate. The SAML token thus replaces other identification data like distinguished names. The certificate has the same validity period as the SAML token.
- **SAML 2.0 Holder-of-Key Assertion Profile** [17]. Here again TLS with client authentication is used, but the client certificate does not transport any authorization information. Instead, the SAML token is bound to the public key contained in this certificate, by including this key in a Holder-of-Key assertion. For a more detailed analysis on the security improvements and requirements of this approach see [18].
- **Strong Locked Same Origin Policy** [19]. Whereas the previous approaches relied on the server authenticating (in an anonymous fashion) the client, in this approach we strengthen the client to make reliable security decisions. This is done by using the server’s public key as a basis for decisions of the Same Origin Policy, rather than the insecure Domain Name System.
- **TLS session binding.** By binding the token to a certain TLS session, the server may deduce that the data he sends in response to the SAML token will be protected by the same TLS channel, and will thus reach the same (anonymous) client who has previously sent the token.

**Future Browser Enhancements:** Even with the workarounds using TLS, the browser is still very limited in its capacities as an authentication centre for Cloud Computing. Whereas many Web Service functionalities can be added within the browser by simply loading an appropriate JavaScript library during runtime (e.g. to enable the

browser to send SOAP messages), this is not possible for XML Signature and Encryption, since the cryptographic keys and algorithms require much higher protection<sup>2</sup>. Therefore it would be desirable to add the following two enhancements to the browser security API:

- **XML Encryption:** Here standard APIs could easily be adapted, because only a byte stream has to be encrypted/decrypted, and no knowledge of XML is necessary. However, a naming scheme to access cryptographic keys “behind” the API must be agreed upon. DOM or (mostly) SAX based processing of XML data can be handled by a JavaScript library, since the decrypted data will be stored in the browser and is thus in any case accessible by a malicious (scripting) code.
- **XML Signature:** This extension is non-trivial, because the complete XML Signature data structure must be checked inside the API. This means that the complete <ds:Signature> element must be processed inside the browser core, including the transforms on the signed parts, and the two-step hashing. In addition, countermeasures against XML wrapping attacks should also be implemented.

### Cloud Integrity and Binding Issues

A major responsibility of a Cloud Computing system consists in maintaining and coordinating instances of virtual machines (IaaS) or explicit service implementation modules (PaaS). On request of any user, the Cloud system is responsible for determining and eventually instantiating a free-to-use instance of the requested service implementation type. Then, the address for accessing that new instance is to be communicated back to the requesting user. Generally, this task requires some metadata on the service implementation modules, at least for identification purposes. For the specific PaaS case of Web Services provided via the Cloud, this metadata may also cover all Web Service description documents related to the specific service implementation. For instance, the Web Service description document itself (the WSDL file) should not only be present within the service implementation instance, but also be provided by the Cloud system in order to deliver it to its users on demand. Most of these metadata descriptions are usually required by any user prior to service invocation in order to determine the appropriateness of a service for a specific purpose. Additionally, these descriptions also represent some preliminary service identifiers, as assumable service implementations with identical WSDL descriptions provide the same functionality. Thus, these metadata should be stored outside of the Cloud system, resulting in a necessity to maintain the correct association of metadata and service implementation instances.

**Cloud Malware Injection Attack.** A first considerable attack attempt aims at injecting a malicious service implementation or virtual machine into the Cloud system. Such kind of *Cloud malware* could serve any particular purpose the adversary is interested in, ranging from eavesdropping via subtle data modifications to full functionality changes or blockings. This attack requires the adversary to create its own malicious service implementation module (SaaS or PaaS) or virtual machine instance (IaaS), and add it to the Cloud system. Then, the adversary has to trick the Cloud system so that it treats the new service implementation instance as one of the valid instances for the particular service attacked by the adversary. If this succeeds, the Cloud system automatically redirects valid user requests to the malicious service implementation, and the adversary’s code is executed. A promising countermeasure approach to this threat consists in the Cloud system performing a service instance integrity check prior to using a service instance for incoming requests. This can e.g. be done by storing a hash value on the original service instance’s image file and comparing this value with the hash values of all new service instance images. Thus, an attacker would be required to trick that hash value comparison in order to inject his malicious instances into the Cloud system.

**Metadata Spoofing Attack:** As described in [20], the *metadata spoofing attack* aims at maliciously reengineering a Web Services’ metadata descriptions. For instance, an adversary may modify a service’s WSDL so that a call to a deleteUser operation syntactically looks like a call to another operation, e.g. setAdminRights. Thus, once a user is given such a modified WSDL document, each of his deleteUser operation invocations will result in SOAP messages that at the server side look like—and thus are interpreted as—invocations of the setAdminRights operation. In the end, an adversary could manage to create a bunch of user logins that are thought to be deleted by the application’s semantics, but in reality are still valid, and additionally are provided with administrator level access rights. For static Web Service invocations, this attack obviously is not so promising for the adversary, as the task of deriving service invocation code from the WSDL description usually is done just once, at the time of client code generation. Thus, the attack here can only be successful if the adversary manages to interfere at the one single moment when the service client’s developer leeches for the service’s WSDL file. Additionally, the risk of the attack being discovered assumable is rather high, especially in the presence of sound testing methods. These restrictions tend to fall away in the Cloud Computing scenario. As the Cloud system itself has some kind of WSDL repository functionality comparable to a UDDI registry

[21], new users most assumable will gather for a service's WSDL file more dynamically. Thus, the potential spread of the malicious WSDL file—and thus the probability for a successful attack—rises by far. Similar to the hash value calculation discussed for the Cloud malware injection attack, in this scenario a hash-based integrity verification of the metadata description files prior to usage is required. For instance, an XML digital signature performed on the WSDL by the original service implementer would ensure its integrity. If the WSDL is additionally extended with a hash value on the service instance's image file, this also ensures a cryptographically strong binding between the WSDL and the original service image.

### **Flooding Attacks**

A major aspect of Cloud Computing consists in outsourcing basic operational tasks to a Cloud system provider. Among these basic tasks, one of the most important ones is server hardware maintenance. Thus, instead of operating an own, internal data center, the paradigm of Cloud Computing enables companies (users) to *rent* server hardware on demand (IaaS). This approach provides valuable economic benefits when it comes to dynamics in server load, as for instance day-and-night cycles can be attenuated by having the data traffic of different timezones operated by the same servers. Thus, instead of buying sufficient server hardware for the high workload times, Computing enables a dynamic adaptation of hardware requirements to the actual workload occurring. Technically, this achievement can be realized by using virtual machines deployed on arbitrary data center servers of the Cloud system. If a company's demand on computational power rises, it simply is provided with more instances of virtual machines for its services. Under security considerations, this architecture has a serious drawback. Though the feature of providing more computational power on demand is appreciated in the case of valid users, it poses severe troubles in the presence of an attacker. The corresponding threat is that of *flooding attacks*, which basically consist in an attacker sending a huge amount of nonsense requests to a certain service. As each of these requests has to be processed by the service implementation in order to determine its invalidity, this causes a certain amount of workload per attack request, which in the case of a flood of requests usually would cause a Denial of Service to the server hardware [22], [23].

**Direct Denial of Service:** When the Cloud Computing operating system notices the high workload on the flooded service, it will start to provide more computational power (more virtual machines, more service instances...) to cope with the additional workload. Thus, the server hardware boundaries for maximum workload to process do no longer hold. In that sense, the Cloud system is trying to work *against* the attacker (by providing more computational power), but actually—to some extent—even *supports* the attacker by enabling him to do most possible damage on a service's availability, starting from a single flooding attack entry point. Thus, the attacker does not have to flood all  $n$  servers that provide a certain service in target, but merely can flood a single, Cloud-based address in order to perform a full loss of availability on the intended service.

**Indirect Denial of Service:** Depending on the computational power in control of the attacker, a side effect of the direct flooding attack on a Cloud service potentially consists in that other services provided on the same hardware servers may suffer from the workload caused by the flooding. Thus, if a service instance happens to run on the same server with another, flooded service instance, this may affect its own availability as well. Once the server's hardware resources are completely exhausted by processing the flooding attack requests, obviously also the other service instances on the same hardware machine are no longer able to perform their intended tasks. Thus, the Denial of Service of the targeted service instances are likely to cause a Denial of Service on all other services deployed to the same server hardware as well. Depending on the level of sophistication of the Cloud system, this side-effect may worsen if the Cloud system notices the lack of availability, and tries to "evacuate" the affected service instances to other servers. This results in additional workload for those other servers, and thus the flooding attack "jumps over" to another service type, and spreads throughout the whole computing Cloud [24]. In the worst case, an adversary manages to utilize another (or the very same) Cloud Computing system for hosting his flooding attack application. In that case, the *race in power* (as defined in [22]) would play both Cloud systems off against each other; each Cloud would provide more and more computational resources for creating, respectively fending, the flood, until one of them eventually reaches full loss of availability.

**Accounting and Accountability:** As the major economic driver behind running a Cloud Computing service is charging the customers according to their actual usage (e.g. workload caused), another major effect of a flooding attack on a Cloud service consists in raising the bills for Cloud usage drastically. There are no "upper limits" to computational power usage<sup>3</sup>, thus the user running the flooded service most likely has to foot the bill for the workload caused by the attacker—at least if the attacker is not determinable itself [24].

## CONCLUSION AND FUTURE WORK

In this paper, we presented a selection of issues of Cloud Computing security. We investigated ongoing issues with application of XML Signature and the Web Services security frameworks (attacking the Cloud Computing system itself), discussed the importance and capabilities of browser security in the Cloud Computing context (SaaS), raised concerns about Cloud service integrity and binding issues (PaaS), and sketched the threat of flooding attacks on Cloud systems (IaaS). As we showed, the threats to Cloud Computing security are numerous, and each of them requires an in-depth analysis on their potential impact and relevance to real-world Cloud Computing scenarios.

As can be derived from our observations, a first good starting point for improving Cloud Computing security consists in strengthening the security capabilities of both Web browsers and Web Service frameworks, at best integrating the latter into the first. Thus, as part of our ongoing work, we will continue to harden the foundations of Cloud Computing security which are laid by the underlying tools, specifications, and protocols employed in the Cloud Computing scenario.

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## Consumer attitude of children for the Purchase intention of Digital Products

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### **ABSTRACT**

*In the scenario of highly digitization younger people are more techno savvy. In today's era Childrens are more spending time to digital product whether it is related to studies, gaming or entertainment. Marketers are treating them also as an important market segment hence it significant to understand their behavior or their influences over buying decision. Children's attitude and psychology is to be studied by the marketers as it has emotional impact on parents buying decision.*

**Keywords:** Digitization, Attitude, psychology.

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### **INTRODUCTION**

Increased attention has been seen to be given to children's role in the commercial marketplace. The same has also had an impact on the advertising to which children are exposed to. The same might be directed to them or not. There are many new forms of marketing and the same also brings in the commercial forces which then drive the children and the role of the child in the commercial world. The same has been explained by Bailey Review (2011) in the UK and the UNICEF UK Report on wellbeing, inequality and materialism (2011).

#### **Consumer Socialisation of Childrens**

Childrens's socialization process as consumers depends on following factors:

4. Observation of the parents.
5. Co-shopping with parents.
6. Friend's acceptance behavior.
7. Family recognition of children's decision.
8. Exposure to media.
9. Understanding of consumerism.

#### **Children's role in marketing**

This category of people that is children and young people have been looked at by the marketers as a lucrative market as the same witnesses a very high spending power. David Buckingham, has studied the same in the paper 'Impact of the Commercial World on Children's Wellbeing' (2009), which suggested that the children seem to have an increased spending power and are crucial in influencing the purchasing habits of the family members (Buckingham 2000). There is major Research that has been carried out in looking at children's role in the parent's purchases. Here the child has been seen as a primary instigator and decision maker when it comes to the purchases within the family (Kuhn and Eischen 1997). It has also been seen and proven by Tinson and Nancarrow (2007) that this could be an exaggerated claim; as a child might not have an influence, and will definitely not be the final decision makers for any purchase.

#### **Children and digital devices**

The children are using the devices which are operated through the internet. This is now not just simply measuring the use of devices like PCs or laptops, and the internet can be accessed with the help of different devices including iPods and iPads, Amazon Kindle, Sony Tablet, HP TouchPad, BlackBerry Playbook, Samsung Galaxy, and Motorola. The internet collection has now helped the use of devices like Xbox Live, PS3, Nintendo Wii. In a research in US it was shown that 23 per cent of households had games consoles which could be connected to the internet (LRG 2011). Also there was the advent of Smart TV which could revolutionise the way that the internet is accessed. Access to the Internet through smart phones is now well

established, and is especially a feature in Asia, where smart phone internet access has overtaken access to the internet through PC's (Carmichael 2012).

### **FINDINGS AND ANALYSIS**

The children's understanding of advertising, is very crucial as per Credos Report (Credos, 2011). The available literature builds on cognitive approaches to child development, and especially Piaget's theories. Piaget has also explained that children grow gradually from an incompetence, or immaturity, to competence, which is mature and logical thought.

### **CONCLUSIONS OF THE RESEARCH**

It has also been found that each stage would be achieved by all children at a given age, children pass through the same developmental stages as. Also as per Kellet, Robinson et al. (2004) it has been understand so as to explore the extent to which the children understood the situation they were in. Also there needs to be an understanding children's social competence and also look at the perspectives of others which is crucial for analyzing the children's processing of advertising.

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## Media and Women's Image: In Context of Media Ethics

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### ABSTRACT

Mass Media is an impression of the overall population, which emphasizes on the regard making limits and develops an important relationship with the social capitals from different points of view. Wide correspondences is indeed most basic bit of society and a basic factor responsible for social change by demonstrating social reality on media organize. Also, there is a great deal of social issues discussed on various media like depiction of women's photo. The depiction of women in Advertising, film and TV in like manner plays a fundamental thought with the status of women. Moreover, acquaint paper is dominatingly with separate the piece of media in depiction of women's photo in show circumstance. Rationality got for this paper is generally in light of discretionary assessing of the respondent arranged at Delhi NCR Region.

**Keywords:** Media Representation, Women's Image, Social Reality

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### INTRODUCTION

In the bleeding edge period with the progression of information advancement, and speedy change of PC, correspondence purchasers fastly moving towards edifying society and has provoked the new sorts of social issues under the highest point of globalization. It is eminent that media is basic for the change of social capitals to the extent mentality, cerebrum science or all the more the distance of life. Other than all dedication of wide correspondences in the developmental outing of Indian social system, we can't neglect diverse tired effects of wide interchanges in Indian social structure like embodiment of women, foulness and indecency, criminalization of society, diminish in thought of direct living high thinking, the technique for plan, materialistic nature of individual, disguise of human rights. To the degree the limit of wide correspondences are concern, it is uncommonly fundamental to separate the general duty of wide interchanges in a strong sense as wide correspondences in show time of commercialization furthermore encounters some malicious effects under the flag of TRP. In this way, the purpose of this paper is to base on one of such issues.

### OBJECTIVE

In this examination paper the goal is to get profound comprehension of media's part on delineation of ladies' picture. Is media is truly depicting ladies as ignored piece of society. What really media is appearing and the amount it is compelling in creating association with alternate segments of society?

The intention is to uncover the reality on delineation of ladies' Image. Therefore, in this paper we did outright spotlight on:-

- i. To find the esteem and degrading of women's' picture by TV programs.
- ii. To find the conceivable and cures which are being utilized to take care of the issues.

### METHODOLOGY

The study was driven in Delhi NCR region and subject was picked in light of unpredictable reviewing. In this examination paper we have separate the declarations of around 90 respondent essential females of different age groups from 18 to 35 years in regards to the matter of around 50 electronic media serials.

### RESULT AND ANALYSIS

In this research paper we should need to base on the one of the issue which as showed by me needs phenomenal thought i.e. "Degradation of women picture on TV". The part electronic media especially TV in the Indian

culture is that of sorted out subordinate to the basic definers. Being altogether state controlled the basic definer is just the state.

In this investigation I have dismembered more than 50 women based TV serials like *Balika Vadhu*, *Jee tJayenge Hum*, *Antra*, *1224 Karol Bagh*, *Sajan Ghar Jana Hai*, *Godbharai*, *Ganesh leela*, *Laado*. My disclosures have shown that the medium's yield is uneven for male world class; female sexual introductions are worked as immaculate inverses.

As per my disclosures there are five crucial qualities of electronic media, perceived as would be expected to all social orders:

- Women are under presentation overall, and include less central parts than men in TV.
- Marriage and parenthood are seen as more indispensable to women than, the regular division of work is showed up as ordinary in marriage.
- Employed women are showed up in generally female occupation as subordinate to men with little status or power.
- Women on Television are more uninvolved than men.
- Television dismisses or distorts the women advancement.

Such depiction we noted was the consequences of the change of nation celebrated will helped through several times of religious and social indoctrination. The electronic media is directly stretching out to accomplish the whole world country. Country has gigantic believability for bracing domain: with respect to the making regions which are masterminded towards a shared outside culture, the association of studio-based electronic media is discharging a damaging, coercive power.

The forefront incline towards commercialization fundamentally broadens the organizations handle of the medium on the one side it dependably debases women on inverse side it hold up as needed estimations of normal progression, solitary get and ensuing consumerism. As needs be showed singular view their own specific and the country make and progress similarly as items and undertakings available to the elites. When in doubt Television serials, the women in pictures are totally summed up and fiscally used to make an ever increasing number of customers by demonstrating the body and stunning features free of subject and character. It is to a great degree an exasperating situation as there are number of social bad behaviors which may controlled by the chronicle of such serials, people may get constructive wipes and go about as same way and the specific result is addition in the criminalization of social capitals in Indian culture. The most exhausted features motion pictures or serials can attract a bigger number of watchers than certified tasks, tends which help to compose regards which are far from reinforcing of women. It is moreover fundamental to educate that view concerning TV yield is both even and longitudinal. Everything considered, India is ideologically contraptions go far towards clearing up why their monetary awkward natures hang on. In my illustration, I fundamentally separate each one of the declarations given by my respondent and the customary wording came in their response are Bechari, Suppressed, Depressed, Neglected, Weak women of regular Indian women. I in like manner saw the same maddening themes in the overall population. Headway is happening thusly not in a masterminded, advancing, whole deal process. These all finding in this examination evidently exhibit that expansive interchanges is basic for the progression of society as it improve the capability and enduring nature of social regards for investment agreeableness, protection for people with different direct and customs, respect for peace, yet if such message and substance served reliably to the family, we can without quite a bit of an extend judge the photo of women assemble in future.

## **CONCLUSION**

It is especially indicated that the basic activities is associate with the substance of the substance as it would be adequate if more awful to change the perspective of the gathering of spectators to affect a substitute deciphering of the message, such interpreting can disengage the denying consent to the specialists organize. Without such consent and complicity the demand can simply fall. In any case, basic the improvement media is the fight to change the substance of the keep up media is likewise basic for three reasons:-

- Since a vast segment of these state – asserted, the national whether women or needy individuals, have a benefit to fair depiction on these media.
- The relentless negative depiction has the effect as we have seen, of affirming women's deficiency as certified and general. Under such conditions the messages of the advancement media are most likely going to be decoded as variation.

- The process by which kids pick up sex-reasonable direct. We had noted in our speculative thoughts one process as clarified by the sex – plan theory. In case youths are to increase balanced start of the two sexual introductions, they to be displayed to fair depiction as the standard. Stray-ladies' extremist motion pictures are most likely going to be set up as varieties.

Subsequently, Indian media especially TV is misleadingly affecting tomorrow's system designers, the essential is for each program to consider issue of sexual introduction and class esteem and it is possible when media give sound substance to the family serial to confine standard thinking and in addition it is basic for the security of social culture by keep up positive standard of media.

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