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[UNDER THE AEGIS OF KAMAL EDUCATIONAL & WELFARE SOCIETY (KEWS)]
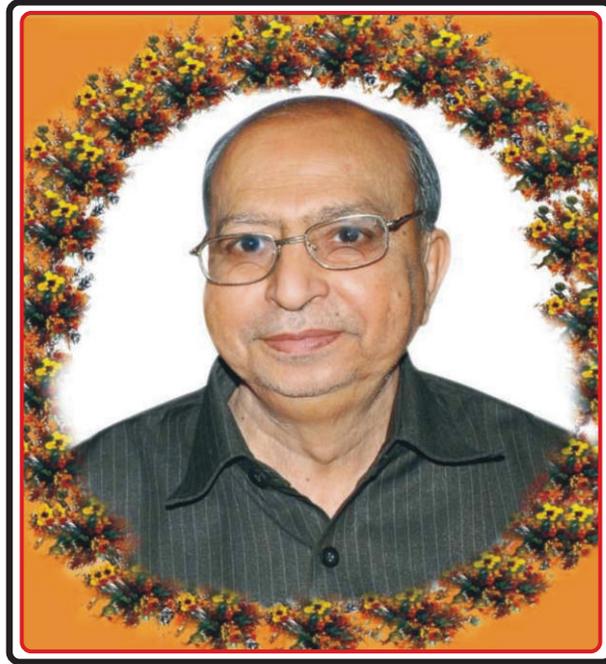
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EDITOR'S PAGE

We are happy to launch the sixth issue of "Trinity Journal of Management, IT & Media (**TJMITM**)". The present issue incorporates 15 research papers – 10 from management, 03 from IT & Computer Science and 02 from media. All these papers were presented at the 5th National Conference of Trinity Institutes held on 21 February 2015. With this issue, TJMITM is completing six years of uninterrupted publication. During all these years, we have received unstinted support from our Editorial Board without which it would not have been possible for timely publication of the journal. We also received constructive feedback from the readers and contributors for improvement in quality. I express my sincere thanks to our Editorial Team members for their dedicated and involvement in printing the 6th issue of TJMITM.

Innovation is the key to growth. The concept of innovation dates back to early 1940s when the *Prophet of Innovation*, Schumpeter defined the term innovation in his work *Capitalism, Socialism and Democracy* that is "it is not a single event or activity, it is a process." It is driving new business strategies and practices, re-shaping markets and redefining demand. Innovation is important to the advancement of society around the world. The paths of innovation can be traced in all the sectors, whether it is Management, IT or Media. Successful innovation requires more than a creative idea. It takes vision and perseverance to turn ideas into action and to turn opportunities into profits. Effective innovation management is the key to nurturing an entrepreneurial culture, stimulating collaborative attitudes and delivering products, services and processes that support sustained performance. Keeping this in mind, the 5th National Conference was arranged on the topic: **"Innovations in E-commerce, Management, IT and Media"**. The academic conference was a true facilitator towards enhancing the knowledge on the emerging trends and current scenarios in the fields of e-commerce, management, IT and media. The Conference aimed to bring together leading academicians, researchers, research scholars & industry experts to exchange and share their experiences and research results about all aspects of innovation. We received 94 research papers for presentation in the said conference. Out of 94 papers received, this issue carries only 15 papers. This is due to space constraint. The research papers which have not been included in this journal are very much worth for publication in other national and international journals.

This journal is an acclaimed platform for young academicians and researchers to inspire and motivate them for disseminating their research papers, research articles, literature reviews, case studies and book review, etc. This issue of TJMITM covers a regular mix of articles and research papers from Management, IT-Computer Science and Media. All the papers open us new dimension of research in the identified areas. My thanks to the authors who have presented the papers in the 5th National Conference and extended their cooperation in making the conference a grand success.

On behalf of the Editorial Team of TJMITM, I extend my sincere thanks to Dr. R.K. Tandon, Chairman, TIPS who has always been a guiding force, encouragement and prime inspiration to publish this journal. We are grateful to Ms. Reema Tandon, Vice Chairperson, TIPS for her continuous support to bring out the journal in a proper form.

I do hope that this issue of TJMITM will generate immense interest among researchers.

Dr. L.D. Mago
Editor-in-Chief &
Director General, TIPS

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I, Dr. R.K. Tandon, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Dr. R. K. Tandon

(Signature of the Publisher)

Users' Perception on RTGS Service: A Primary Study

☆☆ ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ ☆☆

Dr. Sunita Bishnoi*
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ABSTRACT

The growth of IT and its remarkable application to banking and financial sector has greatly facilitated the growth of retail banking to a very large extent. Banking services are now tilting to "Anywhere Any time banking" aspect. In addition to websites they have introduced ATMs, Internet banking, mobile banking, phone banking, ECS, NEFT, and RTGS etc. in a big way by computerizing and networking their branches. RTGS (Real Time Gross Settlement) actually uses the Internet as the delivery channel to conduct various banking activities like transferring funds, paying bills, paying mortgages and purchasing financial instruments etc. The objective of the proposed paper is to determine the users' perception on RTGS service. The impact of demographic variables is also highlighted in the paper. To achieve the objective of the study primary data is collected through a structured questionnaire from public, private and foreign banks customer using RTGS services. In total 750 respondents were surveyed from Delhi and four administrative divisions of Haryana state. The Collected primary data was analyzed with the help of various statistical techniques such as frequency distribution, mean and standard Deviation. To test the hypotheses formulated in the present paper t test and ANOVA are used.

The findings of the study concluded that convenience and comfort to use, Quality of transaction, Information and procedure are Response of employees/assistance are the major factors which satisfied the users while using RTGS Facility. The study provides meaningful direction to bank managers and decision maker to improve their service quality for higher customer satisfaction.

KEY WORDS

RTGS, Perception, IT Etc.

1. INTRODUCTION

Indian banking industry, today is in the midst of an IT revolution. A blend of regulatory and competitive reasons has led to increasing importance of total banking automation in the banking sector of India. Technology has played a fundamental role in the evolution of Indian banking sector through speed, accuracy, efficiency, promptness and reduction in cost. Banking services are now tilting to "Anywhere Any time banking" aspect. **The total automation of banking transactions ensures 24x7 days services to the customers without interruption and break**. The customers of the banks can have their financial transactions with plastic cards & bank account and transact through Telephone, Mobiles and Internet banking facilities from their convenient places **(Selvi, 2012).**

In recent time, Indian banking industry has been consistently working towards the development of technological changes and its usage in the banking operations for the improvement of their efficiency. To get the benefits of enhanced technologies, Indian banks are continuously encouraging the investment in information technology (IT), i.e. ATMs, e-banking or net banking, mobile and tele-banking, CRM, computerization in the banks, increasing use of plastic money, establishment of call centers, etc. RBI has also adopted IT in endorsing the payment system's functionality and modernization on an ongoing basis by the development of Electronic Clearing Services (ECS), Electronic Funds Transfer (EFT), Indian Financial Network (INFINET), a Real-Time Gross Settlement (RTGS) System, Centralized Funds Management System (CFMS), Negotiated Dealing System (NDS), Electronic Payment Systems with the 'Vision Document', the Structured Financial Messaging System (SFMS) and India Card – a domestic card initiative, implemented recently (Namita Rajput and Monika Gupta, 2011).

Today, services of banks are available at the fingertips on your mobile and a customer can do practically every type of banking transaction from anywhere and at any time. In an effort to make the remittance or payment transaction convenient, fast and at affordable costs, in the last few years, the use of information technology-enabled payment and settlements system such as Real Time Gross Settlement (RTGS), National Electronic Fund Transfer (NEFT) and National Electronic Clearing System (NECS) had grown significantly. Customer's migration to electronic payments has also been growing extensively. The payment system in the country largely follows the deferred net settlement regime, under the net amount is settled between the banks, on a deferred basis. RTGS was operationalised by the Reserve Bank of India (RBI) in March 2004, which enables settlement of transactions in real time, on a gross basis. Real Time Gross Settlement is a fund transfer mechanism where transfer of money takes place from one place to another on a "Real Time" and on "Gross" basis **(Bhasin K.N. 2012)**.

This is the fastest possible money transfer system through the banking channel. Settlement in "Real Time" means payment transaction is not subjected to any waiting period. The transactions are settled as soon as they are processed. "Gross Settlement" means the transaction is settled on one-to-one basis without bunching with any other transaction **(Murugavel Vendan Muthamizh D., 2011)**.

2. RTGS IN INDIA

RTGS is a fully secured electronic fund transfer system where banks and customers can receive payments on real time basis. The outreach of the RTGS transactions has also grown geographically. Out of more than more than 75000 bank branches in the country, more than 48300 bank branches now accept requests for remittance through RTGS system for customer transactions as well as inter-bank transactions. A minimum threshold of Rs 1, 00,000 has been prescribed for customer transactions to ensure that RTGS system is primarily for large value transactions and retail transactions take an alternate channel for fund transfer. There is no upper

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ceiling for RTGS transactions. RTGS will eliminate settlement risk in the case of inter-bank and high value transactions **(Muru-gavel Vendan Muthamizh D., 2011)**.

The remitting customer has to furnish the following information to a bank for effecting RTGS remittance:

1. Amount to be remitted
2. Account number to be remitted
3. Name of the beneficiary bank
4. Name of the beneficiary customer
5. Account number of the beneficiary customer
6. Sender to receiver information if any
7. IFSC number of the receiving bank branch **(RBI Reports, www.rbi.gov.in)**

The beneficiary customer can obtain the IFSC code from his bank branch and this code is also available on the cheque leaf and on RBI websites. This code number and bank branch detail can be communicated by the beneficiary to the remitting customer. For a fund transfer to go through RTGS, the branch of the both bank have to be RTGS enabled. It is a significant step towards eliminating cross border risk associated with settlement of foreign currency transactions **(www.rbi.gov.in, Dec. 15, 2012)**.

Table 1: RTGS transaction in India

Particulars	RTGS Volume (Million)					
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
RTGS	5.84	13.36	33.2	49.3	55.0	69.0

(Source: RBI Annual Report, various issues)

Table 1 is clearly reflecting the increment in the volume of transaction from 2007-08 to 2012-13. It is observed from the table that from 2007-08 to 2012-13 RTGS volume of transaction increase more than 10 times which shows that users of RTGS automated banking service are increasing day by day.

Table 2: RTGS transactions value in India

Particulars	RTGS Value of transactions (Rupees in Billion)					
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
RTGS	273183.30	322798.81	394533.59	484872.34	539308.0	676841.0

(Source: RBI Annual Report, various issues)

Similarly it can be analyzed from the table 2 that value of the transaction is also increasing. As in 2007-08 total amount of RTGS transactions was which reach in year 2012-13, it implies the increment in the users of RTGS as well as volume of transaction is also increasing.

3. REVIEW OF LITERATURE

Tandon D. and et. al. (2014) have attempted to expound the scope of innovation and the paradigm shifts taking place in RTGS, M- banking, NEFT, EFT, ECS have made significant move in payment systems through electronic mode. The authors have studied volume of RTGS & Mobile transactions for the years 2011 to 2013 for 14 chosen banks - seven each in private and public banks by applying Shapiro-Wilk Test of normality and NEFT/ RTGS,

paired t-tests and have concluded that by increasing cost of building brick-and-mortar branches, decreasing cost of computers, high delivery costs and slow revenue growth force a relook at the conventional delivery systems in the Indian Banking system.

Bhiri T. et.al. (2014) conducted a study on 'An Evaluation of the Usage and Operational Framework of the Real Time Gross Settlement System in the Zimbabwean Banking Sector' seeks to evaluate the usage and operational framework of the Real Time Gross Settlement system in the Zimbabwean banking sector. The cross-sectional survey research design was adopted for this research. They revealed that the RTGS system is widely available and optimally utilized. There are manual interventions between the RTGS system and core banking systems. Further they concluded that there is capacity to synchronize the RTGS system with other payment streams, the RTGS system rules and procedures are not fully implemented by financial institutions and the framework governing the RTGS system is largely comparable to international best practice.

Gupta and Gupta (2013) has been tried to examine the developments of payment system in Indian banking system and analysed. ICT based payments and settlement service. The research was focused on only payment and settlement system and it is based on secondary data sources. Data consist in research was analysed by the statistical tools and founded that by the development in information and communication technology change the timelessness of RTGS service in India. There are a variety of electronic clearing options are available in banking system. But in the sense of rural India RTGS facilities are not provided sufficient level by the banking institutions due to lack of ICT connectivity and other infrastructural facilities.

Murugavel Vendan Muthamizh D. (2011) analyzed that RTGS is fully secured electronic fund transfer system where banks and customers can receive payments on real time basis. The outreach of RTGS transactions has also grown geographically. It was found that lack of awareness is considered as the major problem faced by RTGS users. Further the minimum limit of one RTGS is more than one lakh is also a problem for those customers who are not making big transactions.

Kumar N. K. (2006) discusses various phases of computerization from automating the accounting process and back office function to the current phase of inter-bank connectivity through Real Time Gross Settlement (RTGS). The study emphasizes on some key IT issues 43 like driving factors, IT budget, process re-engineering, outsourcing etc. It concludes that although IT is introduced in banking but compared to the automation level adopted in some developed countries, it is imperative to further improve and stabilize the mechanization process in Indian banking industry.

4. RESEARCH METHODOLOGY

RATIONAL OF THE STUDY

Technology has played a vital role in the evolution of Indian banking sector through speed, accuracy, efficiency, promptness and reduction in cost. Banking services are now oriented to "Anywhere

Any time banking" aspect. The objective of the proposed paper is to analyze the customer perception regarding RTGS services. The impact of demographic variables is also highlighted in the paper, as RTGS automated banking service is strongly associated with it.

5. OBJECTIVES AND HYPOTHESIS OF THE PRESENT STUDY

- To study the perception of customers regarding the various reasons that are related to customers to use RTGS service provided by banks operated in Rohtak, Hisar, Ambala, Gurgaon and Delhi.

- To analyze the relationship between demographic variables and various reasons of RTGS service provided by various banks.

6. ON THE BASIS OF THESE OBJECTIVES FOLLOWING HYPOTHESES ARE FORMULATED

H01: Customers Perception towards various reasons of RTGS facility does not differ significantly on the basis of 'Gender' of the respondents.

H02: Customers Perception towards various reasons of RTGS facility does not differ significantly on the basis of 'Marital Status' of the respondents.

H03: Customers Perception towards various reasons of RTGS facility does not differ significantly on the basis of 'Occupation' of the respondents.

H04: Customers Perception towards various reasons of RTGS facility does not differ significantly on the basis of 'Annual Income' of the respondents.

H05: Customers Perception towards various reasons of RTGS facility does not differ significantly on the basis of 'Level of Education' of the respondents.

H06: Customers Perception towards various reasons of RTGS facility does not differ significantly on the basis of 'Sector of the Bank' of the respondents.

H07: Customers Perception towards various reasons of RTGS facility does not differ significantly on the basis of 'Age Group' of the respondents.

H08: Customers Perception towards various reasons of RTGS facility does not differ significantly on the basis of 'Place of Residence 'of the respondents.

7. RESEARCH METHODOLOGY

Population and Sample: the population defined for this research paper was limited to the RTGS users of various banks operated in Delhi and four administrative divisions of Haryana state (Rohtak, Hisar, Ambala and Gurgaon). In this study random sampling technique has been used, and in total 750 respondents were studied to find out the objectives of the study.

Database and procedure of analysis: primary data collection method was used for the fulfillment of the objectives of the study. A structured questionnaire was used to collect primary data for the study. The respondents were asked to indicate their percep-

tion regarding various reasons which motivate them for the use RTGS automated banking service on a five point Likert scale (1 for Strongly Agree and 5 for Strongly Disagree).

Statistical tools and techniques: the collected data further have been analyzed by using descriptive statistics such as frequency distribution, percentages, mean scores and standard deviation. To find out the variation of opinion among various categories t test and F test have been applied. These statistical techniques are run through SPSS version 16 for windows.

8. RESULTS AND DISCUSSIONS

SAMPLE CHARACTERISTICS AND FREQUENCY DISTRIBUTION

Table 3 is presenting demographic profile of the respondents. It can be observed from the table that 72.7 percent of the respondents are male and the remaining 27.3 percent are female. Marital status of the respondent's reveals that 72.3 percent respondents are married remaining 27.7 percent of the respondents is unmarried. Regarding occupation of the respondents, 23.5 percent of the respondents are doing businessman, 51.7 percent are service employees, 20.5 percent are professional and 4.3 percent are students.

The distribution of annual income reflected that 28.7 percent of the respondents are earning annual income less than 300000, 42.5 percent of the respondents belongs to 300001-600000, 23.9 percent belong to the income group 600001-1000000 and 4.9 percentage falls in above 1000000 category. It is clear from the table that 18.9 percent of the respondent are belonging to the age group of 18-25 years, 40.1 percent of the respondents are in the age group 26-35 years, 29.2 percent of the respondents are belongs to 36 -45 years, 10.4 percent of the respondents are in the age group 46-55 years and 1.3 percent are in the age group of 56 years and above.

Table 3: Distribution of Respondents on the basis of Demographic Factors

Demographic Variables	Categories of Respondents	No. of Respondents
Gender	Male	545 (72.7%)
	Female	205 (27.3%)
Marital Status	Married	542 (72.3%)
	Unmarried	208 (27.7%)
Occupation Classification	Business	176 (23.5%)
	Service	388 (51.7%)
	Professional	154 (20.5%)
	Student	32 (4.3%)
Annual Income	Less than 3,00,000	215 (28.7%)
	3,00,001 to 6,00,000	319 (42.5%)
	6,00,001 to 10,00,000	179 (23.9%)
	Above 10, 00,001	37 (4.9%)

Education Level	Senior Secondary	44 (5.9%)	
	Graduate	331 (44.1%)	
	Post Graduate	375 (50.0%)	
Sector of the Bank	Private Sector Bank	284 (37.9%)	
	Public Sector Bank	359 (47.9%)	
	Foreign Sector Bank	107 (14.3%)	
Age Groups (in years)	18 to 25 Years	142 (18.9%)	
	26 to 35 Years	301 (40.1%)	
	36 to 45 Years	219 (29.2%)	
	46 to 55 Years	78 (10.4%)	
	56 Years and Above	10 (1.3%)	
Place of Residence	Administrative Division 1: Hisar	150 (20.0%)	
	Administrative Division 2: Rohtak	150 (20.0%)	
	Administrative Division 3: Ambala	150 (20.0%)	
	Administrative Division 4: Gurgaon	150 (20.0%)	
	Delhi	150 (20.0%)	

Source: Primary Data

As education level of respondents is concerned, 5.9 percent of respondents are having senior secondary qualification, 44.1 percent respondents are graduates and 50 percent of the respondents are postgraduates. As far as sector of the bank of the respondents is concern 37.9 and 47.9 of the respondents are belongs to private sector bank and public sector banks respectively, while 14.3 percent of the respondents are having account in foreign sector banks. Further in total 750 respondents belongs to Hisar, Rohtak, Ambala, Gurgaon and Delhi equally distributed (150 each).

9. PERCEPTION OF CUSTOMERS REGARDING VARIOUS REASONS WHICH MOTIVATE CUSTOMERS FOR THE USE OF RTGS AUTOMATED BANKING SERVICE

Table 4 is related to the responses of RTGS automated banking services users regarding various reasons which motivate them for use of RTGS automated banking services. The responses were obtained related to 17 motivating reasons encouraging for use of RTGS automated banking services on a five point scale (ranging between 1 to 5, where 1 stands for 'very important', 2 for 'important', 3 for 'neutral', 4 for 'unimportant' and 5 for 'very unimportant'). Table depicts that reason 'quick transaction' (R 3) is most important reason which motivate customers for the use of RTGS automated banking services as 74.9 percent respondents are agreed about the same, whereas 73.4 percent of the respondents also agreed to use RTGS automated banking services because they 'no need to carry cash' (R 17). Consequently in total 70.7 percent of the respondents motivated to use RTGS automated banking services because its 'safety and security' (R 2). Further it is very much clear from the table that 66.9 percent of the users of RTGS automated banking services have admitted that 'competent employees' (R 14) is an important reason which motivates them for the use of these services. As far as various reasons motivate customers for the use of RTGS automated banking services are concern it is obvious from the table that, in total 64 percent of the respondents with 'innovativeness and integrated services' (R 1) and 59.7 percent of the respondents with 'cost effective' (R 4) are similarly feels that these are also important reasons which motivate them to use these automated banking services. Similarly in total 63.6 percent and 64.5 percent of RTGS automated services users agreed that they are using these services because of these services are 'reliable and secure' (R 6) and 'all account holder can operate' (R 12). Further table depicts that in total 63.1 percent and 61.6 percent of the respondents are using RTGS automated banking services because these automated banking services can 'reduce credit risk' (R 11) and 'transaction timings' (R 13) respectively and these are also very important reason. On the other hand 26.9 percent of the respondents opined that 'can be operate through internet banking' (R 8) is either 'unimportant' or 'very unimportant' reason.

Table 4: Perception of customers regarding various reasons which motivate for the use of RTGS Automated Banking Service

Sr. No.	Reasons for using RTGS Automated Banking Services	Very Important	Important	Neutral	Unimportant	Very Unimportant	Overall Mean & Std. Dev.	Rank
R 1	Innovativeness and Integrated Services (R 1)	177 (23.6)	303 (40.4)	135 (18.0)	95 (12.7)	40 (5.3)	2.35 (1.12)	5
R 2	Safety and Security (R 2)	209 (27.9)	321 (42.8)	82 (10.9)	97 (12.9)	41 (5.5)	2.25 (1.15)	3
R 3	Quick Transaction (R 3)	247 (32.9)	315 (42.0)	81 (10.8)	64 (8.5)	43 (5.7)	2.12 (1.13)	1
R 4	Cost Effective (R 4)	190 (25.3)	324 (43.2)	67 (8.9)	116 (15.5)	53 (7.1)	2.35 (1.21)	5
R 5	Ensure Smooth Business and Financial Market Transactions (R 5)	182 (24.3)	325 (43.3)	71 (9.5)	134 (17.9)	38 (5.1)	2.36 (1.17)	6

R 6	Reliable and secure (R 6)	178 (23.7)	299 (39.9)	70 (9.3)	126 (16.8)	77 (10.3)	2.50 (1.29)	11
R 7	More transparent mechanism (R 7)	166 (22.1)	296 (39.5)	83 (11.1)	148 (19.7)	57 (7.6)	2.51 (1.24)	12
R 8	Can be operate through Internet Banking (R 8)	154 (20.5)	283 (37.7)	111 (14.8)	138 (18.4)	64 (8.5)	2.56 (1.24)	14
R 9	More convenient & simple method for large transactions (R 9)	182 (243)	297 (39.6)	75 (10.0)	132 (17.6)	64 (8.5)	2.46 (1.26)	10
R 10	Good alternative of DD and Banker's Exchequer (R 10)	200 (26.7)	286 (38.1)	70 (9.3)	140 (18.7)	54 (7.2)	2.41 (1.25)	8
R 11	Reduce credit risk (R 11)	165 (22.0)	308 (41.1)	74 (9.9)	127 (16.9)	76 (10.1)	2.52 (1.28)	13
R 12	All account holder Can operate (R 12)	150 (20.0)	334 (44.5)	60 (8.0)	150 (20.0)	56 (7.5)	2.50 (1.22)	11
R 13	Transaction Timings (R 13)	129 (17.2)	333 (44.4)	108 (14.4)	126 (16.8)	54 (7.2)	2.52 (1.16)	13
R 14	Competent Employees (14)	192 (25.6)	310 (41.3)	89 (11.9)	116 (15.5)	43 (5.7)	2.34 (1.18)	4
R 15	Good Customer's Services (15)	176 (23.5)	341 (45.5)	60 (8.0)	125 (16.7)	48 (6.4)	2.37 (1.19)	7
R 16	Technology Awareness and Knowledge (R 16)	179 (23.9)	287 (38.3)	111 (14.8)	121 (16.1)	52 (6.9)	2.44 (1.21)	9
R 17	No Need to Carry Cash (R 17)	259 (34.5)	292 (38.9)	66 (8.8)	100 (13.3)	33 (4.4)	2.14 (1.16)	2

Figures in () are the row-wise percentages

After discussing various RTGS automated banking reasons wise frequency distribution the present paragraph is an attempt to provide the detail of overall mean values and accordingly their respective ranks. These are some results on the basis of the responses collected through questionnaire. The respondents acknowledge that 'quick transaction' ($x^- = 2.12$) is the most encouraged reason which motivate them for the use of RTGS automated banking have scored on first position, whereas respondents agreed that while using RTGS automated banking they 'no need to carry cash' ($x^- = 2.14$) positioned on second position. Further respondents are using RTGS automated banking because of its 'safety and security' ($x^- = 2.25$) and 'competent employees' have attained third and fourth position respectively. It is obvious from the table that respondents have given equal importance to the reasons 'innovativeness and integrated services' and 'cost effectiveness' are positioned on same fifth rank as their respective overall mean values for both reasons are ($x^- = 2.35$) which is same. Similarly as reflected by their respective equal overall mean values ($x^- = 2.50$), motivating reasons namely 'reliable and secure' and 'all account holder can operate' are also preferred by customers on equal eleventh rank. Consequently table depicts that majority of the respondents have given similar weightage to the motivational reasons namely 'reduce credit risk' ($x^- = 2.52$) and 'transaction timings' ($x^- = 2.52$) considered on thirteenth rank each. On the other hand on the basis of overall mean values reason namely 'can be op-erate through internet banking' ($x^- = 2.56$) is comparatively least important factor which encourage them to use RTGS automated banking positioned on fourteenth rank. Maximum percentage share of respondents have fallen in Agree or Neutral categories as proved by their overall mean values are applicable between ($x^- = 2.12$ to $x^- = 2.56$). The interesting thing to see the value of the standard deviation is more than one in all the dimensions so there is different set of reasons between the users using RTGS automated banking services.

10. RESULTS OF ONE-WAY ANALYSIS OF VARIANCE AND TEST OF HYPOTHESIS REGARDING THE PERCEPTION ON VARIOUS REASONS OF USING REAL TIME GROSS SETTLEMENT (RTGS) AUTOMATED BANKING SERVICES

Customers who have an account in bank mostly avail RTGS services; sometimes they have some reasons which motivate them for the use of these automated banking services. Hence it is very important to analyze the association of encouragement between respondents and different demographic variables as motivating reasons which encourage customers to use these automated banking services for this t-test and F-test has been applied and the results are presented in table 5. In reference to the first reason which motivate customers for the use of RTGS automated services namely 'innovativeness and integrated services' (R 1) differ

significantly with various demographic variables as 'occupation', 'annual income' and 'Place of residence' 1 percent level of significance, while the respondents associated with 'level of education' is bearing significant relation at 5 percent level of significance, hence the null hypothesis is rejected. Therefore different groups 'gender', 'marital status', 'sector of bank' and 'age group' of the respondents have perceived same level of motivation to use these automated banking services.

The t and F statistics about second motivating reasons of RTGS automated banking services as 'safety and security' (R 2) describe the significant deviation of encouragement among respondents belongs to 'marital status', 'occupation', 'annual income', 'age group' and 'Place of residence' at 1 percent level of significance, it support the rejection of null hypothesis.

It is examined from the table 5 about various motivating reasons regarding RTGS automated services that third very important reason namely 'quick transaction' (R 3) have registered significant variation of the opinion with different demographic variables as 'occupation', 'annual income', 'level of education', 'sector of bank', 'place of residence' at 1 percent and with 'marital status' and 'age group' at 5 percent level of significance.

As performed by t and F statistics and respective significant values about the fourth motivating reasons namely 'cost effective' (R 4) reflect the significant difference of opinion among the respondent belongs to 'occupation', 'annual income', 'sector of bank', 'age group' and 'Place of residence' at 1 percent level of significance, whereas association of respondents belongs with 'level of education' at 5 percent level of significance, when t-test was performed it was found that 'male and female' and 'married and unmarried' respondents do not differ significantly at 1 percent or 5 percent level of significance, hence it support to reject the null hypothesis.

Interestingly the opinion of respondents about fifth reason which motivate customers to use RTGS automated banking services namely 'ensure smooth business and financial market transactions' (R 5) express the significant variation among the respondents belonging to various demographic variables as 'occupation', 'annual income', 'age group' and 'Place of residence' at 1 percent level of significance.

Further it is very obvious from the table that sixth motivating reason of RTGS automated banking services as 'reliable and secure' (R 6) registered significant difference of motivation with various categories of 'occupation', 'annual income' and 'place of residence' at 99 percent confidence level, while relation of respondents across 'age group' differ significantly at 95 percent confidence level.

In evidence of the results that RTGS users have perceived variation in their encouragement by seventh motivating reason namely 'more transparent mechanism' (R 6) with various classes of demographic variables as 'level of education' and 'Place of residence' founded significant at 1 percent level of significance, whereas the motivation of the respondents related to different categories of 'occupation', 'annual income', 'sector of bank' and 'age group' is significant at 5 percent level of significance.

The opinion of the respondents about the eighth motivating reason which encourage customer to use RTGS automated banking services namely 'can be operate through internet banking' (R 8) differ significantly with different classes of 'level of education' and different 'Place of residence' at 95 percent and 99 percent level of confidence. Further opinion of respondents about the ninth reason which motivate customers to use RTGS automated banking services as 'more convenient and simple method for large transactions' (R 9) registered significant difference with various categories of demographic variables 'occupation', 'annual income', 'sector of bank' and 'Place of residence' at 1 percent level of significance, further association of the respondents belongs to 'level of education' and 'age group' is significant at 5 percent level of significance, hence the nll hypothesis is rejected.

Considering the observation of respondents about the tenth reason expressively 'good alternative of DD and Banker's exchequer' (R 10) registered the significant variation across different characteristics of 'occupation', 'annual income', 'level of education', 'sector of bank' and 'Place of residence' at 1 percent level of significance, while the perception of the 'marital status' respondents have difference in opinion significantly at 5 percent level of significance. Therefore respondents associated with remaining demographic variables perceived similar opinion about this specific reason of RTGS automated banking services.

Table 5: Results of one-way analysis of variance and test of hypothesis regarding the perception on various Reasons of using Real Time Gross Settlement (RTGS) Automated Banking Services:

Reasons of using RTGS	t-test Values and significance		One way ANOVA (F-test) Values and significance					
	Gender	Marital Status	Occupation	Annual Income	Level of Education	Sector of Bank	Age Group	Place of residence
R 1	-.057 (.954) Accepted	-1.447 (.149) Accepted	6.137 (.000)** Rejected	9.922 (.000)** Rejected	4.371 (.013)* Rejected	2.320 (.099) Accepted	1.600 (.172) Accepted	3.758 (.005)** Rejected
R 2	-.437 (.663) Accepted	-2.786 (.006)** Rejected	9.135 (.000)** Rejected	6.141 (.000)** Rejected	.748 (.474) Accepted	1.883 (.153) Accepted	3.520 (.007)** Rejected	4.307 (.002)** Rejected
R 3	-.159 (.874) Accepted	-2.247 (.025)* Rejected	10.124 (.000)** Rejected	13.830 (.000)** Rejected	5.832 (.003)** Rejected	8.787 (.000)** Rejected	3.007 (.018)* Rejected	5.232 (.000)** Rejected

R 4	.156 (.876) Accepted	1.272 (.204) Accepted	-20.687 (.000)** Rejected	10.595 (.000)** Rejected	4.585 (.010)* Rejected	8.783 (.000)** Rejected	4.752 (.001)** Rejected	12.293 (.000)** Rejected
R 5	-.833 (.405) Accepted	-.600 (.549) Accepted	6.707 (.000)** Rejected	5.429 (.001)** Rejected	1.577 (.207) Accepted	1.457 (.234) Accepted	3.474 (.008)** Rejected	13.824 (.000)** Rejected
R 6	1.722 (.086) Accepted	-1.083 (.280) Accepted	3.905 (.009)** Rejected	4.446 (.004)** Rejected	575 (.563) Accepted	.911 (.402) Accepted	3.100 (.015)* Rejected	7.774 (.000)** Rejected
R 7	1.495 (.136) Accepted	1.618 (.107) Accepted	3.307 (.020)* Rejected	3.274 (.021)* Rejected	5.260 (.005)** Rejected	3.238 (.040)* Rejected	2.478 (.043)* Rejected	13.826 (.000)** Rejected
R 8	.213 (.831) Accepted	1.310 (.191) Accepted	1.227 (.299) Accepted	.777 (.507) Accepted 3.078	(.047)* Rejected	1.549 (.213) Accepted	1.598 (.173) Accepted	6.035 (.000)** Rejected
R 9	-1.034 (.302) Accepted	-.799 (.425) Accepted	5.106 (.002)** Rejected	4.273 (.005)** Rejected	3.522 (.030)* Rejected	8.685 (.000)** Rejected	2.629 (.033)* Rejected	3.714 (.005)** Rejected
R 10	-.788 (.431) Accepted	-2.548 (.011)* Rejected	8.944 (.000)** Rejected	4.525 (.004)** Rejected	5.187 (.006)** Rejected	11.009 (.000)** Rejected	2.358 (.052) Accepted	4.456 (.001)** Rejected
R 11	-.139 (.889) Accepted	-1.174 (.241) Accepted	5.020 (.002)** Rejected	6.704 (.000)** Rejected	6.552 (.002)** Rejected	1.873 (.154) Accepted	4.015 (.003)** Rejected	2.951 (.020)* Rejected
R 12	-.915 (.361) Accepted	1.369 (.172) Accepted	3.411 (.017) Accepted	.949 (.416) Accepted	1.118 (.327) Accepted	.608 (.545) Accepted	.918 (.453) Accepted	10.499 (.000)** Rejected
R 13	-.804 (.422) Accepted	.709 (.479) Accepted	2.432 (.064) Accepted	4.598 (.003)** Rejected	1.101 (.333) Accepted	2.298 (.101) Accepted	.799 (.526) Accepted	7.156 (.000)** Rejected
R 14	-1.352 (.177) Accepted	-1.852 (.065) Accepted	2.899 (.034)* Rejected	5.042 (.002)** Rejected	1.451 (.235) Accepted	1.783 (.169) Accepted	2.169 (.071) Accepted	.479 (.751) Accepted
R 15	.745 (.457) Accepted	-1.189 (.235) Accepted	3.955 (.008)** Rejected	4.510 (.004)** Rejected	2.014 (.134) Accepted	1.577 (.207) Accepted	1.813 (.124) Accepted	1.104 (.354) Accepted
R 16	-1.200 (.231) Accepted	-1.542 (.124) Accepted	7.998 (.000)** Rejected	10.490 (.000)** Rejected	2.793 (.062) Accepted	2.711 (.067) Accepted	1.308 (.266) Accepted	2.785 (.026)* Rejected
R 17	-.206 (.837) Accepted	-1.958 (.051) Accepted	5.233 (.001)** Rejected	3.191 (.023)* Rejected	2.305 (.100) Accepted	.684 (.505) Accepted	.458 (.766) Accepted	14.286 (.000)** Rejected

***significant at 1percent level*

** Significant at 5 percent level*

As far as various reasons which motivate customers for the use of RTGS automated banking services are concern table depicts the difference in opinion among respondents between the eleventh motivating reason namely 'reduce credit risk' (R 11) and various demographic variables of the respondents, which describe that respondent belong to 'occupation', 'annual income', 'level of education' and 'age group' at 1 percent level of significance, while association of respondents with 'Place of resi-

dence' have significant difference of opinion at 5 percent level of significance.

It is very interesting to analyze the responses on twelfth motivating reasons as 'all account holder can operate' (R 12) differ significantly at 1 percent level of significance among the respondents who belongs to different 'Place of residence' of the respondents showed wide variation in their observation significantly at 1 percent level of significance.

Moreover the respondents associated with different categories of demographic profile as 'annual income' and 'Place of residence' showed significant variation in perception by thirteenth motivating reason 'transaction timings' (R 13) at 1 percent level of significance. Therefore the respondents belong to remaining demographic variables evident similar opinion about this aspect of motivating reasons.

It is apparent from the table that the observation of respondents about fourteenth motivating reason of RTGS automated banking services expressively 'competent employees' (R 14) differ significantly with various categories of demographic variables as 'occupation' and 'annual income' at 5 percent and 1 percent level of significance respectively.

Table further depicts that fifteenth motivating reason of RTGS automated banking services as 'good customer's services' (R 15) have wide variation of opinion among respondents belongs to demographic variables 'occupation' and 'annual income' at 99 percent confidence level. Hence other remaining demographic variables do not register any significant difference of opinion at 99 percent and 95 percent level of confidence.

Similarly in consideration about sixteenth reason which encourage customer for use of RTGS automated services as 'technology awareness and knowledge' (R 16) have founded significant difference in opinion among respondents associated 'occupation' and 'annual income' at 1 percent level of significance, while association with various groups of 'Place of residence' is significant at 5 percent level of significance.

Further it is very much cleared from the table that seventh reason motivation reason of RTGS automated banking services as 'no need to carry cash' (R 17) showed wide variation of opinion with various categories of demographic variables as 'occupation' and 'place of residence' at 1 percent level of significance, while association of respondents with 'annual income' differ significantly at 5 percent level of significance.

11. FINDINGS OF THE STUDY

The study have shown that majority of the respondents are using RTGS automated banking service because of 'quick transaction', they 'no need to carry cash' and its 'safety and security' are much motivating to use this service. The study bring forward that respondents gave first preference to the reason 'quick transaction' followed by 'no need to carry cash', 'safety and security' and 'competent employees'. Study showed that customers have perceived similarity in their motivation about the reasons namely "'innovativeness and integrated service', 'cost effective'", "'reliable and secure', 'all account holders can operate'" and "'reduce credit risk', 'transaction timings'". The perception of the respondents about 'can be operate through internet banking' is very unimportant motivational reason of RTGS service.

The motivational reason of RTGS service namely 'innovativeness and integrated services' is significantly associated with different occupation, level of education and place of the respondent, it implies that respondents have difference in their level of motivation towards this reason. The reason 'quick transaction' reveals that there is a significant difference of opinion among the respondents of different marital status, occupation, annual income, level of education, age group and place of residence of the respondents. The results concluded that 'good alternative of DD and Banker's exchequer' is significantly associated with different marital status, occupation, annual income, level of education, sector of the bank and place of the residence of the respondents. As the various reasons which motivate customers for the use of RTGS automated banking services are concern depicts the difference in perception among respondents belongs to 'occupation', 'annual income', 'level of education' and 'age group', 'Place of residence' about the motivating reason namely 'reduce credit risk'. Respondents have average level of motivation about the reasons 'technology awareness and knowledge' and 'more convenient and simple method for large transaction' though some of them are agree and others are disagree about this issue. Further overall it can be concluded that male and female of the respondents do not have significant differences in their perception level, it implies that male and female respondents have similarity in their perception.

12. MANAGERIAL IMPLICATIONS

The study is helpful to plug out weak areas, which need improvement with special reference to RTGS facility provided by various banks. The study provides meaningful direction to bank managers, information and technology persons and decision maker to improve their service quality for higher customer satisfaction.

13. FUTURE RESEARCH DIRECTIONS

A number of various aspects related to RTGS facility remained unsolved in this study will form the interesting topics for future research. It is observed that there are a number of factors that encourage customers for RTGS service. The researcher can find out these factors and they can choose different areas to unfold the issues related to RTGS service.

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A Study on Complaints and Grievances of Customers: With A Special Reference to Non Life Insurance Business in India

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ABSTRACT

Customers play a vital role in the growth and development of Insurance Sector in developing countries like India. It is important for the insurance providers to market themselves in a way that they attract new customers as well as retain the old ones. For this, customer orientation or customer centricity is the key. Customers' satisfaction should be the foremost agenda for marketers so as to attract and retain the customers which would also help them in remaining competitive in the current global arena. This paper attempts to identify the major areas of customers' grievances/ complaints in non life insurance business in India and attempts to categorise these complaints as a part of different Marketing Mix elements. This paper further examines the role of Insurance Regulatory and Development Authority of India and insurance companies in providing a solution to resolve these complaints.

KEYWORDS

Indian Insurance Sector; Customers' Grievances, Insurance Regulatory and Development Authority of India; Marketing Mix

1. INTRODUCTION

Marketing is a predominant activity in Life and General Insurance in a developing country like India. Customers play a vital role in the growth and development of Insurance Sector. It is important for the insurance providers to market themselves in a way that they attract new customers as well as retain the old ones. For this, customer orientation or customer centricity is the key. In the words of Mahatma Gandhi, "A customer is the most important visitor on our premises; he is not dependent on us. We are dependent on him. He is not an interruption in our work. He is the purpose of it. He is not an outsider in our business. He is part of it. We are not doing him a favour by serving him. He is doing us a favour by giving us an opportunity to do so."

Customers' satisfaction should be the foremost agenda for marketers so as to attract and retain the customers which would also help them in remaining competitive in the current global arena. For this, insurers should focus on minimizing the level of complaints of the customers and if customers report complaints, that should be resolved as soon as possible. These complaints can be of different nature, i.e. related to product, service delivery, matter related to pricing, intermediary, frauds by sales representative, misleading advertisement, claims settlement and so on. There is a need of strong grievance redressal mechanism by which these complaints can be resolved keeping in mind the orientation of the customers.

The current paper focuses on customers' grievances or complaints in non life insurance business in India and attempts to categorise these complaints as a part of different Marketing Mix elements. This paper further examines the role of Insurance Regulatory and Development Authority of India and Insurance companies in providing a solution to resolve these complaints.

2. RESEARCH METHODOLOGY OF THE STUDY

The study is exploratory in nature. Data was collected through secondary sources which include published reports of Insurance Regulatory Development Authority (IRDA), newspapers, journals, websites of major Non Life Insurance companies, website of IRDA, etc.

3. OBJECTIVES OF THE STUDY

The study was planned with the following main objectives:

1. To discuss the performance of the Insurance Sector in India

2. To identify the major areas of customers' grievances in non life insurance business in India and relate it with the Marketing Mix.

3. To analyze the trend of complaints (No. of complaints and Complaints resolved) in non life insurance business in India.

4. To identify the steps taken by IRDA and insurance players, both public and private, in resolving these complaints.

4. INDIAN INSURANCE SECTOR

At the end of September 2014, there were 53 insurance companies operating in India; of which 24 were in the life insurance business and 28 were in non-life insurance business. In addition, General Insurance Corporation (GIC) was the sole national reinsurer. In further classification, there were eight Public Sector insurance companies and forty five Private Sector insurance companies as shown in Table 4.1.

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REGISTERED INSURERS IN INDIA (As on 30th September, 2014)			
Type of business	Public Sector	Private Sector	Total
Life Insurance	1	23	24
Non-life Insurance	6*	22**	28
Reinsurance	1	0	1
Total	8	45	53

* Includes Specialised insurance companies - ECGC and AIC.
** Includes five Standalone Health Insurance Companies- Star Health & Allied Insurance Co., Apollo Munich Health Insurance Co., Max Bupa Health Insurance Co., Religare Health Insurance Co. and Cigna TTK Health Insurance Co.

Source: IRDA Annual Report 2013-14

Globally, the share of life insurance business in total premium was 56.2 per cent. However, the share of life insurance business for India was very high at 79.6 per cent while the share of non-life insurance business was small at 20.4 per cent as shown in Table 4.2.

Table 4.2: REGION WISE LIFE AND NONLIFE INSURANCE PREMIUM

Region wise Life and Non-Life Insurance Premium (Premium in USD Billions)			
Region/Country	Life	Non-Life	Total
Advanced economies	2200.25 (57.1)	1653.02 (42.9)	3853.27 (100)
Emerging markets	407.84 (51.8)	379.83 (48.2)	787.67 (100)
Asia	898.41 (70.3)	380.37 (29.7)	1278.78 (100)
India	52.17 (79.6)	13.40 (20.4)	65.58 (100)
World	**2608.09 (56.2)**	**2032.85 (43.8)**	**4640.94 (100)**

Source: Swiss Re, Sigma 3/2014.

Figures in brackets indicate share of the segment in per cent

In life insurance business, India is ranked 11th among the 88 countries in 2013 (10th in 2012), for which data is published by Swiss Re. India's share in global life insurance market was 2.00 per cent during 2013. However, during 2013, the life insurance premium in India declined by 0.5 per cent (inflation adjusted) when global life insurance premium increased by 0.7 per cent.

The Indian non-life insurance sector witnessed a growth of 4.1 per cent (inflation adjusted) during 2013. During the same period, the growth in global non-life premium was 2.3 per cent. However, the share of Indian non-life insurance premium in global non-life insurance premium was small at 0.66 per cent and India ranked 21st in global non-life insurance markets in 2013 (19th in 2012).

PREMIUM UNDERWRITTEN : LIFE INSURERS			(in crore)
Insurer	2011-12	2012-13	2013-14
LIC	202889.28 (-0.29)	208803.58 (2.92)	236942.30 (13.48)
Private Sector	84182.83 (-4.52)	78398.91 (-6.87)	77340.90 (-1.35)
Total	**287072.11 (-1.57)**	**287072.11 (-1.57)**	**314283.20 (9.43)**

Note: Figures in brackets indicate the growth (in per cent) over the previous year.

Source: IRDA Annual Report 2012-13, 2013-14

Table 4.3 shows premium underwritten of Life Insurers in India in the year 2013-14 and its comparison with previous years, i.e. 2012-13 and 2011-12. Life insurance industry recorded a premium income of ₹ 3,14,283 crore during 2013-14 as against ₹ 2,87,202 crore in the previous financial year, registering a growth of 9.43 per cent (0.05 per cent growth in previous year). While private sector insurers posted 1.35 per cent decline (6.87 per cent decline in previous year) in their premium income, LIC recorded 13.48 per cent growth (2.92 per cent growth in previous year).

Table 4.4 shows Gross Direct Premium Income of Non- Life Insurers in India in the year 2013-14 and its comparison with previous years, i.e. 2012-13 and 2011-12. The non-life insurance industry had underwritten a total premium of ₹ 70,610 crore in India for the year 2013-14 as against ₹ 62,973 crore in 2012-13, registering a growth of 12.13 per cent as against an increase of 19.10 per cent recorded in the previous year. The public sector insurers exhibited growth in 2013-14 at 10.21 per cent; over the previous year's growth rate of 14.60 per cent. The private general insurers registered growth of 14.52 per cent, which is lower than 25.26 per cent achieved during the previous year.

Table 4.4: GROSS DIRECT PREMIUM INCOME IN INDIA: NON-LIFE INSURERS

GROSS DIRECT PREMIUM INCOME IN INDIA NON-LIFE INSURERS			(in crore)
Insurer	2011-12	2012-13	2013-14
Public Sector	30560.74 (21.50)	35022.12 (14.60)	38599.71 (10.21)
Private Sector	22315.03 (28.07)	27950.69 (25.25)	32010.30 (14.52)
Total	**52875.77 (24.19)**	**62972.82 (19.10)**	**70610.02 (12.13)**

Note: Figures in brackets indicate the growth (in per cent) over the previous year.

Source: IRDA Annual Report 2012-13, 2013-14

During the financial year 2013-14, the life insurance industry reported net profit of ₹ 7,588 crore as against ₹ 6,948 crore in

2012-13. Out of the twenty four life insurers in operations during 2013-14, eighteen companies reported profits.

During the year 2013-14, the total net profit of non-life insurance industry was ₹ 4,439 crore as against a profit of ₹ 3,282 crore in 2012-13. The public sector companies reported a net profit of ₹ 2900 crore whereas private sector insurers reported a net profit of ₹ 1539 crore. All the four public sector insurers reported net profi ts during the year 2013-14. Among the seventeen private insurance companies, while twelve companies reported net profits, the remaining five companies incurred net losses during 2013-14.

5. COMPLAINTS OR GRIEVANCES IN NON-LIFE INSURANCE

A "Grievance/Complaint" is defined as any communication that expresses dissatisfaction about an action or lack of action, about the standard of service/deficiency of service of an insurance company and/or any intermediary or asks for remedial action. In non life insurance, these complaints can be of different nature, i.e. related to product, service delivery, matter related to pricing, frauds by sales representative or other intermediaries, misleading advertisement, claims settlement and so on. Broadly, the potential areas of fraud include those committed by the officials of the insurance company, insurance agent/corporate agent/intermediary/TPAs and the policyholders/ their nominees. Some of the examples of fraudulent acts/omissions include, but are not limited to the following:

1. Internal Fraud:
a) misappropriating funds
b) fraudulent financial reporting
c) stealing cheques
d) overriding decline decisions so as to open accounts for family and friends

e) inflating expenses claims/over billing
f) paying false (or inflated) invoices, either self-prepared or obtained through collusion with suppliers
g) permitting special prices or privileges to customers, or granting business to favoured suppliers, for kickbacks/favours
h) forging signatures
i) removing money from customer accounts
j) falsifying documents
k) selling insurer's assets at below their true value in return for payment.

2. Policyholder Fraud and Claims Fraud:
a) Exaggerating damages/loss
b) Staging the occurrence of incidents
c) Reporting and claiming of fictitious damage/loss
d) Medical claims fraud
e) Fraudulent Death Claims

3. Intermediary fraud:
a) Premium diversion-intermediary takes the premium from the purchaser and does not pass it to the insurer
b) Inflates the premium, passing on the correct amount to the insurer and keeping the difference
c) Non-disclosure or misrepresentation of the risk to reduce premiums
d) Commission fraud - insuring non-existent policyholders while paying a first premium to the insurer, collecting commission and annulling the insurance by ceasing further premium payments.

IRDA Annual Report provides a valuable data on the status of customer grievances or complaints both for Life as well as Non-life Insurance in India. Table 5.1 shows the status of grievances of non-life insurers in the past eleven years, i.e. starting from 2003-04 to 2013-14.

Table 5.1: STATUS OF GRIEVANCES: NON-LIFE INSURERS

STATUS OF GRIEVANCES : NON-LIFE INSURERS								
S.No.	Year		Outstanding at Year Beginning	Grievances Reported during the Year	Total Complaints	Resolved During Year	Resolved (%)	Outstanding at Year End
1	2003-2004	PUBLIC	418	2442	2860	1788	62.52	1072
		PRIVATE	22	131	153	152	99.35	1
		TOTAL	440	2573	3013	1940	64.39	1073
2	2004-2005	PUBLIC	1072	1571	2643	1937	73.29	706
		PRIVATE	1	162	163	139	85.28	24
		TOTAL	1073	1733	2806	2076	73.98	730
3	2005-2006	PUBLIC	707	1331	2038	1488	73.01	550
		PRIVATE	23	196	219	204	93.15	15
		TOTAL	730	1527	2257	1692	74.97	565
4	2006-2007	PUBLIC	550	1108	1658	1141	68.82	517
		PRIVATE	15	510	525	419	79.81	106
		TOTAL	565	1618	2183	1560	71.46	623

5	2007-2008	PUBLIC	517	1339	1856	1174	63.25	682
		PRIVATE	106	890	996	802	80.52	194
		TOTAL	623	2229	2852	1976	69.28	876
6	2008-2009	PUBLIC	682	921	1603	1160	72.36	443
		PRIVATE	194	1281	1475	1265	85.76	210
		TOTAL	876	2202	3078	2425	78.78	653
7	2009-2010	PUBLIC	443	1061	1504	1077	71.61	427
		PRIVATE	210	1015	1225	1096	89.47	129
		TOTAL	653	2076	2729	2173	79.63	556
8	2010-2011	PUBLIC	427	2844	3271	2100	64.20	1171
		PRIVATE	129	2430	2559	2301	89.92	258
		TOTAL	556	5274	5830	4401	75.49	1429
9	2011-2012	PUBLIC	0*	12658	12658	11110	87.77	1548
		PRIVATE	0*	80497	80497	80450	99.94	47
		TOTAL	0*	93155	93155	91560	98.29	1595
10	2012-2013	PUBLIC	1548	18616	20164	19057	94.51	1107
		PRIVATE	47	60311	60358	60230	99.79	128
		TOTAL	1595	78927	80522	79287	98.47	1235
11	2013-2014	PUBLIC	1107	17658	18765	18083	96.37	682
		PRIVATE	128	45677	45805	45653	99.67	152
		TOTAL	1235	63335	64570	63736	98.71	834

* Complaints Outstanding at the end of 2010-11 were not included or represented in IRDA Annual Report- 2011-2012.

Source: IRDA Annual Reports 2003-2014

Figure 5.1 depicts a graphical representation of the status of complaints resolved during last eleven years starting from 2003-04 to 2013-14. There is an improvement in both public and private sector insurance companies since 2011-12 as they managed to resolve more than 87 percent complaints.

Figure 5.1: STATUS OF GRIEVANCES RESOLVED: NON-LIFE INSURERS

|	2003-2004	2004-2005	2005-2006	2005-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
% of Complaints Resolved by PUBLIC	62.52	73.29	73.01	68.82	63.25	72.36	71.61	64.20	87.77	94.51	96.37
% of Complaints Resolved by PRIVATE	99.35	85.28	93.15	79.81	80.52	85.76	89.47	89.92	99.94	99.79	99.67
% of Complaints Resolved by TOTAL	34.39	73.98	74.97	71.46	69.28	78.78	79.63	75.49	98.29	98.47	98.71

Source: Based on Data Provided in Table 5.1

During 2013-14, non-life insurance companies resolved 98.71 per cent of the complaints handled. The private non-life insurance companies resolved 99.67 per cent and public non-life insurance companies resolved 96.36 per cent of the complaints handled by them. As on 31st March, 2014, 834 complaints were still pending with the insurance companies for resolution, out of which 152 belong to private sector and 682 pertain to public sector non-life insurance companies.

The pattern of complaints in Integrated Grievance Management System (IGMS) data regarding non-life insurance industry indicates that claims related complaints constitute major chunk of the complaints during 2013-14 as shown in Figure 6.1. Majority of the complaints were received for claims related and policy related matters, i.e. 27,409 complaints were received related to the claims, followed by 21,240 complaints related to the policy.

Figure 5.2 CLASSIFICATION OF COMPLAINTS: NON-LIFE INSURERS
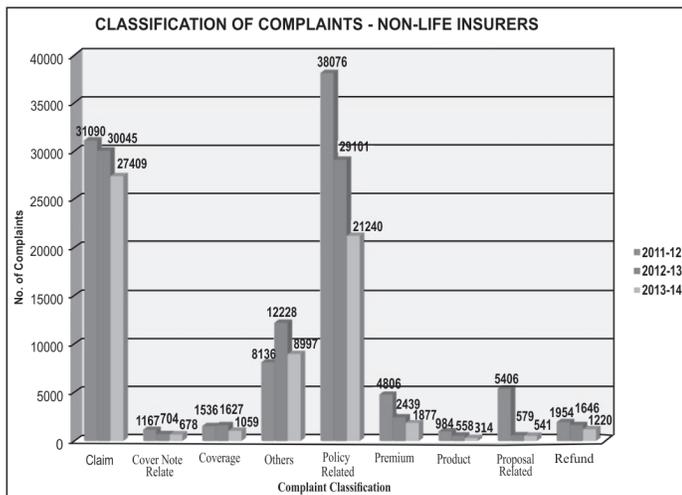
Source: IRDA Consumer Education Website: www.policyholder.gov.in

In class-wise complaints, motor insurance related complaints constituted the highest number of complaints as shown in Figure 5.2. More than 80 % complaints were related to the motor and health insurance.

Figure 5.2: CLASS – WISE NON-LIFE COMPLAINTS DURING 2011-14
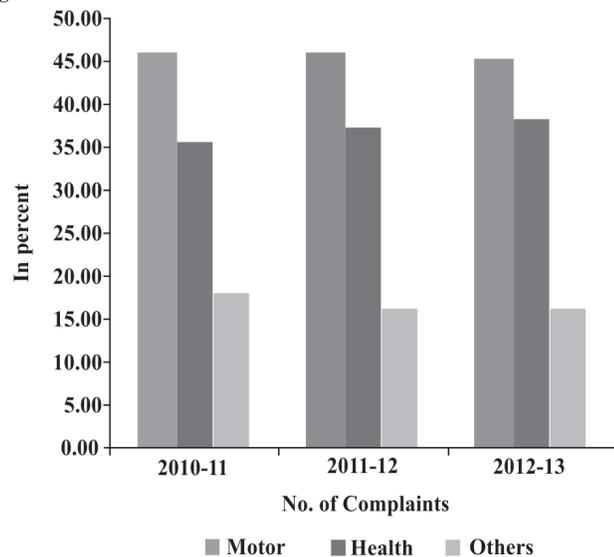
Source: IRDA Annual Report 2013-14

6. CLASSIFICATIONS OF COMPLAINTS AND MARKETING MIX

The marketing mix is considered one of the core concepts of marketing. The marketing mix includes sub-mixes of the 7 P's of marketing i.e. the product or a service package, price, place, promotion, people, process & physical evidence. Product or service package is the benefit that a customer is buying. In case of non life insurance, a policy that a customer is buying to minimize the risk related to non life insurance is the product or the service package. Price is the monetary value that a customer pays for an insurance policy. Place is the physical area from which a customer buys a policy. It also includes the distribution channels or intermediaries related to the insurance industry which assist companies in selling insurance products to the customers. Promotion includes all elements like advertisement, personal selling, sales promotion techniques, word of mouth communication, sponsorship marketing, internet marketing, etc. which an insurance marketer uses to promote the product or an image of the insurance company. People are the human actors who play a part in service delivery and thus influence the buyers' perceptions; namely, the firm's personnel, the customer, and other customers in the service environment. Process means the actual procedures, mechanisms, and flow of activities by which the service is delivered and Physical evidence stands for the environment in which the service is delivered, and where the firm and customer interact, and any tangible components that facilitate performance or communication of the service.

Complaints as shown in Figure 5.2 are categorized in nine different categories. Attempt has been made to relate these complaints to the different marketing mix elements.

Table 6.1: CLASSIFICATION OF COMPLAINTS AND MARKETING MIX

Classification of Complaints	Concerned Marketing Mix Elements
Claims	Process
Cover Note Related	Product, Process, People, Physical Evidence
Coverage	Product
Others	Product, Price, Place, Promotion, People, Process, Physical Evidence
Policy Related	Product, Process, Physical Evidence
Premium	Price, Process
Product	Product
Proposal Related	Product, Process, People, Physical Evidence
Refund	Price, Process

Table 6.1 attempts to relate the complaints to different marketing mix elements. The major marketing mix elements which are related to these complaints are Product and Process. This means, most of the customers are facing problems either related to the product or the process mix. Insurers should focus on the sub elements of these two marketing mix elements for reducing the grievances or complaints of the customers.

7. STEPS TAKEN BY PUBLIC PLAYERS, PRIVATE PLAYERS AND IRDA TO RESOLVE THE COMPLAINTS.

7.1 Integrated Grievance Management System (IGMS):

IRDA has launched the Integrated Grievance Management System (IGMS). Apart from creating a central repository of industry-wide insurance grievance data, IGMS is a grievance redress monitoring tool for IRDA. Policyholders who have grievances should register their complaints with the Grievance Redress Channel of the Insurance Company first. If policyholders are not able to access the insurance company directly for any reason, IGMS provides a gateway to register complaints with insurance companies.

Complaints shall be registered with insurance companies first and only if need be, be escalated them to IRDA (Consumer Affairs Department). IGMS is a comprehensive solution which not only has the ability to provide a centralised and online access to the policyholder but complete access and control to IRDA for monitoring market conduct issues of which policyholder grievances are the main indicators. IGMS has the ability to classify different complaint types based on pre-defined rules. The system has the ability to assign, store and track unique complaint IDs. It also sends intimations to various stakeholders as required, within the workflow. The system has defined target Turnaround Times (TATs) and measures the actual TATs on all complaints. IGMS sets up alerts for pending tasks nearing the laid down Turnaround Time. The system automatically triggers activities at the appropriate time through rule based workflows.

Here are the TATs for non-life insurance company to deal with various types of complaints.

Figure 7.1: TURNAROUND TIMES (TATS) FOR NON-LIFE INSURANCE COMPANIES

General Insurance Companies	
Service	**Maximum Turn Around Time (TAT)**
General	
Processing of Proposal and Communication of decisions including requirements/ issue of policy/ Cancellations	15 Days
Obtaining copy of the Proposal	30 Days
Post Policy issue service requests concerning mistakes/ Refund of proposal deposit and also Non-Claim related service requests	10 Days
General Insurance	
Survey report submission	30 Days
Insurer seeking addendum report	15 Days
Offer of Settlement/ Rejection of Claim after receiving first/ addendum survey report	30 Days
Grievances	
Acknowledging a Grievance	3 Days
Resolving a Grievance	15 Days

Source: IRDA Consumer Education Website: www.policyholder.gov.in

A complaint registered through IGMS will flow to the insurer's system as well as the IRDA repository. Updating of status will be mirrored in the IRDA system. IGMS enables generation of reports on all criteria like ageing, status, nature of complaint and any other parameter that is defined.

Thus IGMS provides a standard platform to all insurers to resolve policyholder grievances and provides IRDA with a tool to monitor the effectiveness of the grievance redress system of insurers.

7.2 Monitoring on insurance companies by IRDA:

IRDA also regularly accesses the portal of the Department of Administration and Public Grievances (DARPG), Government of India and ensures that complaints relating to the insurance sector are downloaded and necessary action to get them examined by the insurers is taken.

7.3 Grievance Redressal Cell of the Insurance Regulatory and Development Authority

The Grievance Redressal Cell of the Insurance Regulatory and Development Authority looks into complaints from policyholders. Complaints against Life and Non-life insurers are handled separately. This Cell plays a facilitative role by taking up complaints with the respective insurers.

Policyholders who have complaints against insurers are required to first approach the Grievance / Customer Complaints Cell of the concerned insurer. If they do not receive a response from insurer(s) within a reasonable period of time or are dissatisfied with the response of the company, they may approach the Grievance Cell of the IRDA. The complaints need to be addressed to the Non-life insurance Grievance Cell of the IRDA and forwarded to the address of the cell. Only cases of delay/non-response regarding matters relating to policies and claims are taken up by the Cell with the insurers for speedy disposal. As claims/policy contracts in dispute require adjudication and the IRDA does not carry out any adjudication, insureds are advised to approach the available quasi-judicial or judicial channels, i.e., the Insurance Ombudsmen, Consumer forum or the Civil courts for such complaints. Only complaints from the insureds themselves or the claimants shall be entertained. The Cell shall not entertain complaints written on behalf of policyholders by advocates or agents or any third parties. Where complaints are being sent through e-mail, complainants are requested to submit complete details of the complaint as required in the complaints registration form. Without this the Cell will not be in a position to register the complaint.

7.4 Ombudsmen:

The institution of Insurance Ombudsman was created by a Government of India Notification dated 11th November, 1998 with the purpose of quick disposal of the grievances of the insured customers and to mitigate their problems involved in redressal of those grievances. This institution is of great importance and relevance for the protection of interests of policy holders and also in building their confidence in the system. The institution has helped to generate and sustain the faith and confidence amongst the consumers and insurers.

When a complaint is settled through the mediation of the Ombudsman, he shall make the recommendations which he thinks

fair in the circumstances of the case. Such a recommendation shall be made not later than one month and copies of the same sent to complainant and the insurance company concerned. If the complainant accepts recommendations, he will send a communication in writing within 15 days of the date of receipt accepting the settlement.

The ombudsman shall pass an award within a period of three months from the receipt of the complaint. The awards are binding upon the insurance companies. If the policy holder is not satisfied with the award of the Ombudsman he can approach other venues like Consumer Forums and Courts of law for redressal of his grievances. As per the policy-holder's protection regulations, every insurer shall inform the policy holder along with the policy document in respect of the insurance Ombudsman in whose jurisdiction his office falls for the purpose of grievances redressal arising if any subsequently.

Steady increase in number of complaints received by various Ombudsman shows that the policy-holders are reposing their confidence in the institution of Insurance Ombudsman. During 2013-14, the twelve Ombudsmen centres spread across India have received a total of 26315 complaints. While 17512 complaints (67 per cent) pertained to life insurers, the remaining 8803 complaints (33 per cent) related to non-life insurers. This was in addition to 8601 complaints pending with various offices of Ombudsmen as at the end of March 2013. The offices of Ombudsmen have handled a total of 34916 cases during 2013-14.

7.5 General Insurance Council:

General Insurance Council is a body set up under Section 64C of the Insurance Act, 1938. All registered non-life insurers are members of the council and are represented by their Chief Executive Officers.

The council aims to enhance the business standards, customer service, maintain market discipline and at development of non-life insurance in a healthy manner, by adopting the best practices.

7.6 Grievance Redressal System:

Every insurer shall have a system and a procedure for receiving, registering and disposing of grievances in each of its offices. This and all other relevant details along with details of Turnaround Times (TATs) shall be clearly laid down in the policy. While insurers may lay down their own TATs, they shall ensure that the following minimum time-frames are adopted:

(a). An insurer shall send a written acknowledgement to a complainant within 3 working days of the receipt of the grievance.

(b). The acknowledgement shall contain the name and designation of the officer who will deal with the grievance.

(c). It shall also contain the details of the insurer's grievance redressal procedure and the time taken for resolution of disputes.

(d). Where the insurer resolves the complaint within 3 days, it may communicate the resolution along with the acknowledgement.

Table 7.4.1: DISPOSAL OF COMPLAINTS BY OMBUDSMEN

Insurer	Complaints outstanding as on 31.03.2013	Received during 2013-14	Total	Complaints disposed during 2013-14	No. of Complaints disposed by way of				Complaints outstanding as on 31.03.2014
					(I)	(II)	(III)	(IV)	
Life	3884	17512	21396	15672	1333 (8.51)	1821 (11.61)	918 (5.86)	11600 (74.20)	5724
Non-Life	4717	8803	13520	9627	2227 (23.13)	1718 (17.85)	1093 (11.35)	4589 (47.67)	3893
Industry	8601	26315	34916	25299	3560 (14.07)	3539 (13.99)	2011 (7.95)	16189 (63.99)	9617

Notes: (I) Recommendations / Awards   (III) Dismissal
　　　　(II) Withdrawal / Settlement   (IV) Non-acceptable / Not-entertainable
Figure in brackets indicates percentages to the respective complaints disposed.

Source: IRDA Annual Report 2013-14

During 2013-14, the Ombudsmen disposed of 25299 complaints. Of these complaints, Ombudsmen declared 64 per cent of the complaints as non-acceptable/ not-entertainable. Awards/recommendations were issued for 14 per cent of total complaints. Other than this, 14 per cent of the complaints were withdrawn, while another nearly eight per cent of the complaints were dismissed. 9617 complaints were pending as on 31st March, 2014.

(e). Where the grievance is not resolved within 3 working days, an insurer shall resolve the grievance within 2 weeks of its receipt and send a final letter of resolution.

(f). Where, within 2 weeks, the company sends the complainant a written response which offers redress or rejects the complaint and gives reasons for doing so,

(g). the insurer shall inform the complainant about how he/she may pursue the complaint, if dissatisfied.

(h). the insurer shall inform that it will regard the complaint as closed if it does not receive a reply within 8 weeks from the date of receipt of response by the insured/policyholder.

Any failure on the part of insurers to follow the above-mentioned procedures and time-frames would attract penalties by the Insurance Regulatory and Development Authority. It may be noted that it is necessary for each and every office of the insurer to adopt a system of grievance registration and disposal.

7.7 Insurance Fraud Monitoring Framework

Fraud in insurance reduces consumer and shareholder confidence; and can affect the reputation of individual insurers and the insurance sector as a whole. It also has the potential to impact economic stability. It is, therefore, required that insurers understand the nature of fraud and take steps to minimize the vulnerability of their operations to fraud. All insurance companies are required to have in place an Anti Fraud Policy duly approved by their respective Boards. The Policy shall duly recognize the principle of proportionality and reflect the nature, scale and complexity of the business of specific insurers and risks to which they are exposed. While framing the policy, the insurance company should give due consideration to all relevant factors including but not limited to the organisational structure, insurance products offered, technology used, market conditions, etc. As fraud can be perpetrated through collusion involving more than one party, insurers should adopt a holistic approach to adequately identify, measure, control and monitor fraud risk and accordingly, lay down appropriate risk management policies and procedures across the organization.

The Board shall review the Anti Fraud Policy on atleast an annual basis and at such other intervals as it may be considered necessary. The statistics on various fraudulent cases which come to light and action taken thereon shall be filed with the Authority in forms FMR 1 and FMR 2 providing details of (i) outstanding fraud cases; and (ii) closed fraud cases, every year within 30 days of the close of the financial year. The Insurer shall inform both potential clients and existing clients about their anti-fraud policies. The Insurer shall appropriately include necessary caution in the insurance contracts/ relevant documents, duly highlighting the consequences of submitting a false statement and/or incomplete statement, for the benefit of the policyholders, claimants and the beneficiaries.

7.8 Insurance Awareness

An enlightened consumer is an empowered consumer. An aware consumer not only protects himself from exploitation but induces efficiency, transparency and accountability in the entire insurance sector. Realising the importance of consumer empowerment the IRDA has accorded priority to Consumer Education, Consumer Protection and Consumer Awareness. IRDA's Insurance Awareness Campaign against spurious calls on radio and television is an example of educating the customers about the frauds. The IRDA has following awareness programmes:

1. Bima Bemisaal
2. Jago Grahak Jago
3. IRDA Annual Seminar
4. Sponsored Events
5. Insurance Awareness Survey
6. Comic Strips
7. Print Ads
8. TV Commercials
9. Radio Jingles

8. SUGGESTIONS

IRDA and Insurers are doing well in the area of grievance redressal but it is more important to reduce the number of complaints by the policy holders. Some of the suggestions for the non life insurance companies are as follows:

1. **Claims and Policy Related complaints need special attention:** Integrated Grievance Management System (IGMS) data regarding non-life insurance industry indicates that claims related and policy related complaints constitute major chunk of the complaints during the last three years. Non life Insurance companies should focus their efforts on reducing these complaints.

2. **Motor and Health related complaints need Special Attention:** In class-wise complaints, motor insurance related complaints constituted the highest number of complaints. More than 80 % complaints were related to the motor and health insurance. Non life Insurance companies should focus on reducing the complaints in these two important classes.

3. **Companies should focus on Product and Process Mix:** There is a need for insurance companies to reduce these complaints by focusing on making improvements in the product and the process mix. By making improvements in the product and its features and the process by which the service is delivered, insurance companies can actually reduce the level of complaints by the policyholders.

9. CONCLUSION

Insurance Companies are doing well in grievance redressal, but there is a need of mechanism which would help in reducing the number of complaints which can be done with the help of improvements in the marketing mix elements. The real innovation that we need in insurance industry is the innovation in the marketing mix in the form of improvements in the marketing mix elements.

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A Study on Work Life Balance Amongst Nurses With Special Reference To West Delhi

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Anjana Singh *
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ABSTRACT

Work- life balance is the matter of concern in 21st century. It is really tough to strike a balance between family and work in this competitive era. One has to understand that work life and personal life are the two sides of the same coin. It is very difficult for an individual to fulfill the demands of both professional as well as personal life. Now- a- days an individual may find himself working continuously from 7 a.m. to 11 p.m., even answering email and calls during mealtime. Work easily invades our personal lives because of the simple fact that money dominates the modern life. When there's no balance in personal and professional life it leads to loss in productivity and too often it affects the individual's health.

This research paper is an attempt to study the work life balance issues with reference to nurses working in west Delhi area as well as the factors that determine work life balance.

KEYWORDS

Work- life balance, WLB Problems, Impact of WLB

1. INTRODUCTION

Work-life balance is defined as an individual' sability to meet their work and family commitments,as well as other non-work responsibilities andactivities.As we are stepping towards 21st century, the scenario of our work place has transformed drastically. All working class is now more empowered due to increased education and awareness. David Clutterbuck, author of "Managing work life balance" says " our lives are becoming increasingly complex with every passing year. We have more choices, more opportunities and more demands places on us."

When we talk about work life balance there is a perception among us that it is only confined that what a company is doing for an individual but it is bifurcated into two. The other aspect of work life balance, which many individuals overlook is what the individual do for themselves. Work life balance is achievement with enjoyment. Achievement can beheld as a motive of life while enjoyment is the fuel to drive that motive. In this aeon, when the work pressure is very high and deadlines are getting tighter than ever, it is very difficult to maintain a balance between work and family and rather it is now seems to be a dream.When an individual carries work stress and vice versa it tends to cause anxiety and would be difficult to have the engagement of mind with the body. To be a successful person, balance in work and at home is to be achieved. A successful person is not defined in terms of working throughout day and night and leaving no quality time for other segments of his life rather he is the one who balances all the segments of his life effectively.

Work-Life balance of women employees has become an issue of concern since women now equally participating in fulfilling the responsibilities of her family. Therefore, it is necessary to know how women balances the two busy aspects of her life. A woman should be able to have job satisfaction as well as should be able to achieve high in her career. Studies have shown that almost 53% of them struggle to achieve work-life balance. Women should be proactive in her approach in equally balancing the both aspects and having end result as "Satisfaction". The workplace becomes a field of battle for a working women after marriage. Responsibilities just add on when they become mother. Work becomes a challenge not for just a working women rather more for the working mothers.

Work life 'imbalance' has also led to various ever growing problems such as deteriorated health, declining productivity, increase in nuclear families and divorces, high level of stress etc. Flexibility at work is now most sought after criteria by various employees. Due to MNCs, job opportunities have also increased accompanied with salary but they leave employees with very less time for their families. The responsibility of work life balance is also on the shoulders of employers. Balanced work-life not only benefits to the employee but also to the employers because of increased efficiency and thus productivity. Individuals extract abundant amount of happiness if they are provided with open atmosphere and supportive team at work. They automatically become an asset to their organisation. It leads to satisfaction not only at an individual level but at an organisational level too.

Studies have shown that maximum women work for 40-50hrs. / week out of which almost 55% of them strive to achieve work-life-balance. The main reason to struggle is because they need to fulfil commitments at both the levels. They need to manage effectively, they involve themselves in multitasking which leads to stress. Employers should formulate schemes which can only attract and retain the employees and make them highly productive. Organizations have many such facilitieslike, Transport, Canteen, Day care centres, Postal/saving schemes, Flexi-working hours, part-time working, provide the information about work-life balance policies and specialleave arrangement such as Annual leave & public holiday leave, Career Break leave, Leave for elective representative, Leave to attend as witness at court in your organization, Healthcare centres, rewards & recognition, career growth, Insurance plans, Job rotation, Incentives, Performance related pays, Rest rooms and other government schemes like maternity, marriage, sick leave benefit, & medical benefits. And other Work life balance options like Staff counselling, Organizational psychology unit, Workplace Health Promotion, Social clubs, Pre-retirement club, Women's network, Breast feeding support groups etc. These schemes help the women employees to work peacefully without any family, children tension so that they able to give their

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best at work. Moreover, organizations have women empowerment schemes like Forums, Committees, Grievance redresses system, suggestion schemes where a women is empowered to share her views, complaints and suggestions with the Top Management and derive solutions for the same.

2. LITERATURE REVIEW

Locke (1951), Hill 1988 & Hill 1988found that spouses who spend more free time with their partners are comparatively happier and contended. In order to reach new heights and high goals,employees make biased approach towards their work and families So Worklife balance approach came into the picture.

MacEwen, K. E. &Barling, J. 1988; Academic research has also shown that work/family conflict and job stress are associated with lower levels of marital satisfaction for women and withdrawal from marital interactions by both women and men.Work life balance gets affected by stress at work and at family.As per various researches shift workers often feel deserted from their near ones and are less participative in their domestic duties.Not only working but working for longer hours is the big hamper in maintaining the work- life balance.

White and Keith (1990); In a large-scale longitudinal study of shift work was found to reduce marital quality and increase the probability of divorce (while the effects are significant, they are relatively small). Moreover, it has been found that the employees who are working in a shift has a bad impact on their social and marital life. The main reasons are indefinite and odd hours working which is generally not welcomed in the country like India.

Fiona Jones, Ronald J. Burke, MinahVestman, 2006Working men and women are finding it more and more difficult to integrate work and home life. Employees feel that increased work pressure is encroaching their personal lives and they get displeasure out of it.

Stephen P. Robbins, 2009; Organizations that don't help their people achieve work life balance will find it increasingly difficult to attract and retain the most capable and motivated employees. This results into the Brain Drain not only from one organization but sometimes from the country too. It is difficult to retain the talented employees in an organization if there is no balance between the personal and professional life.

After Globalization, an employee is forced to do multitasking always. The advancement in technology has made man more a machine. An employee is found doing work from anywhere at any time which ultimately proves to be the hindrance not only in his life but also domestic obligations towards his family.

3. OBJECTIVES OF THE STUDY

1. To study the work life balance amongst the selected group of nurses.

2. To through the light on the significance of work life balance.

3. To have an in- depth knowledge of those factors which cause imbalance in work and life.

4. To study the recent trends regarding work life imbalance in today's hectic scenario.

5. To find an approach to bring about the steadiness in the work and the life.

4. RESEARCH METHODOLOGY

The methodology which is adopted to collect the data is through survey and is done with the help of a structured questionnaire. The population under consideration is the nurses working in west Delhi area. Convenience sampling was taken to determine the units of sample.

5. RESEARCH DESIGN

The study is descriptive which delineate the data and its features. It is also known as Statistical Research. The study is an attempt to find the present scenario of work life balance in the lives of nurses.

6. SAMPLING DESIGN

A sample of 50 respondents was collected using convenience sampling.

7. DATA COLLECTION METHOD

Primary Data

The data collection was done through a structured questionnaire. The questionnaire was prepared keeping in mind the objectives and scope of the research. The attempt has been made to through the light on the overall impact of work life imbalance on various indispensable parts of life.

Secondary Data

Secondary data has been taken from the various journals, articles, internet and management books which are mentioned in the bibliography.

Sample Size

50 random respondents belonging to the profession of nursing sisters, from various hospitals of West Delhi were selected to carry out the study.

Tools for Analysis

Statistical Tools like pie- charts and bar- diagrams were used to examine and analyse the data using Microsoft Excel.

8. FINDINGS & ANALYSIS

1. How long have you been working for the organisation ?
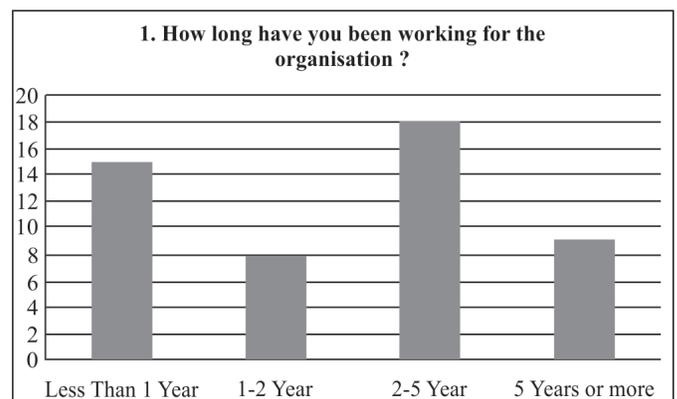
Analysis: As per the study, 36 percent of the nurses are working since past five years followed by 30 percent of nurses have been working since last 1 year or less subsequently followed by the nurses who are working for 5 or more years.

2. How motivating is the work environment?
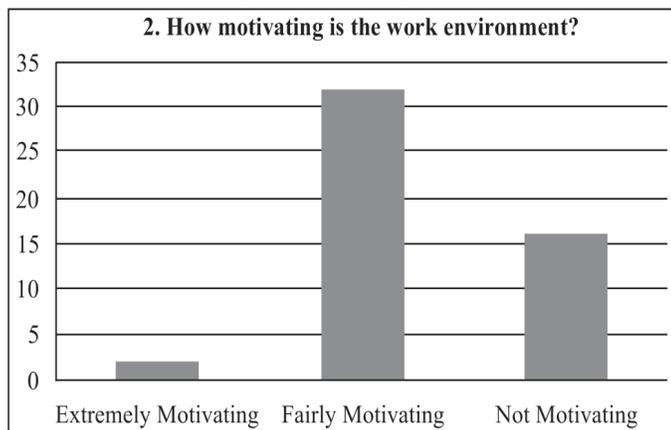
Analysis: As per the study, 66 percent of the nurse's work environment is fairly motivating which is followed by not motivating environment i.e. 32 percent and followed by extremely motivating environment is almost zero.

3. How many hours in a day you normally work?
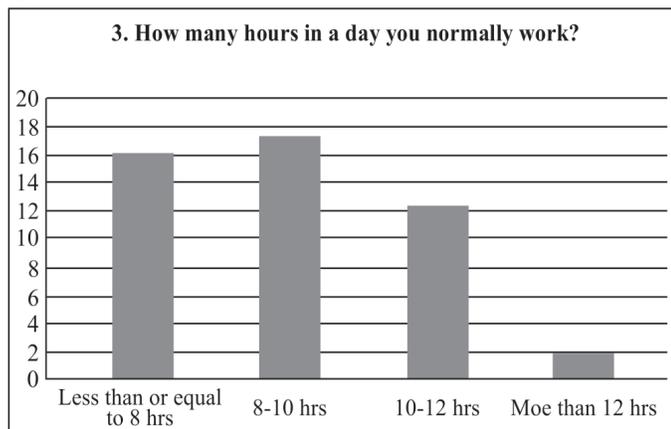
Analysis: As per the study, 36 percent of nurses work for around ten hours in a day which is followed by 34 percent who work for less than eight hrs and followed by others who work for around twelve hours and then by those who work for more than twelve hours in a day.

4. Do you get enough rest and exercise?
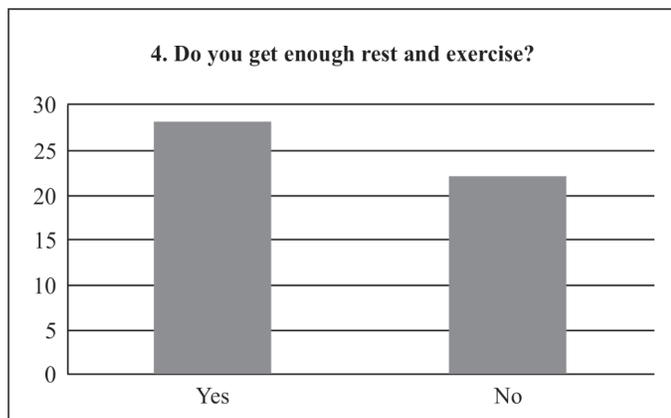
Analysis: As per the study, 56 percent of nurses say that they get enough of sleep while 44 percent says they don't get.

**5. Do you suffer from stress of related diseases?**
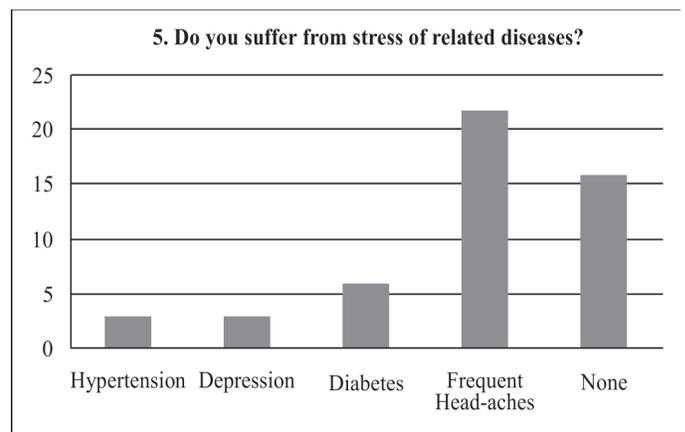
Analysis: As per the study, 44 percent of nurses are suffered from frequent headaches followed by 32 percent of the nurses who are not having any disease. 12 percent of nurses have been found suffering from diabetes and 6 percent each of them suffering from depression and hypertension.

6. How many hours in a day you spend with you family?
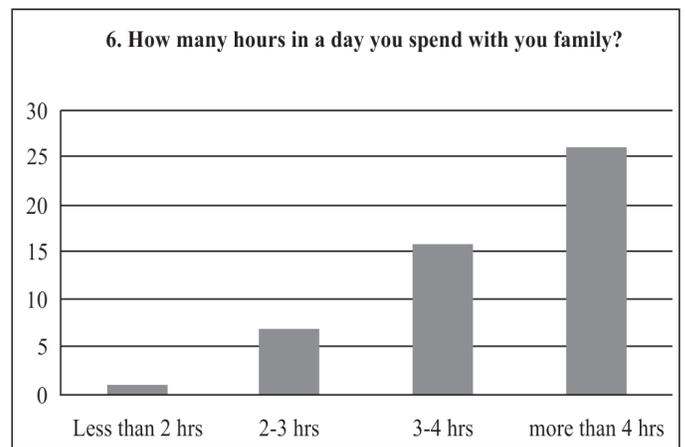
Analysis: As per the study, 52 percent of nurses spend more than 4 hours with their family followed by 32 percent of those nurses who spend 3 to 4 hours followed by nurses who spend 2 to 3 hours and less than that.

7. Who is helping you to take care of your children?
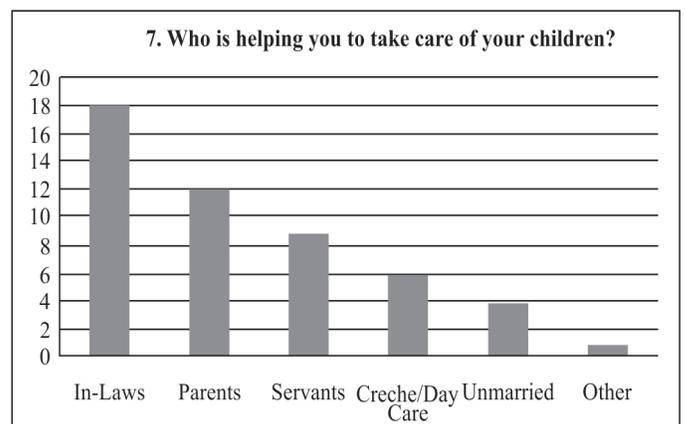
Analysis: As per the study, 36 percent of nurses are being supported by their in-laws who take care of their children followed by 24 percent of nurses who are supported by their parents.18, 12 and 10 percent are dependent on servants, crèche and others respectively.

8. How often you go out with your family?
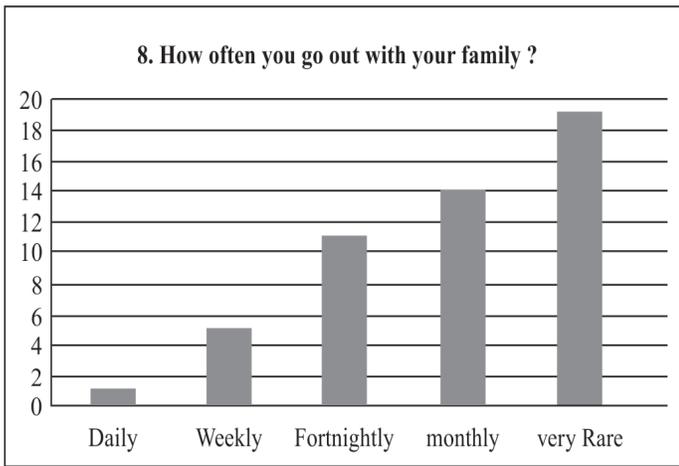
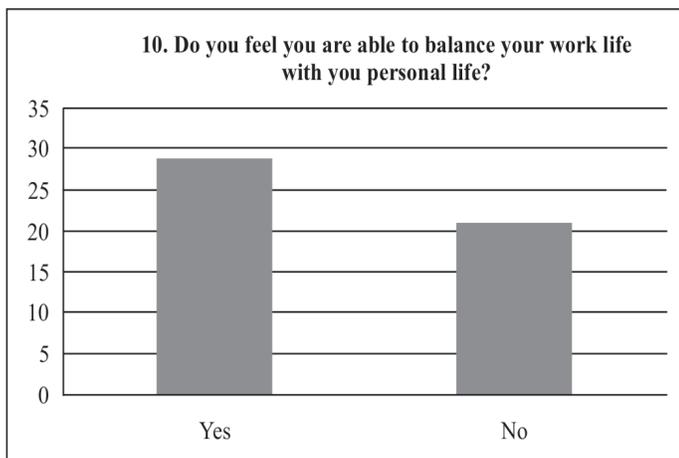**Analysis:** As per the study, 38 percent of nurses go out very rarely with their family followed by 28 percent who go on monthly basis and 22, 10 and 2 percent who go on fortnightly, weekly and daily basis respectively.

9. Which of the following hinder you in fulfilling your family commitments?
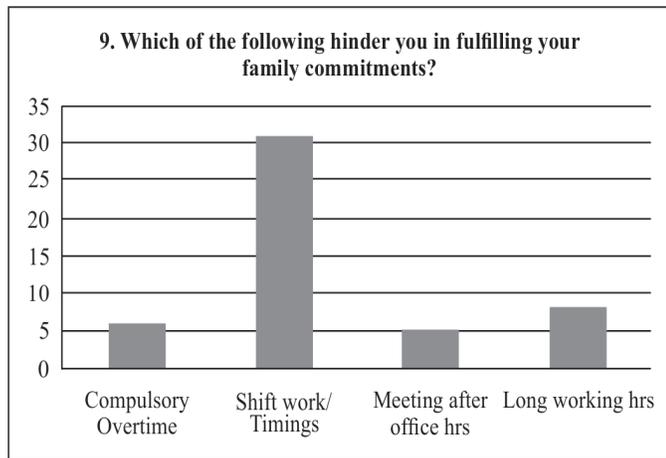
Analysis: As per the study, 62 percent of nurses believe that shift timings is the main hindrance towards fulfilling of their family commitments. 16 percent believe long working hours while 12 and 10 percent believe that compulsory overtime and after office hours meeting respectively hinders their commitments towards their families.

10. Do you feel you are able to balance your work life with you personal life?

Analysis: As per the study, 38 percent of nurses majority of nurses are able to balance their work life with their personal life.

11. Does your organization have a special policy for work life balance?
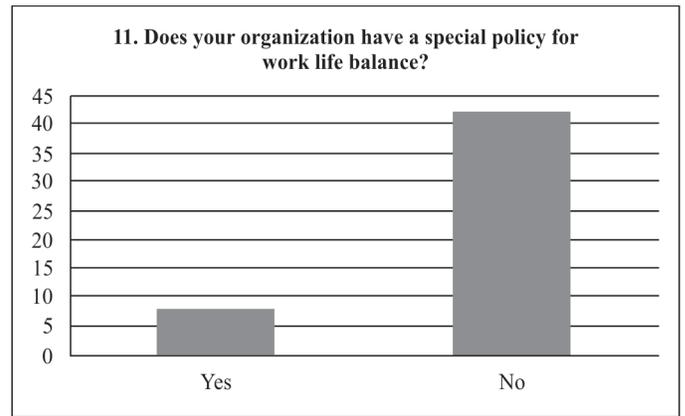
Analysis: As per the study, majority of the nurses says that their organization does not provide them with special policy for work-life balance.

12. Does your organization organize social functions and gatherings?
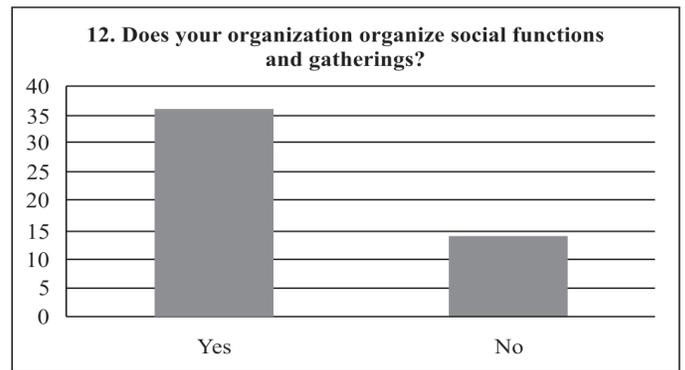
Analysis: As per the study, majority of the nurses says that their organization does organize social functions and gatherings.

13. Does your organization provide you with annual Health check up?
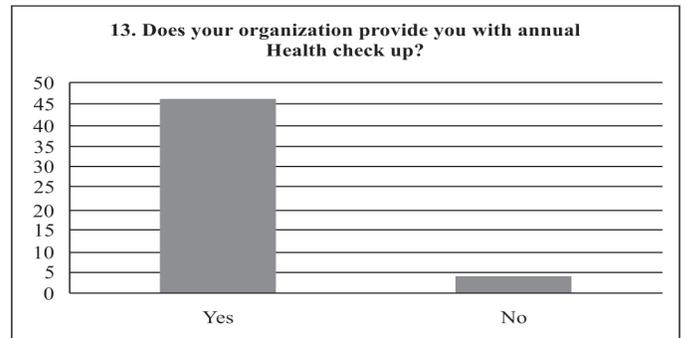
Analysis: As per the study, high percentage of the nurses are satisfied with the policy of annual health checkup being provided by their employer.

14. According to you if the employees have good work-life balance the organization will be more effective and efficient?
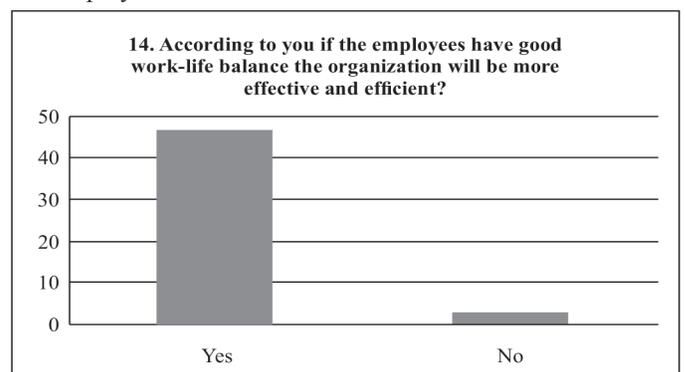
Analysis: As per the study, almost every nursing sister says that if the employees have good work- life balance the organization will be more effective and efficient.

15. Do you find yourself thinking about work instead of focusing on home or pleasure activities?
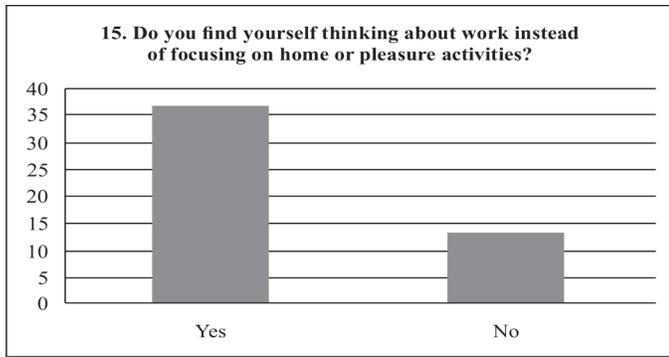
Analysis: As per the study, majority of nurses believe that they are more focused on thinking about the work instead of focusing on home or pleasure activities.

16. Do any of the following help you balance your work and family commitments?

Analysis: As per the study, 44 percent of the nurses believe that time off for family helps in balancing the work and family commitments where 40 percent thinks flexible hours helps in balancing work and family commitments followed by some who believed that flexible finish time and flexible starting time helps in balancing the work and family commitments.
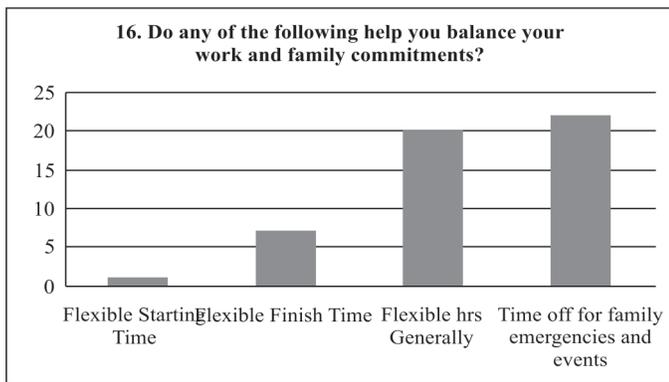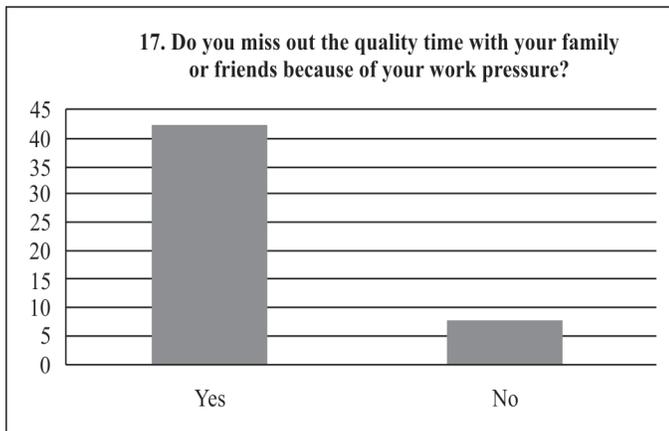

17. Do you miss out the quality time with your family or friends because of your work pressure?

Analysis: As per the study, high percentage of the nurses misses the quality time with their friends and family members due to work pressure.

As per the study, more than 80 percent of nurses believe that Work Life Balance actually enables people to work better. Many nurses believe that WLB is entirely dependent on employers and partly on individuals. Some of the nurses also suggested that WLB is totally employer's responsibility.

9. CONCLUSION

Hospitals although motivate people to achieve a sound balance in work and life; but at the same time they are not practicing it. Due to this any hospital would end up losing their quality staff which could lead to the hampering of productivity of the hospital as an organization. Thus, it is the responsibility of the top management of hospital to take utmost care of their nursing staff and can also think to reframe the policies. As per the study of WLB, it has been found that majority of nursing staff are not satisfied with their professional and personal life. Domestic and work issues are the matter of concern for the nursing staff. Challenges are more for nursing staff because their timings are not fixed so accordingly domestic management gets disturbed. Dis- contentment faced by the nursing staff can be ruled out by the extra efforts done by the hospital's top management.Work-life balance have gained a lot of significance in modern era due toincrease in the number of nuclear families, career oriented couples and issues of elder care which create dubious situations for the nursing staff. The reasons that impede a healthy work life relationship are likely to depend upon an individual's life. Maintaining the equilibrium in work life is a challenge for nursing staff now a days. It is true that this staff is equally crucial for the growth and fame of the organization. Their emotions and expectations cannot be taken for granted. This noble profession is highly occupied by females of our country to take care of the diseased persons but irony is that their own care is in dilemma.

10. RECOMMENDATIONS

As per the study conducted, it has been observed that the nurses were not contented with the shape that their lives have taken due to imbalance that has intruded into their daily routine. The concern is that this problem is not confined only to these 50 respondents but it is a part of various other working women in this modern era. The problem identified is problem half solved but it will take long miles to go by organizations to maintain the work life balance of their employees. So, we all can surely do our best may be in bits and pieces which can bring the positive change in the lives of not only of employees but also of the employers. Therefore, based on the study conducted the following suggestions can be recommended:

1. **Find a new job opportunity:**Some jobs are comparatively less stressful so in order to meet the domestic requirement it is advisable to explore the new opportunities.

2. **Sharing of domestic responsibilities:** We may think that we are the only ones who can perform all the things competently but it is not possible all the time. Take help from partner, other family members and servants, if required to fulfill the responsibilities to avoid exertion.

3. **Manage your time effectively:** Stress came into our lives because of disorganized things. Thus it is always advisable to set realistic goals and deadlines and stick to them religiously. You will find yourself relaxed and work done would be more effective and efficient.

4. **Avoid Procrastination:**Follow the old saying i.e. Tomorrows work do today, today's work now, if the moment is lost, the work be done how. Avoiding procrastination will help you to feel relaxed.

5. **Spend quality time with your family:** Spending time with your family will help you to overcome stress and at the same time will add value to your work – life balance.

6. **Priorities:** Listingdown the things that are needed to be done is one of the best ways to avoid stress and delays. Setting the priorities will help you enjoy the contentment of crossing the things off your list.

7. **Learn to let go the things:** Learn to let the things go once in a while. So what if the dishes don't washed every day or the house doesn't get vacuumed on daily basis. Learn to leave the things which don't have the impact on your life and let them go.

8. **Adopt healthy habits:** Eating healthy food and way of living is very essential to experience work- life balance.Yoga, meditation and other stress- relieving exercises can help to freshen up your mind and get rid of your fatigue.

9. **Pursue your desires/ hobbies:** Do relax through the hobbies/activities which you enjoy the most so that stress can be overcome.

10. **Direct and Open communication with Employer:** Now a days employers value human resource and help the employees to tackle problems faced by them on regular basis. So it is advisable to have a honest conversation with the employer to face the problem efficiently.

11. **Widen the Choices:** It is always recommended to procure a helping hand who takes care of routine family chores. It helps us in having some more options to look out by the time we get free from the domestic duties which could be delegated.

12. **Give a break:** We should not make life cumbersome by not saying 'no' to the request proposed by someone. Schedule the activities and the people around us in a wise manner without wondering too much of the next day/ days itinerary. Time to time break and gap should be given to rejuvenate and refresh ourselves.

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A Study on the Recent Trends and Challenges with Special Reference to India in Modern Operation Management

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Dr Anshu Sarna *

1. INTRODUCTION

Production is a very important functional area in management. It has a very crucial place in every industrial organization. Operation management deals with the production of goods and services that people buy and use every day. Operation management deals with decision making in the production function.

The trends in operation management are never fads. They have very good reasons to be in existence. They incorporate a lot of lessons from the past and can affect the future in several ways (Nersesian, 2000). From the industrial revolution in 1769 up to the recent internet revolution, Operation management has seen trends, which designed and redesigned the processes in order to make them more efficient, and business more profitable.

This paper will focus on a very few of such recent trends which have come up as the need of the hour and will dictate the future of the businesses. Further the paper discuss how just in time or lean management and supply chain management influences all other trends popular in the field of operations management at the moment. This makes an interesting study as to how operations management has evolved in the face of changing businesses and the recent trends gives a very clear idea about what to expect in the near future, with respect to operations management.

The paper also touches upon relevant aspects of the case of Toyota, which have affected the way we see operations management today.

2. RECENT TRENDS

Many recent trends in production /operations management relate to global competition and the impact it has on manufacturing firms. Some of the recent trends are:

1. **Global Market place:** Globalisation of business has compelled many manufacturing firms to have operations in many countries where they have certain economic advantage. This has resulted in a steep increase in the level of competition among manufacturing firms throughout the world. The internet has opened access to global customers and global markets. Equally there are global sources of supply and the transformation facilities can be set anywhere on the globe. Political changes like the European Union have removed the barriers to trade and business. Focus will shift from mergers and acquisitions to partnerships with foreign companies. Business process outsourcing will increase as it gives a competitive edge in terms of costs.

2. **Production/Operations Strategy:** More and more firms are recognising the importance of production/operations strategy

for the overall success of their business and the necessity for relating it to their overall business strategy. Strategy is the art and science of formulating, implementing and evaluating cross functional decisions that enable an organization to achieve its objectives. The operations strategy is designed on the basis of competitive priorities within the overall framework of the business strategy and this leads to the design of operations structure and infrastructure.

3. **Total quality Management (TQM):** TQM approach has been adopted by many firms to achieve customer satisfaction by a never ending quest for improving the quality of goods and services. TQM takes in to account all quality measures taken at all levels and involving all company employees. It seeks to improve quality and performance which will meet customer expectations. TQM looks at an organization as a set of processes. Some companies that have implemented TQM include Ford Motor Company, Phillips Semiconductor, SGL Carbon, Motorola and Toyota Motor Company.

4. **Flexibility:** The ability to adapt quickly to changes in volume of demand, in the product mix demanded, and in product design or in delivery schedules, has become a major competitive strategy and a competitive advantage to the firms. This is sometimes called as agile manufacturing.

5. **Time reduction:** Reduction of manufacturing cycle time and speed to market for a new product provide competitive edge to a firm over other firms. When companies can provide products at the same price and quality, quicker delivery (short lead times) provide one firm competitive edge over the other.

6. **Computer –aided Design and manufacturing (CAD/ CAM):** Automation, computerisation, information and communication technologies have brought a great revolution in the whole world. New technology should be adopted by the firm to survive in competitive world of today. After the trend of scientific management and Automation, the next big step was CAD/CAM. These computer aided operations meant that all the designing and manufacturing of the product would be done with the help of computers making the operations way more efficient (Groover, 1997). These systems immensely helped in new product development and redesigning the processes.

General Motors had its first brush with computer aided systems in 1996 and ended up saving time and money by using these systems. It helped the company launch new vehicles faster and more efficiently by making the process much smoother (ICMR, 2002)

7. **Shrinking product life cycle:** In the past, product life cycle used to be comparatively longer and when a product was introduced, it generally stayed in the market for a longer period

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of time. Now with the fast expansion of technology, product life cycles have become short and almost every product gets replaced by a new product in shorter time spans (Stevenson, 2005). Due to this reason, companies are forced to introduce rapid development of new products with encouraging innovation (Smith, 1992). This has provided a new challenge and requires redesigning of operations making the process faster.

8. **Supply chain management:** Management of supply chain, from suppliers to final customers reduces the cost of transportation, warehousing and distribution throughout the supply chain. Logistics as activities associatedwith the management of freight and distribution systems among the parties in the supply chain [Schonberger et al., 1997], is highly visibility partner of OM. Customer service, demand forecasting, inventory management, material handling, order processing, plant and warehouse

Site selection are among the major logistics activities [Lambert et al., 1993].Almost all of

Those are very traditional OM subjects as well [Nahmias, 1993]. This makes clear how   recent developments help both OM and logistics to merge. This is even more obvious with the definition of The Council of Logistics Management (CLM):

"The process of planning, implementing and controlling the efficient, effective flow

And storage of goods, services, and related information from point of origin to point of

Consumption for the purpose of conforming to customer requirement."

Logistics may be called alternatively as channel management, material management,

Physical distribution, Supply Chain Management (SCM) [Lambert et al., 1993]. As one of the

Recent buzz terms in the business world, Stanford Global Supply Chain Forum defines SCM

As follows:

"Supply chain management deals with the management of materials, information and

Financial flows in a network consisting of suppliers, manufacturers, distributors, and

Customers. It is important that the information, material and financial flows are coordinated

Effectively in a supply chain. Material flows involve both physical product flows from

Suppliers to customers through the chain, as well as the reverse flows via product returns,

Servicing, recycling and disposal. Information flows involve order transmission and delivery

Status. Financial flows involve credit terms, payment schedules, and consignment and title

Ownership arrangements."

Both definitions highlight the scope of the chain as all type of flows moving from

Point of origin to point of consumption. Basically this covers all functions of the organization. After seen as disparate specialists

for a long time [Schonberger et al., 1997], both OM and logistics are unavoidable components of a value chain today as seen from the definitions above.

9. **Mass customization:** one of the fallouts of increased competition is the need to be more customer focused. Many organizations endeavour to meet this requirement. However, in this process they end up creating several varieties of their products. This increases the complexity of production planning and control and also increases investment in inventory. Therefore, it is important to have a mechanism to provide high levels of customization without increasing the complexity of planning and control of operations. Mass customization provides a structured set of ideas and tools to provide high levels of customization without increasing the complexity of planning and control of operations.

In the past there used to be a large scale standardized mass production to gain economies of scale. Now with increased competition and flexibility, companies are forced to respond with creative product designs and flexible production processes that cater to the individual whims of consumers (Stevenson,2005).the trend has now been changing towards customized production of goods, whenever and wherever needed. This has led to change in the way operations were designed earlier leading to better and more efficient processes (Beaty, 1996).

10. **Employee Involvement:** In the past, employees were treated as just another input to the production process where they were treated more or less like machines and worker concerns were generally ignored. With the development of HRM firms tend to focus more on employee empowerment. Employee involvement is an important aspect of TQM. The other aspect of empowerment pertains to equipping employees with the required skills and tools for managing quality. Operations managers now respond by moving more decision making to individual workers (Hutchins, 1998). Quality management training based on lean philosophy has been very popular recently, making employee involvement an essential part of the improvement process (Clegg et al,2010).

11. **Green Manufacturing:** Green manufacturing has been seen as a recent trend in operations management concerning ecological sustainability. Green manufacturing practices are operational practices that ensure that products are manufactured in a sustainable manner by conserving scarce natural resources and minimizing pollution and other negative impacts on society and nature. Environmental imbalances are of great concern as they threaten the society and its sustainability. NGOs and interest groups such as Greenpeace, international bodies such as the world trade Organization, and government and regulatory bodies impose stringent regulations on organizations to reduce the adverse effects of manufacturing activities on the environment. Operations managers now are increasingly getting concerned with design of products and processes that are ecologically sustainable (Johnson, 2006).

12. Lean operations- Just in Time:

Principles of Lean and JIT

JIT is a method of planning and control and an operations philosophy that aims to meet demand instantaneously with perfect quality and no waste (slack et al, 2007). Lean operations philosophy replaces the past methods of mass production where there were batches of produced goods sold at mass, generating economies of scale. The recent trend in operations management era has shifted this to Just in time production where goods and services are produced upon the receipt of order with customizations, resultant being a drastic reduction of inventory cost (Hutchins, 1998).

Lean management is a new philosophy of operations management that provides a set of tools and techniques to compete in an increasingly fierce marketplace. It is an organizational mechanism for defining value and thereby creating a value stream for customers. Lean management is based on the premise that by identifying waste in any system and removing it, it is possible to create a value stream for the products and services that an organization offers to customers. It enables organizations to provide better value in their offerings by constantly improving their operations.

Just-In-Time and Lean operations are often used interchangeably. However, if there is any distinction between JIT and Lean operations, it is that JIT emphasizes forced problem solving where as Lean operations emphasize on customer understanding (Brian J. Carroll, 2009).

JIT improves profits and return on investment by reducing inventory levels, reducing variability,improving product quality, reducing production and delivery lead times and reducing other costs. In a JIT systemunderutilized (excess) capacity is used instead of buffer inventories to hedge against problems that may arise. It applies primarily to repetitive manufacturing process in which the same products and components are produced over and over again.

3. LEAN OPERATIONS AND TOYOTA PRODUCTION SYSTEM

JIT is a Japanese management philosophy which has been applied in practice since the early 1970s in manyJapanese manufacturing organizations. It was first developed and perfected within the Toyota manufacturing plants by Taiichi Ohno as a means of meeting consumer demands with minimum delays (Goddard, 1986). For this reason, Taiichi Ohno is frequently referred to as the father of JIT.

The Toyota production plants were the first to introduction JIT. It gained extended support during the 1973 oil embargo and was later adopted by many other organizations. The oil embargo and the increasing shortage of other natural resources were seen as a major impetus for the widespread adoption of JIT. Toyota was able to meet the increasing challenges for survival through an approach to management different from what was characteristic of the

Time. This approach focused on people, plants and system. Toyota realized that JIT would only be successful if every individual within the organization was involved and committed to it, if the plant and processes were arranged for maximum output and efficiency, and if quality and production programmes were scheduled to meet demands exactly.

Toyota production system has always laid emphasis on continuous improvement, respect for people and standard work practices. It accentuates employee learning and empowerment in an assembly line environment. JIT, TPS and Lean systems, when implemented as a comprehensive manufacturing strategy, sustain competitive advantage and result in increased overall returns (Heizer and Render, 2010).

The JIT concept is built around the philosophy that inventory is evil. But it is not just a method to reduce inventories. It is a method of producing what is needed and no more. It is based on two tenets: elimination of waste and respect for humans.

The continuing effort to create and produce products under ideal conditions is a concept central to TPS. Generally ideal conditions would exist only if facilities, machines and people are brought together to add value without waste.

Toyota's latest implementation of TPS and JIT are present at its new San Antonio plant, which is the largest Toyota land site for an automobile assembly plant in the US. The building itself is one of the smallest in the industry despite its annual production of 200,000 Tundra pic-up trucks. Generally modern automobiles have around 30,000parts, but at Toyota, many of these parts are combined into sub-assemblies by independent Suppliers. Twenty one of these suppliers are on site at the San Antonio facility and transfer components to the assembly line on a just in time basis (Heizer and Render,2010). It is because of these operations that take place in the new San Antonio plat that Toyota still continues to perform near the top in quality and maintain the lowest labour hour assembly time in the industry.

This is how JIT, TPS, and Lean operations work and provide a competitive advantage at Toyota Motor Corporation.

4. BASIS OF THE LEAN MANUFACTURING/PRODUCTION
1. Cost
2. Quality
3. Delivery
4. Safety
5. Moral

5. THE LEAN PHILOSOPHY – KEY ISSUES IN IMPLEMENTATION

There have been many issues found in the implementation of Lean philosophy. Some of them are as follows:

Elimination of Waste: Waste is defined as any activity that does not add value. Anything over the minimum amount necessary is waste. Waste results from any activity, that add to its cost without adding value to it, such as moving and storing.

Shigeo Shingo, a prominent management guru who promoted the use of JIT in manufacturing listed the 'famous seven Wastes' as follows:

Waste of over production, waste of waiting, waste of Transportation, waste of Stocks,

Waste of motion, waste of making defects and waste of processing.

In other words, waste includes excess inventory, scrap and rejects, excessive material handling, movement and time spent waiting for resources to become available, and overhead related to setup times and inspections.

Respect for Humans: This tenet recognizes that for a system to work, humans must be actively involved. In addition, they must work as a team toward a common goal. In a JIT environment, considerable effort is dedicated to building teams. Work is handled by teams on the shop floor, rather than by individuals. Rather than have each worker on the assembly line responsible for a narrowly defined task, teams are charged with the responsibility to assemble the entire part. Workers are given more responsibility.

At Toyota, people are recruited, trained and treated as knowledge workers. Aided by aggressive cross trainings and job classifications, the Toyota production system engages the mental as well as physical capacities of employees in the challenging task of operations. Employees are empowered to make improvements, thereby respecting them by giving them the opportunity to enrich both their jobs and their lives (Ronald M. Becker, 1998).

Continuous Improvement: It is called 'Kaizen' in Japanese. Lean objectives are often expressed as ideals, such as 'to meet demand instantaneously with perfect quality and no waste'. It is a fundamental belief that getting closer to ideal lean objectives overtime would lead to continuous improvement and this why this concept is such an important part of lean philosophy. If its aims are set in terms of ideals which individual organizations may never achieve fully, then the emphasis must be on the way in which an organization moves closer to the ideal state (Slack et al, 2007).

Under Toyota production system, continuous improvement means building an organizational culture and installing in its people a value system stressing that processes can be improved and improvement, indeed is an integral part of every employee's job.

6. CHALLENGES IN OPERATIONS MANAGEMENT

Challenges in operations management arise mostly from developments that create a need for new, and, at times, more efficient system of operations management. The economic reforms in the 1990's opened up the Indian markets to overseas players, which posed new challenges for domestic companies. With time there have been more changes in the form of rising customer expectations, technological developments, and growing awareness about environmental issues.

7. COMPETITIVE PRESSURE DUE TO ECONOMIC REFORMS

The need for changing several operations management practices prevalent in the country was felt ever since the Government of India initiated economic reforms in the country. Perhaps the most significant event of the 1990s in the arena of trade, industry and the economy has been the reforms proposed by Chelliah Committee. Before the economic reforms, Indian industry enjoyed undue advantages due to high import tariffs. It was common to findtariff rates of 165 percent, 185 percent, and 350 percent during the

late 1980s. However, the reduced tariff structure threatened to significantly alter the price fixing mechanism. Global supply and demand trends could now have a significant impact on domestic prices.

Another major challenge in operations management is due to the scrapping of licensing practices in the country. In the pre-reforms era, Indian industry had to obtain license for setting up manufacturing plants. Often, in such situations, customers had very little choice in products and services. The new industrial policy, announced during July 1991 by the Government of India, abolished the licensing system for most industrial sectors. Substantial expansion of existing units, the flexibility to offer several variations of products and services and the establishment of new firms were allowed. Permission was also given to establish fully owned subsidiaries of transnational corporations. Furthermore, curbs on the use of brand names were removed. All these steps clearly showed the direction for each sector of the industry.

8. GROWING CUSTOMER EXPECTATIONS

Looking at the number of tariff plans and options offered by mobile service providers such as multiple post-paid and prepaid options, that appear to satisfy every customer category in the market. This is a good indication of the growing customer expectations and the ability of organizations to respond to them. Such developments have been greatly facilitated by the economic liberalization process.

9. TECHNOLOGICAL DEVELOPMENTS

In the last few years, technological developments have changed the way businesses in many sectors operate. For example the banking sector. With the advent of automated teller machines (ATMs) and the internet, the face of banking is undergoing a sea change. Customers need not visit a bank branch to draw cash or to check their account balance. These transactions can be carried out at an ATM. Drafts and cheques can be replaced with electronic payment gateways and fund transfer mechanisms. Similar facilities are now available in other sectors.

The changes that manufacturing organizations are going through are no less than service organizations. In this age of electronic markets, a manufacturing organization can procure goods and services by organizing a reverse auction on the internet. In a matter of 3 to 4 hours, the best price for a component and the supplier willing to provide the component at a desired quality can be located.

10. ENVIRONMENTAL ISSUES

Growing industrialization at one level indicates the economic progress of a nation. However, at another level, it introduces new concerns and challenges in operations. In the recent past, there has been growing concern regarding the impact of business activities on the environment. These include concerns regarding the depletion of natural resources and the waste generated from production systems and end of life products. Increasingly, firms are under pressure to take responsibility of restoring, sustaining, and expanding the planet's ecosystem instead of merely exploiting it.

When government of India announced a scheme for special economic zones (SEZ's), it generated controversies and social concerns. In several such cases, local communities were reluctant to part with fertile land, which was then used for industrial purposes. This has implications for the location of manufacturing and service facilities.

11. CONCLUSION

Lean operations has affected the operations management in many different ways and continues to shape the future in this area. But implementation of the lean management is always not very successful because of the inseparable principles of this philosophy.

Toyota production System goes on to depict the benefits and scope of lean management and provides other businesses a perfect case in point. An important aspect to it is the way all the principles are associated to each other, and how this concept is best seen as a way of thinking.

The paper discussed what generally is happening in the area of operations management highlighting the importance and role of lean management and supply chain management. Interestingly, it was analysed how all other trends fall under the scope of the lean philosophy and how it plays an indispensable role in making process more efficient. With the sole aim of reducing waste, lean, supply chain and JIT end up cutting costs and making the process faster and thus makes it as a competitive advantage of the company.

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Role of Service in Economic Growth

Sarita Chawla *

1. INTRODUCTION: OVERVIEW OF SERVICE SECTOR IN INDIA

In India the services sector with an around 57 per cent contribution to the gross domestic product (GDP) has made rapid strides in the last few years and emerged as the largest and fastest-growing sector of the economy. Besides being the dominant sector in India's GDP, it has also contributed substantially to foreign investment flows, exports, and employment. India's services sector covers a wide variety of activities that have different features and dimensions. The service sector comprises commercial banks, insurance companies, non-banking financial companies, co-operatives, pension funds, mutual funds and other smaller financial entities. The financial sector in India is predominantly a banking sector with commercial banks accounting for more than 60 per cent of the total assets held by the financial system.

India has the second fastest growing services sector with its compound annual growth rate at nine per cent, just below China's 10.9 per cent, during the last 11-year period from 2001 to 2012, the Economic Survey for 2013-14 said. Russia at 5.4 per cent is a distant third. Among the world's top 15 countries in terms of GDP, India ranked 10th in terms of overall GDP and 12th in terms of services GDP in 2012, it said, adding that services share in world GDP was 65.9 per cent but its share in employment was only 44 per cent in 2012.

As per the survey, in India, the growth of services-sector GDP has been higher than that of overall GDP between the periods FY2001- FY2014. Services constitute a major portion of India's GDP with a 57 per cent share in GDP at factor cost (at current prices) in 2013-14, an increase of 6 percentage points over 2000-01.Despite deceleration, services GDP growth at 6.8 per cent was above the 4.7 per cent overall GDP growth in 2013-14.

2. LITERATURE REVIEW

The growth of India's services sector,in this respect, some economists (Ansari 1995) consider India as an outlier among South Asian countries and other emerging markets. Contending this view, Gordan and Gupta 2003, Banga 2005 and Jain and Ninan 2010 have pointed out that India is not an outlier as the share of services sector in GDP has increased with rise in per capita income. Kochhar e. 2006 argued that India was a negative outlier in 1981 compared to other emerging markets as the share of services in value added and employment was below that of other countries. After the economic reforms of the 1990s, services sector grew and in 2000 India became a positive outlier in terms of the share of services in value added but continued to be a negative outlier in terms of its share in employment .Existing studies show that liberalisation and reforms is one of the important factors contributing to the growth of services sector in India

(Chanda 2002, Gordan and Gupta 2003, Banga and Goldar 2004 and Jain and Ninan 2010). With economic growth and rise in per capita income there is a change in demand pattern from necessary to discretionary consumptions like education and personal and health care services (McKinsey & Company 2007). High income elasticity of demand for services has contributed to the high growth of this sector (Bhattacharya and Mitra 1990 and Gordan and Gupta 2003).Technological progress and availability of high skilled manpower has led to growth of services like information technology (IT) and IT enabled services (ITeS) (Chanda 2002). Developed countries outsource its services to developing countries like India leading to a rise in demand for services from the developing market (Bhagwati 1984, Gordan and Gupta 2003 and Hansda 2001). High government expenditure on certain services like community, social and personal services has also led to high growth of services (Ansari 1995)

3. OBJECTIVES OF THE STUDY

The objective of this paper is to provide an overview of the Indian services sector.

(1) It identifies major barriers faced by the sector and provides policy recommendations which if implemented will lead to inclusive growth, increase productivity, and generate quality employment and increase trade and investment.

(2) It presents future growth projections.

(3) This paper also examines India's trade and investment in services.

(4) It presents the barriers faced by the services sector in India and provides policy recommendations.

4. RESEARCH METHODOLOGY

The Study is based on secondary data collected from various published reports by government and other resources. Data is also collected from surveys done by various agencies. Newspaper Articles also being included.

5. GROWTH OF THE SERVICE SECTOR

In fact the growth rate of 6.8 per cent for the sector is marginally lower than in 2012-13. "This is due to deceleration in the growth rate of the combined category of trade, Hotels and restaurants, transport, storage, and communications to 3 per cent from 5.1 per cent in 2012-13," the survey said. On the other hand, robust growth was seen in financing, insurance, real estate, and business services at 12.9 per cent. India's share in world services exports, which increased from 0.6 per cent in 1990 to 1.1 per cent in 2000 and further to 3.3 per cent in 2013, has been increasing faster than its share in world merchandise exports, according to the survey.

While exports of software services, accounting for 46 per cent of India's total services exports, decelerated to 5.4 per cent in 2013-14 from 5.9 per cent in 2012-13, travel, accounting for a nearly 12 per cent share, witnessed negative growth of 0.4 per cent. How-

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ever, moving in tandem with global exports of financial services, India's exports of financial services registered a high growth of 34.4 per cent in 2013-14

The survey, tabled in the Parliament said the immediate challenge in services sector is revival of growth. "While this could be achieved through reforms and speeding up of the policy decision making, a targeted approach with focus on big ticket services could lead to a rebounding of services-sector growth for India," it stated.

The survey highlighted that some services like software and tele-

com were big ticket items that gave India a brand image in services. While further focus on these services is needed to retain and further our lead, the time has come to focus on some other high potential big ticket items (such as Tourism and hospitality sector, Ports services and Railways) that have high manufacturing-sector and employment linkages. Commenting on the outlook of services sector, which was growing at a steady rate of over 10 per cent since 2005-06, has shown subdued performance in the last three years, the survey said the year 2014-15 seems to augur well for the services sector with expansion in business activity in India.

Share and Growth of India's Services Sector (at factor cost)				
	2000-01	**2011-12@**	**2012-13***	**2013-14****
Trade, hotels, & restaurants	14.5 (5.2)	17.4 (1.2)	17.2 (4.5)	24.0 (3.0)
Trade	13.2 (5.0)	15.9 (1.0)	15.8 (4.8)	—
Hotels & restaurants	1.3 (7.0)	1.5 (3.8)	1.4 (0.5)	—
Transport, storage, & communication	7.6 (9.2)	7.3 (9.4)	7.5 (6.0)	—
Railways	1.1 (4.1)	0.7 (7.5)	0.8 (0.3)	—
Transport by other means	5.0 (7.7)	5.4 (8.6)	5.6 (6.6)	—
Storage	0.1 (6.1)	0.1 (2.9)	0.1 (8.6)	—
Communication	1.5(25.0)	1.1 (11.2)	1.1 (6.5)	—
Financing, insurance, real estate, & business services	14.1 (3.5)	16.5 (11.3)	17.2 (10.9)	18.5 (12.9)
Banking & insurance	5.4 (-2.4)	5.7 (12.9)	5.9 (11.8)	—
Real estate, ownership of dwellings, & business services	8.7 (7.5)	10.7 (9.9)	11.4 (10.0)	—
Community, social, & personal services	14.7 (4.6)	13.8 (4.9)	14.3 (5.3)	14.5 (5.6)
Public administration & defence	6.5 (1.9)	5.9 (4.2)	6.0 (3.4)	—
Other services	8.2 (7.0)	7.8 (5.4)	8.2 (6.8)	—
Construction	6.0 (6.1)	8.2(10.8)	8.1 (1.1)	7.8 (1.6)
Total services	51.0 (5.1)	54.9 (6.6)	56.3 (7.0)	57.0 (6.8)
Total services (including construction)	57.0 (5.2)	63.1 (7.1)	64.4 (6.2)	64.8 (6.2)
Total GDP	100.0 (4.1)	100.0 (6.7)	100.0 (4.5)	100.0 (4.7)

Source: Central Statistics Office (CSO).

Notes: Shares are in current prices and growth in constant prices; Figures in parentheses indicate growth rate;* first revised estimates, @ second revised estimates, ** provisional estimate; # includes the combined share and growth of trade, hotels, & restaurants and transport, storage, & communication for 2013-14

6. INDIA'S COMPETITIVENESS IN SERVICES TRADE

To understand the pattern of India's services trade specialization, and to find whether the sector (in India) is globally competitive, the relative competitiveness of services trade can be examined using the revealed comparative advantage (RCA) as per the Balsa's index (1965). The formula is:

$RCA_{ij} = (x_{ij}/X_{it}) / (x_{wj}/X_{wt})$

where,

RCA_{ij} = Revealed comparative advantage of the ith country (India), jth services,

x_{ij} = Exports of the jth service of the ith country (India),

X_{it} = Total service exports of the ith country (India)

x_{wj}= World's exports of services sector j,

X_{wt} = Total world exports of services

If the RCA is greater than one the country is said to have a comparative advantages in the particular services sub-sector vis-à-vis rest of the world.

The RCA for services exports of India is given in Table 6. The table shows that India has a strong comparative advantage in only one sub-sector of services exports - computer and information service.

7. FDI IN THE INDIAN SERVICES SECTOR

The growth of the services sector is closely linked to FDI inflows into this sector and the role of transnational firms. India's share in world services exports, which increased from0.6 per cent in 1990 to 1.1 per cent in 2000 and further to 3.3 percent in 2013, has been increasing faster than its share in world merchandise exports. While the growth rate of services exports of India has been higher than that of the world for all the years since 1996 (except 2009), in 2013 this has been reversed. While exports of software services, accounting for 46 percent of India's total services exports, decelerated to 5.4 per cent in2013-14 from 5.9 per cent in 2012-13,

travel, accounting for a nearly12 per cent share, witnessed negative growth of 0.4 per cent. However, moving in tandem with global exports of f financial services, India's exports of financial services registered a high growth of 34.4 per cent in 2013-14.

8. BARRIERS AND REFORM REQUIREMENTS

The analysis in the previous sections show that services sector has been increasingly contributing to India's GDP, GDP growth, employment, trade and investment. However, there are some concerns. In the past one year, India's GDP and the services sector growth has slowed down. The shift in employment from agriculture to services has been slow and services sector has not been able to create quality employment. Although India has been portrayed as a major exporter of services, India's ranking among WTO member countries in services exports is lower than that of China's. India has the potential for attracting FDI but it has not been successful in doing so.

This section discusses some of the key barriers that are impeding the growth of the services sector and suggests reforms that will enhance productivity, efficiency and global competitiveness of the sector and create quality employment.

1. Services sector focus in policymaking: There is no nodal ministry at the centre for some service sectors like retail while for others like transport and energy there are multiple ministries with conflicting interest. Many services are under the purview of state governments or are jointly regulated by the central and state governments. There is an urgent need to focus on the services sector.

While the services sector is heterogeneous, different services are getting integrated due to technological developments. The policy should lay down short-term strategy (five years coinciding with the Indian Five Year Plans) and long term strategy (10 to 15 years) for development of the sector. There is also need for promotional activities for service exports like setting up a portal for services showcasing India's competence engaging brand ambassadors and expert.

2. Data on Services: In India, data on services is collected and collated by multiple agencies. For some services such as retail there is no official data. For others like communication services, there is a lack of disaggregated data. Employment data is not collected on a regular basis which makes it difficult to do employment analysis. Also, the services sub-sector definitions in India do not match with international definitions which make it difficult to do cross-country analysis. Moreover, there is a lack of distinction in data collection procedure between goods and services within each sub-sector such as telecommunications and IT.

There is an urgent need to have clear definition of sub-sectors, based on international definitions like the UNCPC. Data should be collected on a yearly basis for understanding the trends and there should be a centralized system of data collection and collation.

3. Regulatory Reforms: Some regulations do not take into account technological developments while others are outdated or do not often follow international best practices. In sectors like transport there is a lack of comprehensive regulation that can enable integrated door-to-door services. The existing regulations do not take into account the characteristics of the new services sectors such as cloud computing, direct selling, express delivery services. There is a lack of prescribed standards and common accreditation process.

Privatization should be accompanied by appropriate regulations, which should be transparent and non-discriminatory. It should take into account the evolving nature of the services sector, its linkages with other sector and should support the growth of the sector. It is important to remove the procedural hurdles by implementing single window clearances for projects, FDI inflows, etc. The need for a regulator in the specific sector should be examined and if required an independent regulator should be appointed. There is an urgent need to replace the outdated regulation to enable the services sector will grow at a fast pace.

4. FDI restrictions: According to the Organization for Economic Co-operation and Development (OECD) FDI Restrictive Index, 2010, India is considered more restrictive than Korea but less than China and Japan (see Figure 3).45 India is considered more restrictive than Korea in terms of indicators such as equity restrictions on foreigners, screening of foreign applicants, hiring of key personnel and operational conditions imposed on foreigners India is one of the few countries, which have FDI restrictions on a number of services sectors such as banking, insurance, air transport and multi-brand retail. To counter the adverse impacts of FDI, appropriate regulations can be in place to monitor the sector. However, these should be transparent and non-discriminatory.

5. Services sector employment: Services sector has not been able to generate employment in terms of both numbers and quality. There is skill shortage in sectors like IT and organized retail. According the Electronic and Computer Software Export Promotion Council, approximately 5,000 people are needed every year to meet the demand of the IT and ITeS industry, but the total available from educational and training institutes is only a third of this number. This is leading to a rise in the salaries, high attrition rates and high cost of operations.

To create quality employment in services sector the long-term focus of the government should be to encourage growth of organized sector employment and modernization of unorganized sector. The government can work with industry and educational institutes on a public-private partnership basis to identify the skill requirements and to design appropriate academic courses and training programmers to facilitate skill development. As of now, private organizations can only operate as 'not-for-profit' institutions in education sector. Focus on vocational training and development of appropriate curriculum will increase the employability of students in the services sector. Quality and standards of education can be improved through a proper accreditation process.

6. Taxes and subsidies: India has a high corporate tax - 30-40% compared to around 17% in Singapore and up to 25% in China. Moreover, taxes and levies vary across states and this increases costs and restricts pan-India service operations. In some cases, taxes adversely impact the use of most efficient technology. Cross-subsidization and wrong subsidies have led to misallocation of resources. In railways the average passenger tariffs in India is 55% lower than China, while average freight tariff is 66% higher.51 Similarly, while commercial sector has to pay a higher power tariff, the agriculture sector is highly subsidized. This leads

to misuse of power in agriculture and high cost of setting up a commercial enterprise in manufacturing and services.

A number of tax reforms including implementation of Goods and Services Tax (GST), Direct Tax Code Bill, 2010, which are pending should be implemented and cross-subsidization should be minimized. Subsidies should be targeted to poor and needy.

7. Access and Availability of Infrastructure: Unlike countries like China where government is a key provider of basic infrastructure like road, ports and power, in India the government investment in infrastructure is low and has not been able to meet demand. For instance, most IT companies have to invest in captive power units due to erratic power supply. This increases their costs. Companies in services sector like construction, IT, hospital services, retail, etc., find it difficult to acquire property due to the lack of urban planning, restrictive zoning regulations, outdated laws related to land conversion and lack of clear ownership and title of land, among others. This causes delays in project implementations. In addition, due to poor infrastructure planning the full benefits of existing investment cannot be reaped. The government needs to act as a facilitator so that private developers have access to basic facilities like land. A competitive environment will enable private players to succeed. There is a need for proper urban and infrastructure planning. The focus should not only be on creation of new infrastructure but also an efficient use of existing infrastructure.

8. Research and development (R&D) and information and communications technology (ICT): In India, R&D expenditure is low, both in terms of its proportion to GDP and in comparison to the rest of the world. The Economic Survey of India (2011-2012) pointed out that in 2012; R&D expenditure is expected to be only around 0.8% of the GDP. India lacks behind many countries. Policies should be made to encourage Research and Development.

9. CONCLUSION AND CHALLENGES FOR SERVICE SECTOR IN INDIA

 India's growth story with a services-led growth has been unique for a developing country. The immediate challenge in this sector is revival of growth. While this could be achieved through reforms and speeding up of the policy decision making, a targeted approach with focus on big ticket services. Some services like software and telecom were big ticket items that gave India a brand image in services. While further focus on these services is needed to retain and further our lead, the time has come to focus on some other high potential big ticket items that have high manufacturing-sector and employment linkages. India's services sector which was growing at a steady rate of over 10 per cent since 2005-06 has shown subdued performance in the last few years, though services sector growth is still higher than that of other sectors. While the slowdown in the manufacturing and mining sectors directly affected some services like railways, shipping, ports, and other related services on account of the strong linkage effect, other services were affected by the income effect with slowdown in growth of both global and domestic incomes. However, the good performance by some important sectors like financing, insurance, real estate and other business services, and community social and personal services other than public administration and defense helped pull up services growth rate to modest levels .Going for-

ward, the year 2014-15 seems to grow well for the services sector with expansion in business activity in India as also indicated by some indices. There are also signs of revival in growth of the aviation sector. Indications of revival in world GDP and trade growth in general and of developed countries in particular, could help in revival of the tourism and shipping sectors. With a stable government in place and growing optimism which could translate into investment and growth, some quick reforms and removal of some barriers and obsolete regulations in the services sector could help. The downside risk however is the fragile global situation.

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A Study of Innovations in Higher Education Marketing for Admissions and Its Impact on Students' Behavior

Jai Prakash Asopa *

1. INTRODUCTION

Higher education as a part of service sector plays an important role in the development and growth of a country. India is no exception to this. In fact service sector contributes to the 54% highest to the GDP. In current scenario, a customer satisfaction and service quality are considered the fundamental marketing framework to determine the loyalty. Higher education is a pure service and is characterized by a greater amount of interpersonal contact, complexity, divergence, and customization than other service businesses. In order to create an effective admission plan it is crucial to know the factors that influence the students' decision making process and to understand the nature of the relationship among these factors. The potential students generally get influenced by family members, senior students, fellow classmates, senior citizens & faculty references. Amidst all this they also get influenced by college advertisement through various media. A student takes into many factors before deciding admission into an institute. But it has to be debated how far marketing of higher education by some private colleges / universities would lead to admissions. It is quite interesting to know the role played by various stakeholders such as parents, teachers, friends, classmates into the final admission decision making process. It appears that a student will play a major role in the final admission decision. Now a day's lots of innovations are taking place to make targeted candidates to become students I that college/university for which marketing /promotions made.

The purpose of this study is to describe and analyze the innovations in marketing approaches private higher education institutions (HEIs), colleges and universities use to attract and enroll students. The study's intention is also to provide recommendations to colleges and universities and investigate what factors students value in terms of marketing. The recommendations are based on marketing approaches that have been identified as effective in attracting and enrolling students.

2. LITERATURE REVIEW

In order to be successful and to attract students in the tough competitive environment, many universities incorporate different kinds of educational marketing into their strategies, even though there is a consistent lack between educational marketing and business marketing theories. It has even been said that tough competition will increase performance of students and the quality of research and teaching will be streamlined for HEIs as an effect of educational marketing (Tooley, 2000). This growing competition and internationalization between HEIs has strengthened the need for marketing approaches that increases the probability of attracting students (Binsardi & Ekwulugo, 2003).

"In the context of increasing competition for home-based and overseas students higher educational institutions now recognise the need to market themselves in a climate of international competition." (Hemsley-Brown, 2006, p. 316)

Marketing within higher education has embarked a wider global perspective. The increased competition within this developing industry, along with the expansion of institutions and its products and services has established driving forces for HE marketization worldwide. Previous research has indicated emerging marketing activities from HEIs across the world. HEIs from a variety of regions are now taking marketing into consideration. The current position is derived from investments and government interventions of raising quality of HE by supporting marketing factors within this industry. (Meek & Wood, 1997; Scott, 1999. HEIs may also increase their global competitiveness, reputation and further strengthen the bonds with other HEIs by conducting strategic alliances.

As HEIs demands a marketing approach that attracts students, Hemsley-Brown and Oplatka (2006) describe an environment where a growing number of universities use marketing methods that have been successful in the business world. Mazzarol (1998) states that since the beginning of the 1980s, services marketing (Zeithaml et al., 1985) has become more important for attracting students. Helgesen (2008) states that universities need to focus their attention on creating value for students. Future HEIs need to adapt towards an environment where communication through internet and new technology changes the way communication takes place (Gomes & Murphy, 2003; Altbach, 2004). Cooperation with other universities worldwide could also assist HEIs towards attracting students (Ibid, 2004; Mazzarol 1998). These specific factors could explain why certain HEIs internationalize; gather new knowledge, enhance the language base and obtain commercial advantage (Altbach & Knight, 2007). As the competition for attracting students increase, HEIs needs to be aware of the importance of an efficient marketing approach. The marketing approach is connected to factors such as price levels, promotional strategies and product placement, which corresponds to HEIs ability to attract students. These factors can be linked to the marketing mix (Kotler and Fox, 1995, Ivy, 2008).

The marketing mix had its breakthrough during the 1960s with its four Ps - people, place, promotion and price. However, this approach was discussed by many academics to be inappropriate for services marketing. (Nicholls et al., 1995) In order to modify the marketing mix and gain better insight towards services marketing, three additional Ps was included - people, physical evidence and process, which is known as the 7Ps of educational marketing (Ivy, 2008). The combination of these seven Ps is that it enhances the possibilities for organizations, such as private institutions to meet needs and wants from customers (Pratminingsih & Soedijati, 2011).

3. PROBLEM STATEMENT

- *What marketing approaches do private higher education institutions use to attract and enroll students?*

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- *What factors are students at private HEIs valuing highest and lowest, in terms of marketing in the admitting process towards private colleges or universities?*
- *How can private colleges or universities strengthen their marketing approaches to attract and enroll students?*

4. OBJECTIVES

To describe and analyze what marketing approaches private HEIs use to attract students. And to provide recommendations to private University/ College and investigate what factors students value in terms of marketing at these colleges/ universities. The recommendations are based on marketing approaches that have been identified as effective in attracting and enrolling students.

5. RESEARCH METHODOLOGY

The case study collected qualitative and quantitative data through an interview, survey and observation from respective university in order to answer the research questions.

6. THEORETICAL FRAME WORK

Within the field of education in general and HEIs in particular, services marketing (Mazzarol, 1998; Nicholls et al., 1995; Enache, 2011; Zeithaml et al., 1985) has been stressed on several occasions. Services marketing consist of four dimensions that describe the product (service) as perishable, heterogenic, inseparable and intangible. A service is perishable since it could not be saved for later use. A service is also heterogenic and therefore hard to standardize which could affect the quality. It is also inseparable, since the sender (seller) and the receiver (buyer) is involved in the production of the service. Finally, as services are intangible it could not be stored or patented and therefore difficult to communicate. (Zeithaml et al., 1985)

Taking these dimensions into consideration within HEIs, they serve different purposes. Since education is inseparable there is an importance of a mutual understanding between the HEI and the student. Linked to perishability, a seminar lecture cannot be sold for later use or stored. Heterogeneity, on the other hand makes it difficult to standardize and repeat the service. The quality of a lecture can fluctuate on daily basis, making it difficult to actually measure the quality. Furthermore, intangibility possesses differences in terms of the how the service is equipment-based or people-based. Courses within HEIs are often conducted by people, meaning that the staff is connected to the product itself. (Nicholls et al., 1995) Mazzarol (1998) states services marketing as an important theoretical part within marketing of HEIs. Universities need to conduct a marketing approach that overcomes obstacles related to the specific characteristics of a service. HEIs also need to manage problems related to over or lack of capacity. (Mazzarol, 1998) Since services marketing consists of several components, the study has been delimited within the field of 7Ps of educational marketing (Enache, 2011; Ivy, 2008; Pratminingsih & Soedijati, 2011) in combination with previous research. The previous research has been integrated with parts from the 7Ps of educational marketing in order to construct the conceptual framework. The conceptual framework has been created in relation to academic

needs and wants of a marketing approach that was more education based and linked to how HEIs attract and enroll students, in comparison to traditional business based methods (Oplatka, 2009). The theoretical framework is therefore relevant to the study´s area of marketing within higher educations.

6.1. The 7Ps of educational marketing

HE is different from marketing associated with physical products and therefore requires further adjustments in the marketing mix (Pratminingsih & Soedijati, 2011). The classical marketing mix consists of four different Ps; product, price, place and promotion. In relation to educational service, this mix can be adapted and relevant to a certain degree. (Nicholls et al., 1995) However, speculations demonstrate that this marketing mix is inappropriate for marketing of services (Ibid, 1995). Additional Ps has been introduced and Nicholls et al., (1995) stress that the Ps people and process provide better performance in regard to services. The four Ps model is traditionally used towards physical products. However, the educational service sector requires a different approach. In order to outline efficient marketing of services the 7Ps approach were introduced - adding people, physical evidence and process to the traditional mix. (Ivy, 2008)

The 7Ps approach has been recognized and associated specifically to services marketing. By including additional three Ps– people, process and physical evidence, it is believed that HEIs could make use of a more comprehensive marketing strategy. (Ivy, 2008; Enache, 2011) All components within the 7Ps approach possess different outcomes, where one component has the possibility to alter the effect on one another. (Ibid, 2011)

The study used parts of the 7Ps approach. The three Ps - price, product and physical evidence has been excluded and the four Ps - place, promotion, people and process has been focused. The reasoning for delimiting to four specific Ps and excluding the other three Ps was because of the lack of strong bonds with published research on marketing within HEIs. Several studies have added IT (Gomes & Murphy, 2003; Knight, 2004; Altbach, 2004; Kleen & Shell, 2003), image and reputation (Nguyen & LeBlanc, 2001; Mazzarol, 1998; Wilkins & Huisman, 2011) parallel with the four Ps. The factors, IT, image and reputation mention the Ps - place, promotion, people and process as important factors to consider, in regard to services marketing towards HEIs. Since these connections were interrelated, the study described and analyzed them further. Another intention was to dig deeper into HEIs and services marketing. If the 7Ps approach had been used, the outcome of the study could possibly be too restricted. By focusing on four specific Ps, a more in-depth study performance could be achieved. Since the study excluded the three Ps and focused on the remaining four Ps, it was necessary to incorporate additional components to the conceptual framework. These added components are called "Complementary marketing factors for student attraction and enrollment" and they consist of IT, image and reputation. A further description and motivation of these components will follow after the presentation of the four included Ps.

6.1.1 Place

Place, often called distribution channel, is used by universities in order to enable its market to meet needs, wants and expecta-

tions from students (Ivy, 2008). Today's students have the ability to get relevant information through many sources, since the development of IT has been added as an alternative educational service method, in comparison to the previous restricted geographical location of the university (Ibid, 2008; Pratminingsih & Soedijati, 2011). IT based instruments such as Blackboard offer students' access to material and various ranges of inputs related to education. Opportunities to get hold of university related material has been developed through other IT sources as well. Web pages, e-mail, video and telephone based conferences are just a few examples that have been recognized.

6.1.2 Promotion

HEIs could inform the market of its offerings based on a multiple sets of channels (Enache, 2011; Pratminingsih & Soedijati, 2011; Ivy, 2008). These channels could consist of advertising, public relations, publicity, promotional based sales efforts (Ibid, 2008) and personal sales contacts (Nicholls et al., 1995). The personal sales contact between the HEI and the student has shown to be of importance, as previous research shows that students outlined the need for personal advice when they examined different enrollment alternatives (Ibid, 1995). The university needs to address and inform prospective students in such a manner that the educational product is understood. One important channel for transferring information to students is through a web site. (Enache, 2011) However, Ivy (2008) states that to solely rely on the internet as a channel for communication is unlikely to be effective. After the student´s first contact with the university, a web site could inform the potential candidate, and thereof be a useful tool for an efficient enrolling process. A website should also inform the student of general information and the university´s opportunities as well as demands.

Promotion is also important since it could play a central role for HEIs to market themselves (Pratminingsih & Soedijati, 2011). Advertising towards the public and potential funders is often used in order to inform about the university and its related benefits for society. Since students could be informed by multiple sets of channels, marketing towards the public and potential funders needs to be based on a more direct approach. The university could focus on building up a positive public opinion of its operations, which is managed from a public relations office and thus work as an efficient tool in order to improve the promotional strategies. Since the promotional strategy influences the image, HEIs needs to be aware of the message they distribute as it is connected with reputation. As it is difficult to improve a damaged or depraved reputation, HEIs need to manage and hold on to a desired reputation. Thus, reputation needs to be taken into consideration as it has been identified as an important key driver within HEIs. (Enache, 2011) Promotion is an important marketing activity for HEIs which is used to inform and enroll students (Ibid, 2011, Ivy, 2008, Pratminingsih & Soedijati, 2011).

6.1.3 People

The third concept people includes HEI based staff members that interact with prospective students before, during and after the enrollment (Ivy, 2008; Pratminingsih & Soedijati, 2011). The staff therefore represents an important factor for students' satisfaction.

People are related to process and promotion, thus becoming an important factor to consider. (Enache, 2011) Staff members are an important part of education, as high-contact service operation is based on personal contacts, communication and interactions between people (Nicholls et al, 1995). These interactions are based on personal contact with supportive, administrative and academic staff. Staff´s image could be linked to student's perception and potential enrollment. Hence, students may be influenced by the number of employed PhD´s or professors. (Ivy, 2008) Other people that could influence a student's enrollment are public and well known profiles working at the university, such as experts that frequently appear in television or other media (Ibid, 2008; Enache, 2011). Administrative staff has an important role due to their service towards prospective students. Interactions between academic staff and students could therefore affect the reputation of the HEI. The perceived service, both at the front line (lecturers) and the back line (administrative), is of importance due to the students' valuation of the service quality. (Ivy, 2008) HEIs could obtain student and society satisfaction, an enriched image and improved educational service if they promoted and encouraged well known and respected professors. The right people at the right place are a key step in order to develop a fruitful education, which is linked to the staff´s ability to deliver in a correct manner. (Enache, 2011) Besides current staff, former students are important for HEIs. Former students could inform prospective students of their experiences regarding the education and other university related matters. (Pratminingsih & Soedijati, 2011) Even though the supportive functions of a lecturer may influence students' perception, the management of a single phone call by administrative staff could impact students will to enroll (Ivy, 2008). Administrative staff are connected with the enrollment process as they deal with prospective students and their requests. The way administrative staff answer these requests could influence students' first impressions. Even after enrollment, administrative and teaching staff plays an important role. Thus, staff is a key factor for the universities marketing mix. (Enache, 2011)

6.1.4 Process

Process is related to the logistics of the service delivery (Nicholls et al., 1995). The service delivery contains the administrative and formal functions of the university. This is related to the enrollment process including requests for registration, course examination and evaluation, besides giving out examination results and graduation (Ivy, 2008). Social events and entertainment activities are said to be included within the process (Pratminingsih & Soedijati, 2011). Educational service could be connected with a lot of administration and bureaucracy for students. However, a well-functioning process could reduce the frustration for both students and HEIs (Enache, 2011). The university has to confirm that students understand the process of obtaining a service (education), since the customer (students) is involved in the production process. As the service involves interaction in order to create the product, cooperation with staff is important. (Pratminingsih & Soedijati, 2011) Face-to-face interaction with staff is important since HE requires payment preceding the consumption that often takes place over long time periods. During the enrollment phase, HEIs needs to manage students´ registration on the right course, accurately

calculated grades and that a correct degree is awarded. Student satisfaction could also be ensured by supporting accommodation, course schedules and access to the library. (Ivy, 2008)

6.2 Complementary marketing factors for student attraction and enrollment

To complement the four Ps, three additional factors have been incorporated. These factors are motivated by their connections within the field of educational marketing and HEIs. Thus IT, image and reputation have been identified as interrelated towards place, promotion, people and process. Previous research (Gomes & Murphy, 2003; Knight, 2004; Altbach, 2004; Kleen & Shell, 2003; Nguyen & LeBlanc, 2001; Mazzarol, 1998; Wilkins & Huisman, 2011) regarding these factors has student recruitment within HEIs as focal point. Hence, a bond was identified and the combination between these four Ps and complementary factors was topical. Place and promotion was linked with IT, which deals with universities' recruitment and communication purposes. The same connection was found between image and reputation towards promotion, people and process in regard to higher education.

6.2.1 IT

IT is an influencing factor for development within HEIs and the transformation towards the growth of higher education worldwide (Knight, 2004). Connected to IT, the component E-commerce has been identified within public and private institutions. HEIs use this component as a driving factor towards attraction and enrollment of students (Kleen & Shell, 2003). The increased competition within higher education has given institutions challenging tasks in their recruitment and online customer service process towards students. It has also stimulated new marketing approaches towards students. Communication from institutions has enhanced the service available to students. One communication factor for student attraction and enrollment, underlined by Gomes and Murphy (2003), is the role of the internet. It has two roles in educational purposes; first, students' decision making and utilization of information through internet and secondly HEIs' implementations and e-business activities possessed by IT. (Ibid, 2003)

Changes are taking place within higher education and the increased flow of IT-based information is told to be one contributing factor. IT has also been affecting the way HEIs generate knowledge. As a result, different universities now have the ability to offer websites and databases for students. (Altbach, 2004) Universities' e-mail responses and websites shall aim to provide relevant information for potential students. Further, since education within HEIs is intangible, it becomes challenging for prospective students to actually verify the content. Courses that are offered within higher education are often time-consuming and complex, which make it difficult to get a perception of the education. In order to minimize this obstacle, reliable and independent individuals turn out to be identified as a problem solving factor. Educational agents are one example that HEIs could use in order to support and present constructive answers to prospective students. (Gomes & Murphy, 2003) Continuing, Gomes and Murphy (2003) states that HEIs, no matter whether public or private, should strengthen their brand by using online activities. This should be done through utilizing name and e-mail addresses to stimulate the satisfaction for online prospective students. As a whole, previous research concludes that HEIs gains successful outcomes in the recruitment process through deeper insight into e-business strategies and online customer service. (Ibid, 2003) As the factor IT has been stressed as important for student attraction and enrollment, the following section focuses on the other complementary marketing factors image and reputation.

6.2.2 Image & reputation

Image consists of the beliefs, impressions and attitudes that a group or a person has of an object. The object may be a product, brand, place or person. The impression could be perceived as imagined, real, true or false. (Barisch & Kotler, 1991) Herbig and Milewicz (1993, p. 18) state that "Reputation is the estimation of the consistency over time of an attribute of an entity. " The estimation is formed to be the element of an object that is repeated towards the receiver. The attributes are parts of the object, exemplified as quality, price and marketing related skills. (Herbig & Milewicz, 1993)

Image and reputation is of importance for universities who seeks to enhance student attraction and enrollment combined with high student retention figures. (Nguyen & LeBlanc, 2001) Mazzarol (1998) concludes a positive correlation between universities marketing performance internationally and the factor image. It is therefore believed that image could strengthen universities' attraction process towards students (Ibid, 1998). Wilkins and Huisman (2011) mention reputation as an important and influencing factor for students' destination choice. HEIs need to enhance their knowledge towards the importance of image and reputation. This knowledge could help the university in conducting a communication strategy suitable for the particular market. Even though the role of image and reputation is important, HEIs often struggles to manage these two factors due to its abstract and intangible nature. Previous research shows that students' degree of loyalty had a positive correlation towards their perceived image and reputation. Besides the connection between image and reputation towards loyalty, students' choice of retention was also identified as positively correlated with the perceived degree of loyalty. (Nguyen & LeBlanc, 2001) Hence, image (Mazzarol, 1998; Nguyen & LeBlanc, 2001) and reputation (Ibid, 2001; Wilkins & Huisman, 2011) could be important inputs for HEIs which strive to attract and enroll students.

6.3 Conceptual framework

This section presents the conceptual framework, which has been motivated by the connection between the selected four Ps and the three factors IT (Gomes & Murphy, 2003; Knight, 2004; Altbach, 2004; Kleen & Shell, 2003), image and reputation (Nguyen & LeBlanc, 2001; Mazzarol, 1998; Wilkins & Huisman, 2011).
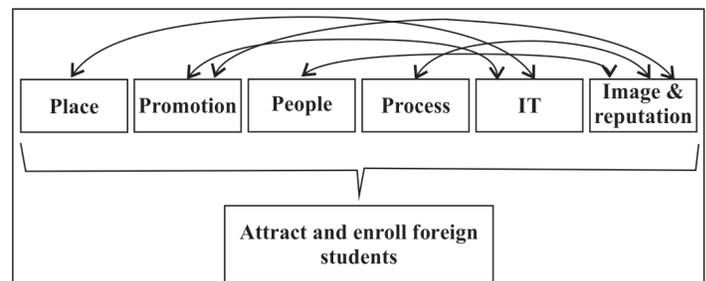
The reasoning for incorporating the IT factor into the conceptual framework is to emphasize the similar connection to both promotion and place. Promotion talks about different channels that are important to take into consideration whereas it later mentions the importance of websites (Enache, 2011). Promotion is also an important tool for HEIs in the enrollment and information process (Pratminingsih & Soedijati, 2011). Nicholls et al,. (1995) adds up by stating that HEIs lack marketing in regard to educational service. Both statements end up being relevant with the factor IT since it creates a more widespread promotion towards the enrollment and information process for HEIs. It can also aid HEIs to realize the importance of educational marketing. This is believed to be relevant with previous research above since it also deals with online activities and its contributions towards improved performance for HEIs in regard to student attraction and enrollment. (Gomes & Murphy, 2003) Another reflection towards promotion is stated by Knight (2004), where IT is a key driver for HEIs towards an improved educational service. Place talks about having different channels of providing knowledge and student related material, whereas Blackboard is one example (Ivy, 2008). Other IT instruments described are websites, e-mail and e-commerce services. These instruments reflect upon what Gomes and Murphy (2003), Altbach (2004) and Kleen and Shell (2003) concludes in their previous research; that students use internet and HEIs shall engage in activities related to IT. Gomes and Murphy (2003) and Ivy (2008) also describe place to be one marketing channel for HEIs to meet the student's needs, wants and expectations. Gomes and Murphy's (2003) previous research becomes compatible since IT is discussed to provide constructive information towards student recruitment in combination with place.

With reference to previous research by Nguyen and LeBlanc (2001), Mazzarol (1998) and Wilkins & Huisman (2011), the factors image and reputation have been incorporated within the conceptual framework. Image and reputation is interrelated to people, process and promotion. The connection between image and people is motivated by HEIs staff and their role to interact, inform and manage prospective students during the enrollment process (Ivy, 2008; Pratminingsih & Soedijati, 2011; Nicholls et al., 1995). HEIs could also strengthen their image through promotion and encouragement of well-thought-of professors (Enache, 2011). The interaction between staff and students could thus affect the perceived image (Ivy, 2008) and therefore be linked to people. Image and process are also interrelated, due to HEIs management of a smooth enrollment phase. This management can improve a higher educational service quality for the university and since the service quality experienced by students could affect the image, this is an important factor for HEIs. (Enache, 2011)

Image is also connected to promotion. HEIs use of promotion and its portrayed message can influence the image perceived by its receivers (Enache, 2011). Universities use different marketing channels to inform these receivers, which could be students, potential funders and the general public (Ibid, 2011; Ivy, 2008). The message can be distributed through different promotional channels and is therefore associated with the HEI´s image.

Reputation is also important for universities in order to attract students. As it is difficult to improve an already damaged reputation, promotional activities are important for HEIs. (Enache, 2011) People are interrelated with reputation, due to the interactions between HEIs staff and students (Ivy, 2008). Reputation is also connected towards process since it deals with the enrollment, retention and graduation phase. The enrollment phase plays an important role for HEIs as it informs students about knowledge regarding educational services. This knowledge can be fruitful during the retention stage as well as the graduation phase since it can provide improved reputation for HEIs. (Enache, 2011) The combination of the four Ps together with the factors IT, image and reputation into the conceptual framework will facilitate HEIs to attract and enroll students. In this way, HEIs can achieve constructive performances in terms of attracting and enrolling students.

7. CONCLUSION

The study's research questions are concluded as below:

- *What marketing approaches do private higher education institutions use to attract and enroll students?*

The study shows that place embarked IT-features such as Facebook, YouTube, Twitter, Instagram, web pages and e-mail services. It also demonstrated how common physical activities are such as; open-houses, seminars and fairs with focus on face-to-face interactions and agents. Promotion was found to be important as it deals with personal sales contacts, public relations, partnerships with HEIs, online activities and ongoing students. Other components of promotion are billboards, newspapers, TV advertisement and word of mouth. Those who are responsible for these promotional implementations are Recruitment teams and managers. The people involved in the marketing approach are different, numerous and told to be important. Universities have departments that deal with different services towards students. Within these departments, staff demonstrates different English language skills. The personnel manages e-mails, phone calls, seminars, fairs, open houses and other informative and recruitment forums to interact with parents and students. The individuals are often employed based upon their experience and merits and occasionally often chosen from the hierarchy top. Considering process, there is an opportunity for students to finalize application, acceptance and confirmation through IT tools, and develop closer individual relationships with the university´s staff. The final stage in the enrollment phase is usually composed during one day, where visa application, accommodation and other practical matters are completed. Another conclusion is that information in regard to social events and other entertainment activities often are neglected by HEIs and feedback or events are seldom available for students. The factor IT is used as an initial information source for later interaction phases. Besides Facebook, YouTube, Twitter, Instagram, direct e-mail and surveys, HEIs use databases to inform students. Many databases are undeveloped at present. Language barriers are also something that exists to a certain extent and the study found these underestimated and neglected. Universities invest in modern and design rich facilities and they do also encourage investments in events and fundraisers concerning image and reputation. It is all about attracting the right staff, thus research is dependent on the management´s ambitions. Universities also use public relations. Interactions with famous people, politicians and both international and domestic students are typical examples to enhance image and reputation.

- *What factors are students at private HEIs valuing highest and lowest, in terms of marketing in the recruiting process towards these universities?*

Staff member interaction (people) and availability of class locations, teaching styles and methods and IT features (place) was valued highest. Web-pages, customer service and e-mail (IT) was together with interaction with staff members, requests for registration, information of accommodation and social events (process) valued as the third and fourth factor. On the other hand, advertising, public relations, publicity, promotional based sales efforts and personal sales contacts (promotion) was valued low. Image and reputation was also found to be valued low as promotion.

- *How can private colleges or universities strengthen their marketing approaches to attract and enroll students?*

Important factors to consider for private HEIs is to strengthening their online presence through webpages and other IT tools (place & IT) in combination with personal interaction and face-to-face contact (people). HEIs shall also consider improving promotional activities (promotion), managing a smooth enrollment phase (process) and strengthening their image and reputation.

The first strengthening factor within IT is to enable multiple languages on their web pages following with increasing usage of promotional channels, such as Facebook and YouTube. Secondly, IT sources should be modified and more adaptable towards students in terms of advertisement and design. The homepage should inform students of these engagements through links to YouTube videos and Instagram pictures. These should be combined with articles, videos, posts and other interesting information at Facebook.

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Work Life Integration: Tool to Success for Organisations

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Ritika Kaur *
Sakshi Goel **

ABSTRACT

Organizations focus upon increased revenue generated by its employees, competitive workforce and employee dedication for achieving its strategic goals in order to meet the challenges of 21st century. Work–life balance is a concept including proper prioritizing between "workaholics" (career and ambition) on the one hand and "lifestyle" (Health, pleasure, leisure, family and spiritual development) on the other. With the increase in the proportion of dual earner families and the kind of life style finance people are having work life conflicts are inevitable. There is a need for organizations to adopt human resource strategies and policies that accommodate the work-life needs of a diverse workforce in the current business environment. The findings reveal that work-life balance is both important for the organization and for its employee's particularly in current dynamic organizational scenarios. It helps the organization to improve productivity, efficiency, competitiveness, morale and hence gain a competitive edge. Similarly employees are benefited from work-life balance initiatives through increased motivation to work, enhanced satisfaction, empowerment and ultimately more commitment to the organization.

KEYWORDS

Work life balance, organization, conflicts, Policies.

1. INTRODUCTION

Work-life balance has become the current mantra, but for many it is seen as a well-worn phrase that we aspire to—but seldom, if ever, achieve. It is usually associated with flexible working, reductions in working time, and practices that cater to the need to juggle both family and employer demands. However, a broader viewpoint is helpful in understanding the concept and thus how each of us can move from some nirvana to a reality than works for us in practice. To understand work-life balance, it is important to be aware of the different demands upon us and our personal resources—our time and our energy—that we can deploy to address them. With this awareness, we are able to review and value the choices we have in terms of how we allocate our precious resources. From this we are able to make the choices themselves—and justify the rationale for so doing. Such conscious decision-making provides a sense of control over our actions. The family-friendly aspect of work-life balance often forms a central plank in discussions on this issue, with the childcare concerns faced, particularly by women with young or school-age children, frequently highlighted. However, this puts too narrow an emphasis on the subject. It is not solely a women's issue. Men too stand to benefit from work-life balance both as fathers and partners in relationships. With an aging population in which eldercare places increasing concerns and demands upon the working population, maintaining a healthy work-life balance emerges as a positive approach for us all in managing our various social responsibilities. Caregivers of the disabled and those with no dependants but with community commitments also stand to benefit from positive attitudes to work-life balance concerns, as do those who look for time and space for themselves in order to study, travel, or pursue other leisure activities. It could be argued that everyone potentially benefits from employer actions to promote work-life balance. But, of course, society cannot benefit if the impact on employment prospects is negative. So this raises the issue of whether the promotion of work-life balance initiatives in the workplace might potentially damage business competitiveness and with it economic growth, employment prospects, and jobs. In order to consider this, it is helpful to start with the international working life picture to assess the nature of the pressure of working hours and the impact of technology on working life. Work-life balance is an important area of Human Resource Management (HRM) that is receiving increasing attention from government, researchers, and management and employee representatives. Factors contributing to the interest in work-life balance issues are global competition, renewed interest in personal lives/family values and an aging workforce (Lockwood, 2003). Sverko et al (2002) attribute the growing relevance of work-life balance in industrialized societies to changing technology, changing values and changing demographic trends. Other factors include increasing complexity of work and family roles, the increased prevalence of dual income households and the expanded number of women entering the workforce. In the present scenario, a vast majority of people seem to be working longer and harder than ever before and as consequences are finding it ever more difficult to achieve a much desired WL. In particular, technological, structural and demographic changes brought about in employment, together with greater than ever demand for more multi skilled and flexible knowledge workers are being allied with negative experiences of work such as involuntary contingent work and role overload. These experiences have been correlated directly and indirectly to the quality of family life, psychological well-being, and health. A balance between work and life is supposed to exist when there is a proper functioning at work and at home with a minimum of role conflict. Therefore, the incompatibility between the demands from the work and non-work domain give rise to conflict and consequently, people experience a lack of WLB. There is confirmation of the fact that people entering the workforce today are laying emphasis on the importance of WLB more than their predecessors. In spite of his, the extent to which this balance is being achieved is far less than what is desired. In fact, the researchers bring to mind that graduates are being drawn into situations where they have to work for progressively longer hours and so experience an increasingly unsatisfactory balance between home life and work life. From the prospective of employees, WLB is the maintenance of a balance between responsibilities at work and at home. Work life initiatives are those strategies, policies, programs and practices initiated and maintained in workplaces to address flexibility, quality of work life and work family

conflict. In other words, WLB is about people having a measure of control over when, where and how they work. Strategies of WLB in organizations include policies covering flexible work arrangements, child and dependent care and family and parental leave. Several studies have shown the benefits associated with the provision of work life in organizations. Though work-life balance was initially construed as the concern for working mothers, it has been recognized as a vital issue for all classes of employees (Bird, 2006). Despite increased interest in work-life issues, the organizational philosophy towards work-life concerns is varied. Many organizations still see them as individual not organizational concerns. Some organizations resonate the sentiment 'work is work and family is family—and basically, the two do not mix' (Bailyn et al, 1997).Other organizations view work and personal life as competing priorities in a zero-sum game, in which a gain in one area means a loss in the other (Friedman et al, 2000).

2. LITERATURE REVIEW

Work Life Balance

"Work-family conflict is defined as a form of role conflict characterized by the incongruence between responsibilities of the home and workplace which are mutually incompatible". (Greenhaus and Beutell, 1985)

WLB is defined as "satisfaction and good functioning at work and at home with a minimum of role conflict" (Clark, 2000)

WLB is defined as "the absence of unacceptable level of conflicts between work and non-work demands. (Greenblatt, 2002)

Work life balance as "the extent to which an individual is equally engaged in – and equally satisfied with – his or her work role and family role" (Greenhaus et al, 2003)

Work life balance is "the extent to which an individual's effectiveness and satisfaction in work and family roles are compatible with the individual's life priorities. (Greenhans and Allen, 2006)

Work–family balance is defined "as accomplishment of role related expectations that are negotiated and shared between an individual and his or her role-related partners in the work and family domains" (Grzywacz and Carlson, 2007).

A review of the literature, however, questions this purported link between work-life balance practices and organizational effectiveness. The majority of studies investigating the outcomes of work-life practices does not measure work-life conflict, and thus cannot support this proposed mediated relationship (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005). The mechanisms by which the provision of work-life practices affects both employee behaviour and organizational performance remain unclear and under-researched (Allen, 2001; Schutte & Eaton, 2004). The results of a number of studies reviewed in this paper appear to suggest that work-life balance practices do not necessarily influence levels of employee work-life conflict, but instead improve organizational performance via other routes, such as reduced overheads in the case of employees working from home, improved productivity among employees working at their peak hours, or social exchange processes arising from perceptions of organizational support (e.g., Allen, 2001; Apgar, 1998; Shepard, Clifton, & Kruse, 1996).

Work Life Conflict

The assumption, that involvement in one role (i.e. job) necessarily precludes attention of another (i.e. family). Such interference between role commitments leads to WLC. (Frone, 2003) In other words individuals perceive that they have more flexibility in terms of engaging in family commitments and responsibilities than they do for work commitments. (Carlson and Frone, 2003).

There are basically two interfaces to work life conflict:
1. Work to family interference (WIF)
2. Family to work interference (FWI)

Working time of an individual is dictated by the person's employment contract or the organization commitments whereas family time is purely discretion of the individuals. The clash of time in these two aspects creates an imbalance in two directions i.e. work family interference (WFI) tends to dominate the family work interference (FWI).

Work home interference generally operates in two directions. First, work demands more time and energy hindering activities at the family end. For example attending an early morning meeting or marketing tours arranged by the organization leads individual to compromise on home related activities. Researchers call this as work interference with home. Second, responsibilities at home interfere with performance at work. For example worrying about sick dependents, spouse or partners responsibility many a times diverts an individual's attention towards work related responsibilities leading to family interfering work (Duxbury, Higgins, & Lee, 1994, MacEwen & Barling 1994). Studies distinguishing between the two directions of interference have presupposed a positive, reciprocal relationship between work interference with home and home interference with work, based on the assumption that if work-related problems and obligations begin to interfere with the fulfilment of responsibilities at home, these unfulfilled home responsibilities may then begin to interfere with one's day-to-day functioning at work, and vice versa (Frone, Russell, & Cooper, 1992).

Combining both directions of work-family interference and family to work interference into one construct renders it difficult to ascertain whether given antecedents are predicting work interference with home or the vice-versa. (Erdwins, Buffardi, Casper, & O'Brien, 2001; Hill, Hawkins, Ferris, & Weitzman, 2001; Parasuraman & Simmers, 2001; Saltzstein, Ting, & Saltzstein, 2001; Tausig & Fenwick, 2001).

3. WORK LIFE BALANCE AS A TOOL OF SUCCESS FOR ORGANIZATION

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 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 (Delery and Doty, 1996). 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 (Dreher, G.F., 2003). While the field has been criticized for lacking theoretical foundation, Delery and Doty, (1996) recognized three theoretical modes that are utilized in strategic human resource management to explain mainly financial performance. The first theoretical approach is the universalistic perspective, which assumes that some practices are always better than others (the so-called best practices) and if organizations adopt them this will result in productivity. A second theoretical approach is the contingency perspective arguing that in order to be effective the organization's human resource management policies must be consistent with aspects like the organization's strategy. The third theoretical model is the configurationally approach, which is guided by a holistic principle of inquiry, and identifies typologies — instead of unique factors — that are posited to be maximally effective (for performance).

The question is now, which of these approaches are relevant to the study of the effectiveness of work-life policies. The first problem that we encounter when answering this question is how to operationalise effectiveness. Does it refer to the smooth functioning of family life, or to positive organizational behavior e.g., job performance, or is it merely the answers on questions about the experienced conflict between work and private life? Evidence provides strong support for the universalistic perspective and some support for both the contingency and configurationally perspective, at least what concerns the prediction of company's performance (Delery, J.E. and Doty, D. H., 1996). This means that some HR practices were more appropriate under specific strategic conditions and less appropriate in other conditions underlining the complexity of the HR manager's job. Actually, none of the known work-life policies has been consistently found as beneficial for job performance. Also Konrad, A.M and Mangel, R., (2000) found no relationship between a composite measure of 19 work-life initiatives and productivity. While there is not strong evidence for the universalistic approach for work-life policies regarding their effects on job performance, Perry-Smith and Blum (2000) provide evidence for the configurationally approach. Specifically, organizations with a greater range of work-family policies (including leave policies, traditional dependent care and less traditional dependent care) had higher organizational performance, market performance and profit-sales growth. Work-life policies have not been studied yet from a contingency perspective while this can be promising in terms of effectiveness. While it seems logical that there should be a lot of research on the relationship between the provision of specific (combinations of) work-life policies and experienced work-life balance or conflict, the studies reviewed in this article do The Role of Work-Life Balance Practices in Order to Improve Organizational not confirm this. What can be concluded from the existing studies is that there are no universalistic policies that have been found to be beneficial in reducing conflict between work and non-work

domain (Eby, L.T et al., 2005). In a study among male executives, (Bretz, R.D. and Judge, T.A., 1994) found that the more the organizations provided comprehensive policies to accommodate work and family issues the less work-family conflict was experienced by these employees. However, the relationship was not so strong and Judge et al. (1998) used a global scale to rate the provision of policies. While we cannot make any conclusion about which policies were supplied, this finding can be considered as an indication that it is the provision of constellations of work-life policies that matters and not a unique policy. This pleads for the configuration or contingency approach as more applicable for the reduction of conflict between work and life-family.

4. CONCLUSIONS

The objective of the study was to identify the role of work life in organizations. As a part of literature suggests that work life balance policies positively affects job satisfaction of employees. For many employers facilitating a satisfactory work-life balance is a critical strategy for improving employee morale and satisfaction. It is integral to any employer-of-choice programme and for developing an effective partnership with unions. Some employers use it to encourage culture change or to ensure they are supporting their employees appropriately. They are using the development of a work-life balance strategy to build trust, and to encourage dialogue and constructive problem-solving. The literature review reveals that most of the studies done in the past were based on empirical research which tried to identify relationship between work life conflict and its outcomes like job satisfaction, organizational commitment, work to family interface and family to work interface. Other variables like gender, age, marital status, no of dependents, employee role, job responsibility, parental status etc were widely studied. The results show that all these have either negative or positive relation with work life balance or work life conflict. Different views of work life balance have been suggested by various research scholars in literature review. Despite the popularity of work life conflict as a topic of research interest, work life practices in the organization still have a long way to travel to develop a compressive map of the antecedents and consequences of work life balance (Kersley et al. , 2005; US Bureau of labour 2007). It can therefore be concluded that various policies if undertaken by organizations will ultimately results in improvement of job satisfaction of their employees and consequently this will improve the performance of the organizations.

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Innovation in Accounting- The Forensic Accounting

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Dr. Anita Sharma Samnol *

ABSTRACT

Innovation in every field is an essential requisite. Forensic Accounting in the field of accounting is also considered to be essential due to the rapidly increasing number of frauds. Innovation in Accounting in terms of Forensic Accounting has taken place due to the increased number of corporate scams in an unmatchable speed. Frauds are spreading like a communicable disease by victimizing the corporate world in such a manner that the investors and economy as a whole finds difficult to recover from it. In India the rate of rapid increase in the number of white collar crimes and frauds and lack of sufficient expertise to prevent these practices brings attention towards Forensic Accounting. Scams done by Ketan Parekh, Harshad Mehta and the Satyam Scam have shaken the economy and resulted in the increased demand of the Forensic Accountants so that preventive actions can be taken before it becomes a curse. Specialized knowledge in the field is a prerequisite for becoming a forensic accountant. Some agencies are actively engaged in this field but there still exists a gap in the demand and supply of the forensic accountants. This paper makes an attempt to discuss the meaning, innovation and need of forensic accounting, hub of frauds and the working of forensic accountants to control it, prerequisites of a forensic accountant and the present status of forensic accounting and forensic accountant in India.

KEYWORDS

Forensic Accounting, Frauds, Forensic Accountants, Indiaforensic and Fraud Examiners

1. MEANING OF FORENSIC ACCOUNTING

The word forensic is derived from the Latin word forensis, meaning thereby belonging to the forum, which was the site for public debate in ancient Rome.

Forensic Accounting is the combination of the Accounting, Auditing and Investigation skills. Forensic Accounting can also be termed as a scientific process in which the financial information is firstly gathered then analysed and finally presented in a proper document that can be used as a test of time in the courts. It is a powerful instrument to curb the rising frauds in the corporate sector.

Forensic Accounting assists an organization in following two ways
- Investigative Accounting
- Litigation Support

Investigative Accounting It deals with the investigation of criminal matters relating to employee theft, securities fraud, insurance fraud etc. and also includes provisions and suggestions regarding possible courses of action.

Litigation Support It involves the quantification of the amount of economic damages and also providing accounting assistance in litigation matters.

2. HOW FORENSIC ACCOUNTING BEING INNOVATED

It was in the 19th century that the need for Forensic accounting was first realized when an accountant was required to testify at a hearing of bankruptcy in the year 1817. It becomes more known in 1824 after the announcement made by a Scottish accountant that he expertise in legal accounting. Worldwide Sherlock Holmes is considered as first Forensic accountant. However, a significant contribution made by the Indian historic persons like Kautilya, Birbal and Tenaliram can never be ignored. During the ancient Mauryan Times Kautilya was the first person to mention the famous forty ways of embezzlement in the form of a his famous book known as Kautilya arthashastra . The research is triggered in India with a great speed and Pradeep Akkunoor who heads Journal of Forensic accounting in India pioneers the topic and has done a good research about the contribution of Kautilya in Forensic accounting. Pradeep have called Kautilya back in to the 21st Century and have started the series of virtual conversations between the computer and Kautilya. This virtual conversation revealed that almost all the major failures in USA Incorporates were the extended versions of what Kautilya said few thousand years before. Hardly any change in their numbers can be seen. Indian Forensic Accountant Manual contains all this virtual conversation between Kautilya and the computer of the present age.

Birbal, a great scholar of the time of King Akbar used various tricks to investigate various frauds. These work as the Litmus test to the Fraud examiners even of recent times. Birbal's stories are mostly applied by the Gem of Indian Fraud Examiners, Chetan Dalal, to the investigation of the frauds. In various articles published in BCAS Journal Chetan Dalal has explained how Birbal's trap and Birbal's Litmus test approaches are significantly used while investigating the accounting frauds.

Another one, the third scholar in the above field, is Tenaliram who emphasized on the techniques of investigations to detect the root of fraud and the perpetrators.

3. OBJECTIVES OF THE STUDY
- To understand the meaning of Forensic Accounting
- To Know innovation and need of Forensic Accounting
- To describe the present status of the forensic accounting and forensic accountants in India
- To find out the hub of Frauds in India and the working of forensic accountants on it.

Research Methodology

This study is secondary data based. The information is collected through various books, journals and internet

4. IS THE INNOVATION OF FORENSIC ACCOUNTING REALLY IN NEED

According to global consultancy firm KPMG Concerned over corporate frauds especially after the Satyam scam, many large In-

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dian companies have started hiring forensic accountants to detect misreporting in books of accounts.

Experts are also of the opinion that due to the increased number of white collar crimes the forensic accounting can be used as an effective tool to provide assistance to the investors regarding company accounts.

<div align="center">Table-1: Percentage of Companies Affected by Listed Frauds</div>

	2012	2011
Theft of physical assets	24%	25%
Information theft	21%	23%
Management conflict of interest	14%	21%
Vendor, supplier or procurement fraud	12%	20%
Internal financial fraud	12%	19%
Corruption and bribery	11%	19%
Regulatory or compliance breach	11%	11%
IP theft	8%	10%
Market collusion	3%	9%
Money laundering	1%	4%

Source: Global Fraud Report, Key Facts and Figures, Annual Edition: 2012/2013

To be mentioned over here that the number of companies affected by listed frauds is increasing day by day. The percentage of companies affected by listed frauds has also been shown in the Table1. Increased number of corporate frauds worldwide brings attention towards forensic accounting. In India the scandals done by big corporate like Harshad Mehta which caused a loss of more than Rs.5.5 billion, Ketan Parekh made a loss of Rs.1.3 billion to Bank of India, Sanjay Seth trade scam amounted to Rs.6 billion and the biggest multi-crores rupees Satyam Scandal have given a tremendous shock to the Indian economy and investor's faith in the financial markets.

<div align="center">Table2 : Statistics of scam in India Scam Amount</div>

SCAM	AMOUNT
2G Spectrum Scam	Rs. 175000Crore
Satyam Scam	Rs. 8000 Crore
Stock Exchange (Harshad Mehta)	Rs. 4000 Crore
Stock Exchange (Ketan Parekh)	Rs. 1500 Crore
C. R. Bhansali	Rs. 1200 Crore
Fodder Scam	Rs. 950 Crore

Source: Indian Stream Research Journal

Due to these increased number of Scams causing multi crore loss to the economy forces the accountants to bring forensic accountants as an innovative tool to curb them outright from their roots.

5. HUB OF THE FRAUDS IN INDIA

Previously Mumbai is considered as the king of all financial frauds that take place in India .To mention a few financial scandals such as Harshad Mehta, Ketan Parekh and Sanjay Seth were committed from the Mumbai city. But now the place of the king is taken over by the Pune as Pune BPO, Webcam Kulkarni, Swimming Tank Webcam and thousands of credit card frauds have taken place in the Pune.It has surpassed all the cities in the case of cybercrimes.

6. STATUS OF FORENSIC ACCOUNTING AND FORENSIC ACCOUNTANT IN INDIA

In India the Y.M. Kale was the first Chartered Accountant who blows the whistle against the leading business group in India. However he could not get the glamour that Sharon Watkins gained in USA. Rather he was forced to resign from the job.

Sucheta Dalal is a perpetual whistleblower. She constantly blows the whistles against the malpractices of the promoters in the stock markets. India has not witnessed any employee whistleblower becoming the celebrity during his lifetime.

Indian economy has duly realized the need of forensic accountants to protect itself from the alarming financial crimes. But there exists a much gap between the demand and supply of the industry specific forensic accountants. Due to this demand and supply gap ,the task of Chartered Accounts is being widened .At present the CA has to perform the tasks of financial verification,-CARO2003which includes operational and propriety audit with traditional auditing and assisting the private individuals in investigating the financial scams.

Indiaforensic Consultancy Services (ICS), Pune provides the training and education regarding forensic accounting in India. Started in year 2005, Indiaforensic now helps more than 69 business brands across the world to solve the global financial fraud related problems by providing them education and customized training solutions. With about 20 representative offices across the country and a network of more than 400plus members Indiaforensic leads the forensic accounting movement in India. From year 2008, Indiaforensic is the brand owned by the Riskpro Management Consulting Pvt. Ltd. Indiaforensic provides the world recognized certificates which include the certification in forensic accounting, anti-money laundering and bank forensic accounting.

There is an acute shortage of Forensic accounting skill sets in India. It is difficult to quantify the number of the forensic accountants in India. According to the Indiaforensic the data on Certified Forensic Accountants provided in the year 2008 the composition of the forensic accountants in different sectors can be shown in the form of a table.

<div align="center">Table3: Sector wise Breakup of Indiaforensic Certified Members</div>

Sl. No.	Type of Industry	% of Forensic Accountants
1	Banking	23%
2	CA	18%
3	Field Investigation	11%
4	Big	4. 13%
5	Manufacturing	3%
6	Retail	2%
7	Financial Institutions	4%
8	Government.	5%
9	Others	.21%

Source: India forensic 3rd Annual report on status of forensic

Banking is the single biggest sector which contributes 23% of the total certified members in India. Citi Bank is the single biggest bank in the banking sector which employs highest number of Certified Anti-money laundering experts and the Certified Forensic Accounting Professionals [CFAP]. Second sector that contributes to the highest number of certifications in India is the Big four accounting firms. KPMG is the biggest of them all. KPMG has strength of more than 300 professionals working for their forensic team

A survey which was conducted by Indiaforensic Research Foundation showed that the Indian Auditors are most worried about the occupational frauds & Bank frauds. As shown in the table below more than 45% and 30% of the participants who were surveyed confirmed that the occupational frauds and Bank Frauds respectively have become a severe disease in the financial system.

Table4: Percentage of frauds which worries the auditors

Type of Frauds	% of Respondents
Occupational Frauds	49
Money Laundering	12
Cyber Fraud	0
Bank Fraud	30
Stock Market Frauds	8
BPO frauds	0

Source: Report by Indian foundation Research Centre

FORENSIC ACCOUNTANT—PREREQUISITES

The subject being still young and high tech involved in the present age when Cyber crimes are taking the lead in field of fraud. To become a forensic accountant a professionally qualified accountant like CA, CPA etc must get training in the techniques of forensic accounting under some recognized association to get acquainted and skilled in this specific arena. Some existing organizations and leaders like KPMG, E&Y, and PwC are contributing substantially towards advancement of this branch of study. With qualifications, like auditors, a forensic accountant needs the intuitive skill also to get success in this highly skill driven profession. The goal is to have the best possible quality in the Forensic Accountant to combat the horror in the present days of terror fill world.

A forensic accountant has to Investigate and analyze the financial evidence, Develop computerized applications to assist in the analysis and presentation of financial evidence, prepare reports, exhibits and documents to communicate the results and provide Assistance as an expert witness and preparing visual aids to support trial evidence in legal proceedings.

7. HOW FORENSIC ACCOUNTANTS WORK—THE FRAUD TRIANGLE

The Fraud Triangle on which Forensic Accountants rely consists of three core concepts leading towards happening of fraud, namely, Incentive, Opportunity and Rationalization.

In present days, to convert a triangle into a diamond a fourth concept i.e. capability has also been introduced. Generally a fraud cannot take place in the absence of any one of these four concepts.

Forensic accountants in today's complex commercial world are being deployed to not only play the investigative role once the fraud appears but also act as the preventers of financial mischief by ongoing process of utilizing their skill and techniques in the operational level of the enterprise. This helps to nip the problem in the bud rather than spending time after the unwanted situation crops up (Source : Introduction to Forensic Accounting, by Robert K. Minniti, CPA, CFE, Cr.FA, CFF, MBA).

8. THE TECHNIQUES OF FORENSIC ACCOUNTING

A. THEORY OF RELATIVE SIZE FACTOR (RSF): The relative size factor test is a powerful test for detecting errors.

B. COMPUTER ASSISTED AUDITING TOOLS (CAATs): Computer-assisted audit techniques (CAATs) or computer-assisted audit tools and techniques (CAATTs) are a growing field within the audit profession. CAATs provide auditors with tools that can identify unexpected or unexplained patterns in data that may indicate fraud.

C. BENFORD'S LAW: It is a mathematical tool, and is one of the various ways to determine whether variable under study is a case of unintentional errors (mistakes) or fraud.

D. RATIO ANALYSIS: Data analysis ratios for key numeric fields are also a useful technique used by forensic accountants to detect the frauds.

E. DATA MINING TECHNIQUES: It is a set of assisted techniques designed to automatically mine large volumes of data for new, hidden or unexpected information or patterns. Data mining techniques are categorized in three ways: Discovery, Predictive modeling and Deviation and Link analysis.

9. CONCLUSION

Forensic Accounting in the field of accounting is considered to be essential due to the rapidly increasing number of frauds. This increased number raises the worries of financial systems. Forensic accounting is playing a recommendable role in combating these frauds. The recent financial scams have created a huge demand for the forensic accounting but the availability of the forensic accountants is less. The occupational Frauds have the biggest percentage followed by other types of frauds which works as a curse to our system. Forensic Accountants need specialized training to curb these frauds. Some institutes are providing training and courses to bridge the demand and supply gap of forensic accountants and provide the economy with the resourceful hands to protect it from various frauds.

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Emerging Trends in Human Resource Management

Dr. Pranay Tanwar *

ABSTRACT

HRM i.e Human Resource Management is a strategic and comprehensive approach to manage Manpower at workplace & working environment. Earlier HRM was considered as a job responsible for the attracting, recruiting, selecting, training, assessment and compensation of employees while ensuring compliance with employment and labor laws.

Now a days this profession is considered as a passion by youngsters as it involves many innovations like succession planning, business continuity planning, workforce diversity, labor relations and some aspects of mergers and acquisitions.

HRM also has impact of Global, Political, Social, Economic & technological trends of the society & work culture.

The paper focuses on how upcoming techniques can be taken up and its impact on different management decisions and challenges arising for the organization etc.

The paper discusses the various issues related to HRM. The paper closes with recommendations and strategies which can be adopted by the organization for solving the issues.

KEY WORDS

Human Resource, Recruitment, Trends, Innovation

1. INTRODUCTION

The increasing globalization of the marketplace is combined with an ever escalating shortage of skilled workforce and advances in technology which has resulted in large scale changes to employment practices throughout the world.

The recruitment attentiveness is gearing up for these changes by ensuring and building strategic alliances and global partnerships to ensure access towards best candidates worldwide.

Organizations hiring staff continue to undergo massive change in striving to be competitive and profitable.

As we all know genuine talent knows no geographic borders — no country has a monopoly on the most required personnel, everyone wants the best whether it's IT, Media, Software, Management, Science or Maths, no matter where he or she lives. The effort lies in finding them which means the employer has to widen his reach globally for best results.

As a result of the same recruitment agencies are moving towards sourcing candidates through internet job boards so that the recruitment activity can occur in real time. The ability to recruit internationally has been a huge development and boon for business by using these services.

The fact is a large number of private employment agencies are the part of new "Job Network". The important thoughtful divergence between these services and the vast majority of private agencies is the centre of concentration.

2. OBJECTIVE

Since Recruitment and Selection play a key role in the development of an organization and now-a-day's companies are focused on new & upcoming trends and capturing them due to increasing competition in the market. The paper discusses the importance of HR department in selecting and recruiting the required workforce and the hurdles they come across during the process.

3. METHODOLOGY

Methodology of the paper is totally secondary in nature. The paper is based on secondary sources.

4. IMPORTANCE FOR HR DEPARTMENT

Whether the business is small or large venture human resource is an important department for any organization it is much more than simple payroll processing or handling the hiring process annually. It plays an essential role in developing companies image and development to achieve long term goals. It includes

- ➢ Human Capital Value
- ➢ Budget Control
- ➢ Managing Manpower
- ➢ Training and Development
- ➢ Employee Satisfaction
- ➢ Cost Savings
- ➢ Performance Improvement
- ➢ Sustaining Business
- ➢ Building Corporate Image

5. CONNOTATION FOR HR MANAGERS

With the increasing demand of HR department in an organization, it becomes very much important to checkout for the importance of HR managers and for the same employers must be aware about the qualities or connotations a HR manager or personnel should posses

- ❖ HR Managers must "know the business they are in", they must be aware about the key factors for ensuring success in achieving the success your policy makers expect.
- ❖ HR Managers must have business skills and knowledge - the skills to develop budgets, create effective measurement systems, and developing strategies for improving performance outcomes.
- ❖ Developing expertise in improving organizational performance through social-technical systems design – using data and contemporary methods and processes for redesigning the way work gets done.
- ❖ Being accustomed to employees and the critical issues facing them in balancing work/life challenges
- ❖ Acquiring the competencies for creating organizational cultures that empower and align with strategy. – Accenture found

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that over 40 percent of US middle managers are currently looking for another job or plan to do so when the economy recovers. – To retain talent you must focus on ensuring best human resource management practices
- ➢ Describe to policy makers
  1) how your organization and systems must change to attract and retain the best people, and
  2) build a business case for doing so.
- ❖ The confidence to stand alone,
- ❖ The courage to make tough decisions
- ❖ The compassion to listen to the needs of others.

Recruitment in Metroes
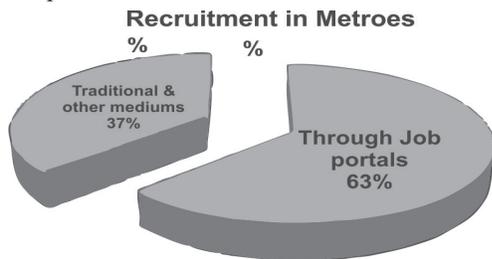
Online job portals are the preferred hiring channel by nearly 55 percent of the organizations surveys by timesjobs.com. New age recruitment tools such as mobile and social media, are yet to create a niche for themselves among Indian organizations. While the trend is catching up, together they are accounted for only 9 percent of hiring. Lack of awareness, lower understanding of the medium and its usage are the key impediments in the growth of these mediums in India.
- √ 55% Organization use personality profiling tests to assess candidates.
- √ Across geographies online job portals are the top medium for sourcing candidates.
- √ 82% organizations conduct in-depth face-to-face interviews for selecting candidates.

Tier I Cities/ States & Capitals
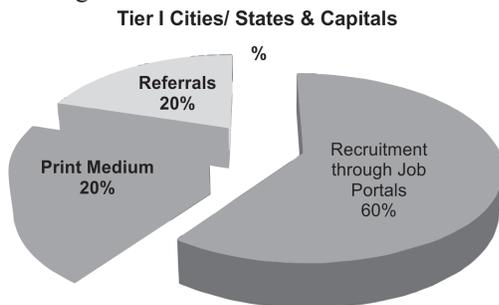
6. SOME ALARMING FACTS
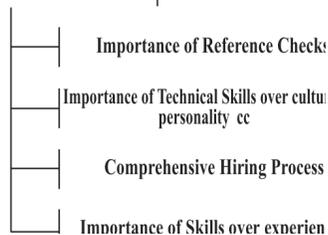
- ➢ 59% Organizations consider reference checks important but they tend to ignore it at times.
- ➢ 50% Organizations believe technical skills are more important than being culturally fit.
- ➢ 29% Organizations have a comprehensive hiring process in place but it is not adhered to by everyone.
- ➢ 23% Organizations consider skills to be of relevance at the top level but experience holds more weightage.
- ➢ 12% Organizations use an adhoc method for hiring employees.
- ➢ 6% Organizations use mobile to hire, which is the next big thing in the recruitment world.

7. LATEST TRENDS IN RECRUITMENT AND SELECTION

- • **Job Portals:**

  A job portal is a website which helps in the recruitment process by bringing together both the employer and the job seeking candidate. The candidate will have to create his profile by uploading his resume which will be then viewed by the employer whenever required.

  These websites are designed for the employers to post job requirements for a position to be filled and are commonly known as job boards. Other employment sites offer employer reviews, career and job-search advice, and describe different job descriptions or employers. Through a job website a prospective employee can locate and fill out a job application or submit resumes over the Internet for the advertised position.

- • **Employee Reference:**

  It's an internal recruitment method employed by organizations to identify potential candidates from their existing employees' social networks. An employee referral scheme encourages a company's existing employees to select and recruit the suitable candidates from their social networks. As a reward, the employer typically pays the referring employee a referral bonus. Recruiting candidates using employee referral is widely acknowledged as being the most cost effective and efficient recruitment method to recruit candidates and as such, employers of all sizes, across all industries are trying to increase the volume of recruits through this channel.

  Advantages:
  - • Improves candidate's quality fir and retention.
  - • Reduction in recruitment expenditure.
  - • An opportunity to strengthen the bond with existing employee.

Disadvantages:
- An employee social network is limited- it may compromise the diversity of the work force.
- Actively referring candidates increases an employee's workload and may be detrimental to their main responsibility.
- The best and most relevant candidate may not be acquainted with an existing employee of the company.

- **Headhunting:**

Head hunter is someone that will actively go and find someone who meets your job requirement while recruiting agency usually will only provide resumes from its own pool- meaning people came to them and gave them their resumes.

A head hunter will try to persuade people that already have a job to quit and come to work for you. They will do a research where they can find those people and will go after them.

- **E- Recruitment**

E-recruitment, also known as online recruitment, is the practice of using technology and in particular Web-based resources for tasks involved with finding, attracting, assessing, interviewing and hiring new personnel.

- **POACHING/RAIDING**

"Buying talent" latest mantra adopted for recruitment. Poaching means employing a competent and experienced person already working with another reputed company in the same or different industry; the organisation might be a competitor in the industry. A company can attract talent from another firm by offering attractive pay packages and other terms and conditions, better than the current employer of the candidate. (It's considered as an un ethical practice and no-one talk about it openly)

- **Social Recruiting**

Social networking sites like Facebook, LinkedIn, YouTube, and Twitter allow recruiters to target the exact skill sets required for often difficult-to-fill positions. Social networking solves the double purpose as —while promoting their company and leveraging relationships that may turn into placements down the road.

Social recruiting has become the primary focus of many recruiters and staffing firms because, unlike most search engines and job boards, social recruiting strategies promote transparent, two-way communication between an employer and job seeker.

8. DRIVING TRENDS IN HRM

The world is your Eminence genuine talent knows no geographic borders — no country has a monopoly on the most required personnel, everyone wants the best whether it's IT, Media, Software, Management, Science or Maths, no matter where he or she lives. The effort lies in finding them which means the employer has to widen his reach globally for best results. Hire outside help if needed to accomplish this.

Technology: The number and kinds of data-mining, talent search and hiring technologies that are out there can be intimidating but they are crucial, and every organization should make themselves conscious about them it can be video interviewing or a pinpoint search for a highly-specific skill set, technology makes the HR process less time consuming, cost effective, and efficient. Organization must select the technology according to its requirement while ignoring the rest.

Timely assessment & data management: with the improvised technologies at workplace continuous and time to time assessment of employees is possible which results in improvising the quality of work while providing a support & inspiration to employees to improve their shortcomings.

Mobile work on: the use of mobile has made many things easy and handy, even the job application and selection process also take help of mobile technology. So to reach your talent, you've got to go where they are. Mobile-ize your search-and-employ efforts.

Enhance the deal. Now days, competition is amongst employers as well. As a result Organizations are cutting back on employee benefits, especially healthcare. To make up for this fact, employment is made attractive by providing secondary benefits such as childcare, flex time, gyms and exercise classes, healthy food offerings, and extras like free-lunch Fridays. Everyone wants to feel cared for and cared about, morale stays high, and a healthy workforce performs at a much higher level.

9. CONCLUSION

"Human Resource Management is a process of bringing people and organizations together so that the goals of each others are met". As change is unavoidable in any circumstance and now a days the working style of Indian organizations is changing and to accept or to incorporate these changes the role of HRM becomes more important and valuable.

"I Never Predict. I Just Look Out The Window And See What Is Visible – But Not Yet Seen" (Peter Drucker)

Trends in human resource management have changed the way we work, as organizations and are more depended on HRM to increase the success ratio in today's competitive environment. Trends will continue to come as time and opportunities will keep you guessing what's next?

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A Review on Existing Techniques for Generating Automatic Test Case for Object Oriented Software

Anju Bala *

Kanchan Manocha **

ABSTRACT

An inevitable part of software testing entails the generation of test cases. A good test case should have the quality to cover every aspect of test objective. An effective and efficient test case generation is the most challenging and time consuming task in software testing. A good test case characteristics to cover more given set of path coverage with reducing time and cost of software development. Researcher have proposed different techniques to generate test case automatically. However , those techniques also have some drawbacks. To overcome these drawbacks, we introduce a technique (i.e. GA) to generate small numbers of efficient test cases with expectations to cover more given set of target. In this paper we introduce that Genetic Algorithm is quite useful search method or technique to generate large volume of test cases very effectively and efficiently with multiple domain.

KEYWORDS

Automatic test case generation, classification with pros and cons, Genetic Algorithm, MATLAB.

1. INTRODUCTION

Software testing is an inevitable part of software development life cycle. It is the most tiring and critical phase in SDLC. Software testing is the process of executing a program with the intent of finding an error. Testing is a very essential, though very labour-intensive and expensive process in software development and handling as well as maintenance of software. It accounts that it takes 50 percent of total cost of entire development [1]. If the testing process could be automated, the cost of developing software could be reduced significantly. A challenging part of this phase entails the generation of test cases. This generation is very crucial to the success of the testing because it is impossible to obtain a fully tested program given that the number of test cases will be able to find maximum numbers of fault in minimum number of iteration. Software program is infinite, and a suitable design of test cases will be able to detect a great number of faults. For the requirement of good and consistent product, the techniques for automatic generation of test cases make an efforts efficiently to systematically uncover the different type of errors with a minimum amount of time and efforts. A test case is a set of tests performed in a sequence and related to a test objective, which will produce a number of tests input values, observed output, expected output, and any other information needed for the test to run, such as environment prerequisites [2].

A good test case should have the quality to cover every aspect of test objective and high rate of fault detection. The method used for automatic generation test case usually based on efficiently searching or finding small set of test cases with high probabili-ty of detecting as-yet undiscovered error [1]. There have been few efforts on representing a brief classification, which covers all existing automatic test case generation approaches. In this paper we introduce a general classification for automatic test case generation approaches with comparison between these approaches to show that Genetic Algorithm is the most acceptable approach to generate automatic test case.

2. OBJECTIVE

Our main objective is to generate good test cases with the intent of finding an error as far as possible. There has been a significant amount of work in generation of test cases that makes an effort to increase the amount of observed behaviour. Instead of these wide researches, there have been few efforts on representing a brief classification, which covers all existing automatic test case generation approaches. A general classification for these techniques is mentioned in [3, 4, 5]. In [6] a classification framework for automatic test case generation methods is mentioned which is based on software development phase in which testing is applied. In [7] a classification of search-based automatic test case generation approaches is represented. In this study, we introduce classification and evaluation of automatic test case generation techniques, which tries to cover all existing approaches with showing the requirement of Genetic Algorithm.

3. NEED OF AUTOMATIC TEST CASE GENERATION

The most critical part of testing is the generation of test cases. Effectively speaking there are numerous reasons to automate test case generation task in software testing. Some of the most logical reasons are as follows. Reducing the testing cost: most important reason is to minimize the testing cost. During testing phase the cost can hike more than the expected value due to improper test cases. These improper test cases cause wastage of organizational resources as well as time. So minimizing the cost for getting the adequate product becomes needy[8]. Reducing human malfunctioning: second important reason is to minimizing the human malfunctioning. There is no benchmark to test the test case is valid or not. It basically depends on the testers understanding of the requirement .So there becomes more chance of inclusion of bugs by tester in system after testing. To overcome this problem, automatic test case generation phase becomes very necessary [9]. Increasing software products efficiency: It is very crucial part to overcome the problem is occurred by manual testing to increase the software product efficiency. Therefore, automatic test case design has become very crucial part to assure the quality of today,s large software products [10]. Reducing number of test cases: Generate efficient test cases are the essential part for convenience the test work and improving the test efficiency. The test work is ineffective because of the great

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** Lecturer; Govt. College For Women, Rohtak, Haryana

number of the manual test cases, so some Automation algorithms are needed to optimize the test cases [11].

To cover all system requirements: Generation of automating test case process provides a means to ensure that test cases have been obtained in an adequate and objective manner and that all system requirements have been covered [12]. The application of automatic test case generation are as wide as software application. In short, automatic test case increases the integrity of software to make a sound product.

To generate automatic test cases using Genetic Algorithm is very powerful and novel approach.

4. GENETIC ALGORITHM

INTRODUCTION

GA based on natural phenomena. The main concept of GAs is "natural selection" and "genetic inheritance".the father of GA is John Holland, university of Michigan (1970) in U.S.A. It is based on the evolutionary principle. GA belongs to the class of probabilistic algorithm. GA provide directed search algorithms based on the mechanics of biological evolution. The best reason behind to use GA than other searching algorithm is that GA performs a multi-directional search by maintaining the optimized solutions not a single point. Main application areas of GA is AI ,business, scientific and engineering circle. But these can be used in many forms like to generate automatic test cases etc. GA class of probabilistic optimization algorithm. Genetic algorithms are categorized as global search heuristic or GA is good heuristic search for combinatorial problems[20]. Ex.TSP, *pen movement of a plotter, real world routing of school, prisoner,s dialemma*.

5. CONCEPT

The Genetic Algorithm is an example of a heuristic search, which gives the optimized result and works on randomly generated population. How Genetic algorithm works are highlights under the following.

Highlights on each section.

1. *How Genetic Algorithm starts*
a. Generate the initial population randomly i.e. either generated by manually or through function.
b. Calculate the fitness and select the chromosomes with the best fitness value..
c. Select two parent chromosomes from current population. -with the use of mutation and crossover operator, recombine the selected chromosomes.
d. Replace the current population by inserting the new offspring . check the fitness value.
e. If a stop criteria is met , then return the chromosomes with the best fitness. Otherwise go to step b.

2. *Random generation of population*

Genetic Algorithm always start with a randomly generated population for any problem.

3. *Generate new generation*

Randomly generated population is called current population.

GA helps to select the individual from current population called 'parents'. Check fitness value, if it met then stop. Otherwise apply genetic operator i.e. mutation and crossover. And create new population and check the fitness value till fitness value met. Three important striking feature of GA:

a. *Elite selection:* Sometimes individual in current population with best fitness value is present already. GA copy these chromosomes as it is in next population. It is the significant feature of GA.
b. *Crossover :* GAs have many type of crossover. With help of crossover , we creates a better offspring.
c. *Mutation:* it is also called simple search operator. Mutation probability set low as compared to crossover. Suppose if crossover is fail to generate best offspring then mutation operator apply. Mutation flipping the 0's and 1's and get the new offspring. Mutation mainly performed to pruning the dead state.

4. *Stopping criteria of GA flow:*

The Genetic algorithm uses the following five conditions to determine when to stop.
• Generation reach to maxima
• When specified time becomes elapsed.
• Fitness value shows same result.
• No showing the improvement in objective function i.e. stall generation
• No showing the improvement in the objective function in given interval time i.e. stall time limit.

These are the basic stopping criteria[19].

6. SELECTION METHOD

A Genetic Algorithm (GA) has several genetic operators that can be modified to improve the performance of particular implementations. These operators include parent selection, crossover and mutation. Selection is one of the important operations in the GA process[18]. There are several ways for selection

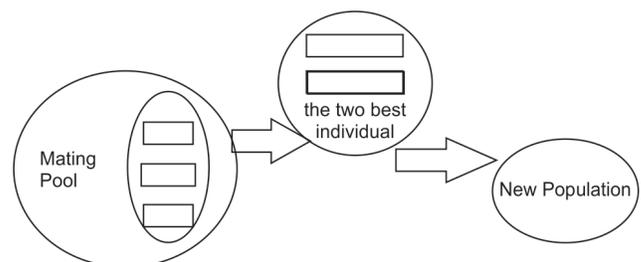*Fig.1 selection*

There are different types of selection strategies :
A) Tournament Selection
B) Proportional Roulette Wheel Selection
C) Rank-Based Roulette Wheel Selection
D) Boltzmann Selection
E) Elitism
F) Stochastic Universal Sampling

Out of these selection strategies or methods, we can use any one or combination of these according to our requirement[20].

7. SEARCH BASED ALGORITHM FOR AUTOMATIC TEST CASE GENERATION

Here figure 1 shows a variety of mostly used searching algorithm(methods) to cover the purpose of automatic test case generation.
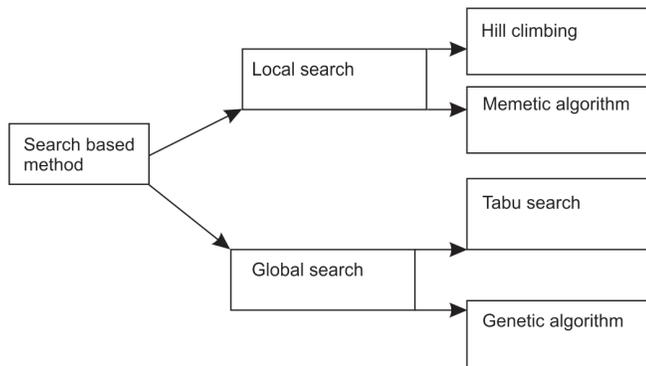

Fig.2. Search methods

1. Generation of Test Case By Hill Climbing Technique

In the field of computer science, hill climbing is a mathematical optimization algorithm uses a simple heuristic function. It is the part of local search. It is the expanded algorithm of depth-First-Search. It select the point in neighbourhood , so it is also called neighbourhood search. It follows the iterative approach. The procedure of Hill Climbing technique:
- It starts with a single point in the search space.
- In first iteration, it choose a randomly new single point from neighbourhood N.
- If the selected point gives the best fitness value according to objective function, it becomes the current point, otherwise go to step 2.

If there are no better solutions in N, a local optimum has been reached. In such a case, a restart of the algorithm from a new random solution can be done. Sometimes this method is known as iterated hill climbing. In general HC is a simple algorithm but may lead to a local optimum.

Disadvantages: one of the main problem with hill climbing is getting stuck at local maxima. When you stuck at local minima you have no other choice ,so have to select random node again and again till time limit. When time limit expired ,you have to select least local minima. Basically three main drawbacks of HC is Local maximum, Plateau and Ridge.

2.By Memetic Algorithm

The Memetic Algorithms (MAs) are meta heuristics that use both global and local search (e.g., a GA with the feature of HC). Meta heuristic means that combine the structure and strategy guidelines for developing a specific heuristic method to fit a particular a kind of problem. It is based on by the cultural evolution. A meme means imitation in cultural transmission. From an optimization point of view, a MA also population based like GA, but during generation of offspring local search is applied rather than

global search. After time limit it also reach to local maxima. The MA also used [4] for testing of object-oriented software is quite simple. It is built on GA, and the only difference is that at each generation on each individual a Hill Climbing is applied until a local optimum is achieved. So the number of generation is less than Genetic Algorithm.

Disadvantages: A major difference between the algorithm is that the time it takes to complete iteration in Memetic Algorithm is much more than the time it takes genetic algorithm to complete the same iteration. This is because of the local search algorithm that is embedded in Memetic Algorithm.

3. By Tabu search

Tabu means taboo i.e restricted. Tabu Search (TS) is also metaheuristic search technique based on the premise that Taboo search is more intelligent technique adaptive memory and responsive exploration must be incorporated with problem solving. Tabu Search algorithm also based on that of the next k neighbours, but in this Tabu list have to be maintained of visiting neighbours. The role of Tabu list(memory) can change according to progress of algorithm. Most striking feature of Tabu Algorithm ,it provide a number of parameter ,to select parameter according to problem to be solved.

Outline of Tabu Search Algorithm:
- Select an individual from next k- neighbour. While maintaining visiting elements, is called candidate list strategy.
- Check the fitness value based on objective function.
- If the objective function me, , then stop . otherwise go to step 2.
- If no optimal solution is found in time limit and reach a local optimum then select the solution from candidate list without exploiting neighbour element.

Another striking feature is memory has to be maintained i.e. short term memory and long term memory to store recent moves and frequency of these moves.

The main goal behind Tabu search is to generate of test case for structural testing and covering maximum branch of coverage for PUT.t.

Disadvantage: In Tabu search algorithm, memory have to be maintained. Pure Tabu search that uses only one solution can easily miss some promising areas of the search space in this algorithm larger set of parallel solutions does not ex-change information (Zdansky AND Pozivil, 2002) .

4. By Genetic Algorithm

GA based on natural phenomena. The main concept of GAs is "natural selection" and "genetic inheritance".the father of GA is **John Holland, university of Michigan (1970) in U.S.A**. It is based on the "evolutionary principle, survival of fittest". GA belongs to the class of probabilistic algorithm[4]. GA provide directed search algorithms based on the mechanics of biological evolution. The best reason behind to use GA than other searching algorithm is that GA performs a multi-directional search by maintaining the optimized solutions not a single point.

GA can be used for [13] generating test cases for structural testing as well as behavioural testing. With the one run in GA ,cover multiple paths. It eastablish relation between old and new test caeses.

Brief explanation on what elements are required to generate test cases using GA:
- Genetic representation for a given problem i.e. generation of test case[14].
- Adopt method to create initial population.
- Evaluate fitness function to objective function.
- Genetic operator to recombine the individuals.
- Assign value of various parameter used by genetic algorithm.

It takes less time than other search algorithm.

Overall the best & best, genetic algorithm is the most preferred algorithm used in test case generation task till now, as a result of leading to acceptable test suits[11].

GA is very helpful to sort the optimization problem. It gives the clear view in dilemma. GA also helpful in many useful areas: TSP, Prisonar,s dilemma and quadratic equation. In this type of problems , even in a "single point crossover" the mutation is expected to happen 200-2000 generation. It is easy to change the mutation as it is implemented as a separate function.

From the above discussion, it can be seen that the GA differs from traditional technique and Genetic Algorithms. The main noticeable differences are:
- GA works in parallel in population rather than a single point.
- GA run on coded version of the problem parameter rather than parameter or variables.
- GA use probability than deterministic rule
- GA does not use derivatives functions, it uses fitness functions.

The important characteristics of GA is, it gives the no. of solutions and generation, user can select solution based on his objective. GA also works in combinatorial problem. In cases where a particular problem does not have one individual solution, for example TSP. Then the GA is potentially useful for identifying these alternative solutions simultaneously.

8. MATLAB

MATLAB stands for (Matrix Laboratory), a product of Mathworks, it is a scientific software package developed to provide an integrated environment for numeric computation and graphics visualization in high-level programming language. Originally it was written by Dr Cleve Moler, Chief scientist at MathWorks, Inc., to provide easy access to matrix software developed in the LINPACK and EISPACK projects [19].

MATLAB 's basic data elements are matrix.

MATLAB has a wide collection of functions useful to the genetic algorithm practitioner and those wishing to experiment with the genetic algorithm for the first time.

In MATLAB's high-level language, problems can be coded in **m-files** in a fraction of the time that it would take to create C or FORTRAN programs for the same purpose. It also provide advanced data analysis, visualization tools and special purpose application domain toolboxes. .Now a day's MATLAB is often employed in research and industry and it is an example of a high-level **"scripting"** or **"4th generation"** language[18].

The main data structures in the Genetic Algorithm toolbox are:
-Fitness function

-No. of variables
-population size
-selection
-mutation
-crossover

9. FUTURE WORK

We will generate automatic test cases using genetic algorithm based on MAt Lab gatool or without MatLab. MatLab provide a Genetic Algorithm tool that is a graphical user interface that enables us to use the genetic algorithm without working at the command line.

Our proposed algorithm follow the following steps(without MatLab):
- Generate the state flow diagram for given program.
- analyze and collect of possible paths between initial and goal state.
- Repeat steps 4 &5 till most distinguish path not occurred.
- Select two possible path pi {pi1,pi2,pi3,.........,pin} and pj{pj1,pj2,pj3,.....,pjn}
- Perform crossover on pi &pj such that
  -create a new sequence pk={pk1,pk2,pk3,.....,pkn}
  -the sequence will be selected on the basis of the frequency of a state at index position i.
- Perform mutation on pk to pruning the dead state.
- Exit

With MATLAB gatool:

You have to must enter the following detail according to problem:
- Fitness function
- No. of variable
- Population
- Fitness scaling
- Selection
- Mutation
- Crossover
- Stopping criteria.

10. CONCLUSION

The main objective in this paper is to illustrate that how the new technology of MATLAB can be used in order to implement a genetic algorithm in optimization problems. It uses the power of genetic algorithms to generate fast and efficient solutions in real time. MATLAB is very new approach to provide very interactive or GUI based toolboxes out of these toolboxes, one most important toolbox is gatool. We will use this toolbox to generate automatic test cases. We also gone through a very brief idea on generating automatic test cases techniques with including Genetic Algorithm advantages which is a very new approach for problems related to optimization.

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Salt Hash Technique: an Innovation in Web Security

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ABSTRACT

Since the conception of World Wide Web by Sir Tim Berners-Lee, a lot has been changed. The web has completely revolutionized our lives and it continues to make a profound impact on the world. Today millions of people use web services for communication, online shopping, online banking etc; however web is crippled with its own security issues. Cyber criminals have always posed a serious threat to millions of users who rely heavily on web for their day to day activity and compelling the users to live in complete oblivion of their compromised privacy. So in order to protect the users who repose great trust in e-business from BAD GUYS of cyber world, web security becomes imperative.

One of the security aspects of web is Password Authentication and transfer of data. Several kinds of attacks like Brute Force or Dictionary attacks can severely breach the privacy of the online users by stealing users credentials, so this paper highlights the innovation in Password Authentication using SALT HASHING to prevent time-memory trade-off attacks and there by strengthening the web security.

KEYWORDS

World Wide Web, Salt, hashing, salt password, Brute Force, web security.

1. INTRODUCTION

With the advent of web 2.0, web community witnessed an influx of information sharing through Social Networking and expansion in click - and - mortar. In the last decade we have witnessed exponential growth in the commercial activities being performed on web and remarkable increase in the number of users. Even McKinsey Global Survey results show that Web has yielded measurable business benefits, including more innovative products and services, more effective marketing, better access to knowledge, lower cost of doing business, and higher revenues, however, unfortunately web and web related services are prone to security risks. There are numerous cyber attacWks which are incessantly challenging the safety of the internet users and the most common is Password Hacking.

Password Hacking is one such attack which is continually being a grave problem among internet users, posing a serious threat because criminals gain access to sensitive e-mails and documents, or shadow a user's browsing activity. Funds can be stolen from bank accounts. Sensitive data and intellectual assets can be stripped online and sold.

Password Authentication and Verification was first invented by Roger Needham.It requires to store the passwords as plain text which could result in massive security breach. Passwords are the keys to our online identities, and as a result, they're also near the top of the target list for attackers. Hacking has been around for decades, starting with curiosity-driven systems break-ins. Today's crimes are often financially-motivated frauds. There are endless unfortunate series of hacking and most recently Sony Corpora-

tion was shut down by the hackers as they made an unforgiving mistake of storing all the passwords in one folder named as Passwords.

Incidents like this make security experts shake their heads at the lack of use of encryption or even hashing for passwords.

To safeguard web security several cryptographic functions are being used like **MD5 (MESSAGE DIGEST), SH-1(SECURE HASH ALGORITHM) or SH-256**, although over a period of time several loopholes in these functions have been used to exploit the privacy of users. So, need of the hour is to devise some strong hashing algorithm that can prove better amongst already existing cryptographic functions

This paper will address the solution to make passwords more secure by a new technique known as Salt Hashing. In cryptography, a **SALT** is random data that is used as an additional input to a one-way function that hashes a password or passphrase. Cryptographic salts are broadly used in advanced computer systems to protect user credentials. **The fundamental goal of SALT is to simulate the use of different hashing algorithm. Therefore, a same password hashed with two different SALTS will have two different hash values, thereby making the chances of password hacking bleak.**

2. OVERVIEW OF HASHING

As we cannot overlook the significance of secure passwords, we have evolved from plain text password storage, to hashing a password. Hashing is a type of algorithm which takes any size of data and turns it into a fixed-length of data. Hashing uses **Hash Functions** which are one-way functions that generate a representation, usually a number, of the data put in to them. **They always generate the same hash from the same data, and there is no simple way to reverse the process.**

This is great for protecting passwords, because we want to store passwords in a form that protects them even if the password file itself is compromised, but at the same time, we need to be able to verify that a user's password is correct.
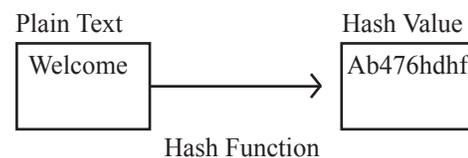
There are lots of different hashing algorithms, the most commonly used being MD5 and SHA1.However with the ever increasing complexity of web and threat from more sophisticated cyber attacks ,even these techniques will not suffice.

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3. TYPES OF PASSWORD ATTACKS

There are three feasible most common methods to guess and crack the passwords, that can be automatize with tools.

a) Dictionary Attack

A file containing words, phrases, common passwords is run against users account, each word in the file is hashed, and its hash is compared to the password hash. If they match, that word is the password. These dictionary files are constructed by extracting words from large bodies of text, and even from real databases of passwords. Further processing is often applied to dictionary files, such as replacing words with their "leet speak" ("hello" becomes "h3ll0"), to make them more effective.

b) Brute Force Attack

It is a type of password guessing attack and it consists of trying every possible code, combination, or password until you find the correct one. This type of attack may take long time to complete. A complex password can make the time for identifying the password by brute force long.

c) Rainbow Tables

Rainbow tables are a time-memory trade-off technique. They are like lookup tables, except that they sacrifice hash cracking speed to make the lookup tables smaller. Because they are smaller, the solutions to more hashes can be stored in the same amount of space, making them more effective.

Dictionary Attack			Brute Force Attack		
Trying apple	:	failed	Trying aaaa	:	failed
Trying blueberry	:	failed	Trying aaab	:	failed
Trying justinbeiber	:	failed	Trying aaac	:	failed
...			...		
Trying letmein	:	failed	Trying acdb	:	failed
Trying s3cr3t	:	success!	Trying acdc	:	success!

4. WHY SALT HASHING?

Over the last decade, several cryptographic functions like MD5 (MESSAGE DIGEST), SH-1(SECURE HASH ALGORITHM) or SH-256 are being used to tackle the menace spread by hackers, however, over a period of time several loopholes in these functions have been used to exploit the privacy of users.

So basic password hashing is, essentially, useless for the majority of users. It is a simple process to compare hashes of basic passwords to a table of precalculated hashes and thereby "dehash" passwords.

The solution is to hash more than just the user's password, and this process is called "salting".

A salt is an auxiliary input to the hash function that is selected randomly when a user sets his password. The fundamental goal of SALT is to simulate the use of different hashing algorithm. **Therefore, a same password hashed with two different SALTS will have two different hash values.**

Salt can also be added to make it more difficult for an attacker to break into a system by using password Hash-matching strategies because adding salt to a password prevents an attacker from testing known dictionary words across the entire system.The intruder has to produce every possible salt value, which would take both a significant amount of time and space.

The length and complexity of the salt value directly affects the time taken for a rainbow table attack.The salt does not need to be secret. Just by randomizing the hashes, lookup tables, reverse lookup tables, and rainbow tables become ineffective. An attacker won't know in advance what the salt will be, so they can't pre-compute a lookup table or rainbow table. If each user's password is hashed with a different salt, the reverse lookup table attack won't work either.

5. GENERATION OF SALT

Generate a random salt value. Each bit of salt doubles the memory and computational requirements for dictionary attacks. Recommended salt lengths are 64-bit or more. Use a random number generator of your choice to generate a random number of required size. Use this number as the salt.

The following example creates a salt 64 characters (256-bit) long:
1. $salt = hash('sha256', uniqid(mt_rand(), true) . $username);
2. Concatenate the password and the salt. Use string functions to concatenate the password and the salt. Make sure your buffer is large enough to store the concatenated string to prevent buffer overflows. For example:
   $storedHash = $salt . $password;
3. Hash the password and the salt. Use a strong cryptographic hashing algorithm, such as SHA256, to hash the concatenated password and salt. For example:
   for ($i = 0; $i < 50000; $i ++)
   {$storedHash = hash('sha256', $storedHash}
4. Store the hash and the salt. Store the hash in the file or database of your choosing. It is important to store both the hash and the salt, because the salt will have to be used when comparing user entered passwords to the hashed value.
5. Implement password verification. During authentication, the password entered by the user should be checked against the hashed and salted value. To do this, retrieve the hash value and the salt from password storage. Concatenate user input with the stored salt, hash the resulting string and compare the resulting string against the stored hash. If the resulting hash is the same as the stored hash, the user has entered the correct password. In the following example:-

$userPassword is the user enter password that needs to be validated and $storedHash is the stored salted hash:

$salt = substr($storedHash, 0, 64);

$validateHash = $salt $userPassword;

for ($i = 0; $i < 50000; $i ++)

{$validateHash = hash('sha256', $validateHash);}

$validateHash = $salt . $validateHash;

if ($storedHash == $validateHash)

{//The entered password is correct.}

else

{//The entered password is incorrect.}

Using salt password in web applications we can prevent attacks as many users tend to use same password for multiple sites for login the account and salt hashing by its virtue generates different hash values even for same given input.

6. GENERATING SALT USING PHP

The new hashing API in PHP 5.5 aims to provide simple hashing functions ,which collectively provide safe environment to the users. The new password hashing API exposes four simple functions:

- password_hash() – used to hash the password.
- password_verify() – used to verify a password against its hash.
- password_needs_rehash() – used when a password needs to be rehashed.
- password_get_info() – returns the name of the hashing algorithm and various options used while hashing.

We can store the Password Hash and salt in the database in the user's account to decrypt the password.

7. CONCLUSION

The Internet has changed the way people around the world interact with each other and lead their lives. If the Internet is to continue to have the positive effect on society that most people perceive it to have had, efforts are needed to make it a safe bet.

The whole idea is that, when people are carrying online transactions, sending e-mails, transferring funds they should not feel that they are being "Hijacked". Besides discouraging users to use guessable passwords, adopting strong safety measures is need of the hour.

In the present context Salt Hashing seems most promising and unscathed, As Salting is about using not one hash function, but a lot of distinct hash functions; ideally, each instance of password hashing should use its own hash function. A salt is a way to select a specific hash function among a big family of hash functions. Properly applied salts will completely thwart parallel attacks (including rainbow tables).

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Voice Biometric, A New Trend to Enhance Security

Nupur Gupta *

ABSTRACT

Security has always been a primary concern whether be it home or office. With the advent of information technology security over the information acquired takes a prime concern. Security breaches are prevailing from technical to business field. Information technology has inundated the business sector and education world and every possible area one can think of. Consider the case of CERT-I n where, Hours ahead of its planned protest against certain incidents of internet censorship in India , hacker collective Anonymous attacked and brought down the website run by Computer Emergency Response Team India (CERT-I n). Amongst the most disastrous information leakage breach was the hacking of data for 1.5 million Master & VISA card users. VISA & MASTER card alerts banks about the security breach at Global Payments. The alert clearly stated that full Track 1 & Track 2 information was taken and could have been abused for counterfeit new cards. This information had been compromised from a period of January 21,2012 to February 25,2012. Yet it was not the company who disclosed the security breach, the security blogger Brian Krebs in security reported the event on 30,March,2012, This pattern is common for all security breaches as the conclusion who are impacted are the last ones to know about it. These threats to business need a stronger mechanism of security to counter them. Biometrics has offered new venues to resolve these issues.

Biometrics refers to the physiological or behavioural characteristics of a person to authenticate his/her identity. This Biometrics is the most prominent and promising technique used for authenticating a person's identity. Voice Biometrics, Finger printing, facial Recognition area few biometrics that are used for security purposes. This paper majorly cover Voice Biometrics. voice biometrics uses the pitch, tone, and rhythm of speech. Background noise, illness, age, and differences in telephones and microphones can cause problems with voice identification and authorization.[Paper: exploration - voice -biometrics_1436] This is mostly used by Banks and Call Centres to authenticate there users. A telephone or microphone is required to proved your identity. Voice Biometrics is mostly adopted by the customers as they find it as a normal telephonic conversation. Remotely any customer from any location can login or use his/her ID.

Each person has a unique voice and that can be easily stored in form of bits. So, this provide a better option for the developer or programmers to authenticate their software, databases etc using Voice Biometrics. Number of methods are used to apply these Biometrics. As a first step the new user has to record his/her speech by calling a telephone collection script. Once there is an existent recording the user is allowed to invoke an enrolment form and specify personal data, such as passwords and answers to questions on various topics, as suggested by the server. The answers can be selections from predetermined value lists, e.g. selected cities or colours, or user's own new keywords. It is also possible to add new questions within the existent topics or dynamically generate these based on contexts or history of previous transactions or other events.

1. INTRODUCTION

In the information age, information is an asset and needs to be secured from attacks. With the advent of information technology age, the entire business community is transforming their physical data to electronic storage. Consequently, securing information has become a prime concern for organizations. Nonetheless, security breaches are prevailing right from the technical to the business domain. Consider the case of Computer Emergency Response Team India (CERT-I n) where hours ahead of its planned protest against certain incidents of internet censorship in India, the hacker, collective Anonymous, attacked and brought down the website run by CERT-I n[2].

Another most disastrous information leakage breach was reported by Brian Kerbs where the data was hacked for 1.5 million Master and VISA card users. This breach happened at the US based credit card processor Global Payments. VISA & MASTER card hence forth alerted banks about the security breach. The alert clearly stated that full Track 1 & Track 2 information was retrieved and could have been abused to counterfeit new cards. This information was compromised from a period of January 21,2012 to February 25,2012. Yet, it was not the company who disclosed the security breach, the security blogger, Brian Krebs, reported the event on 30 March, 2012[2]. This pattern is common for all security breaches where the ones who are impacted are the last ones to know about it.

Security breaches are accompanied with copious costs. They can be anything from lost business due to compromised information, lost productivity, labour and legal expenses, public relations costs, higher insurance premiums, defence against lawsuits and security upgrades to prevent future attacks and then add to that intangible costs such as loss of trust, negative publicity and competitor access to confidential information[3]. These threats to business need a stronger mechanism of security to counter them.

Biometrics has propounded new avenues to resolve such issues. Biometrics refers to the physiological or behavioural characteristics of a person to authenticate his/her identity. Biometrics is increasingly becoming the most prominent and promising technique used for authenticating a person's identity[4]. Voice Biometrics, finger printing, facial recognition are few biometric techniques that are being employed for security purposes. The biometric system comprises of three components where the input is used to acquire signals. These signals are then filtered to remove redundant and irrelevant information. These features are then compared with reference data to either accept or reject the characteristic being corroborated. The biometric characteristics like iris pattern, retina pattern, skin spectrum, finger prints or voice are characteristic of a particular person and hence are difficult to impersonate. These abilities differentiate biometrics from all other forms of automated authentication; hence systems implementing the security using these measures are more secure.

Speech prevails as the only modality amongst all the biometrics which can be used for remote authentication. Speech has inundated almost every industry - from checking a flight schedule, to completing a bank transaction.It is an extremely cost effective

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solution since the ubiquitous telephone system provides a familiar network of sensors for obtaining and delivering the speech signal. There is no need for special signal transducers or networks to be installed at application access points since a cell phone gives one access almost anywhere [11].Even for non-telephone based applications, sound cards and microphones are low-cost and readily available. Hence as compared with other biometrics, no special hardware is required. Evenusers find interacting with systems using voiceeasy and non-invasive which is not the case with other biometrics. Hence we focus on voice biometrics and the corresponding industry is the focus of this paper.

2. VOICE BIOMETRIC

Speech processing applications extract acoustic information from the stream of speech to perform recognition of words being spoken. The speech recognition techniques are able to extract the words and the speaker identity; along with the accent, expression, style of speech, emotion and the state of health of the speaker ;from the immensely rich speech signal. The emphasis in speech recognition techniques is on the speech production and recognition whereas in the case of voice biometric the physiological features of voice print are captured to verify the identity of the caller. The voice models include information about resonance pattern and relationships that reflect size and shape of the mouth, nose and throat. The voice model is analysed from the purely acoustic purpose without considering the content being spoken. The model does not represent entire sample, hence it cannot be reverse engineered to recreate original biometric sample nor can it be used as input to biometric system which expects to receive a biometric sample for analysis. The factors like background noise, illness, age, and differences in telephones and microphone scan cause problems with voice identification and authorization [5]. The voice biometrics portrays two parallels in its industry: Speaker Verification and Speaker Identification.

3. SPEAKER VERIFICATION

Speaker Verification is the task of verifying the identity claim of a speaker based on his or her voice[7].Voiceprints analyse the unique geometry of speaker's vocal tract length, capacity of nasal cavity, ratio of larynx to sinuses, resulting harmonics, pitch and range to verify users[3]. Verification can take place continuously or periodically in the background as needed or at any time. Speaker verification is performed in two phases: Enrolment followed by Recognition phase. In the enrolment phase or training phase, a sample of the user's voice is recorded to create the voice model. The voice model consists of representations of the minimum set of features required to build a model for the speaker. These features from the voice model are extracted depending on the algorithm; removing the redundant information. Upon the successful enrolment the model is stored in the database.

The recognition phase, the incoming speech goes through the same phase of feature extraction. These extracted features are then compared with the models in the database. This is followed by a scoring procedure, and depending on the target application, a decision is made based on the scores. The verification task involves an auxiliary set of models to model potential impostors.
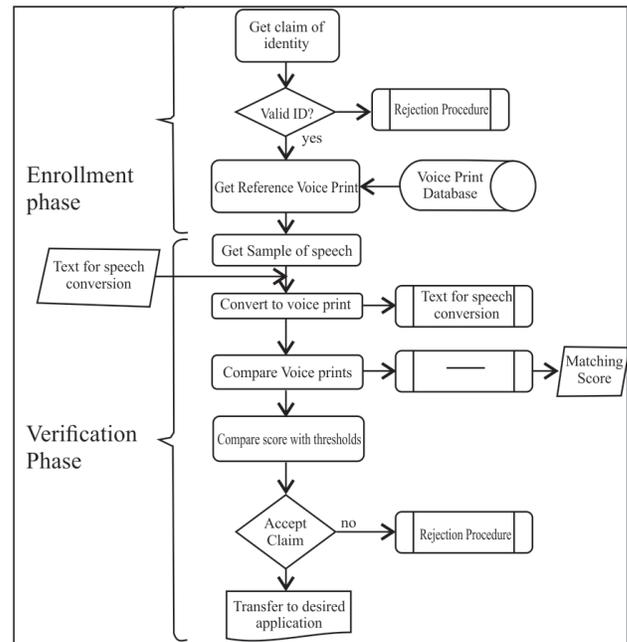

Figure I: Speaker Verification Process

Speaker verification corroborates three basic types of user input: text dependent, text prompted and text independent.

Text dependent input is the most widely deployed variant. The speech sample is the same during the enrolment and recognition phase. The text dependent speaker verification uses the statistical method – Hidden Markov Model(HMM) – to compare the two samples. This model uses the spectral content of the speech signal determined by the physical and dynamic configuration of the vocal tract [8].

Text prompted speaker verification works on the principle that each time a user wants to access a particular application, he is prompted to articulate a new sentence each time. The system accepts the utterance only when the registered speaker repeats the prompted sentence. The sentence can be displayed or can be spoken by a synthesised voice. This verification system was proposed in order to ward off the replay of recorded messages. The algorithms deploy Gaussian Mixture continuous HMMs or tied mixture HMMs models to implement this form of speaker verification[9].

Text independent speaker verification supports the development of unobtrusive and intermittent voice authentication. These applications require examining the on-going speech of an individual to determine his or her identity. These applications are difficult to implement in comparison to their text dependent or text prompted application since the sample and the spoken phrase are not the same. There are no constraints on the intended customers' utterance. Changes in the acoustic environment and technical factors as well as the variation of the speaker tone due to his health, mood or aging are some of the undesirable factors impacting the speaker recognition. Hence longer samples of speech are required for proper matching with the reference sample. These schemes allow background verification of the speaker and henceforth are suitable for applications like banking transactions. The user's speech is modelled by the stochastic model –the Gaussian mixture model.

The verification can also occur in an incremental manner and the user can be granted higher privileges on the application; if higher verification scores are obtained with more speech data collected as the dialog progresses.

4. SPEAKER IDENTIFICATION

Speaker verification as we have already seen is accepting or rejecting the identity claim of an individual. Speaker identification, on the other hand, matches the spoken utterances with the ones that are available in the voice print database and tries to identify the unknown person. Speaker identification can be classified into open-set and closed set. In the closed set, the speaker to be identified is amongst the set of N enrolled speakers. The open-set speaker identification is that the speaker has to identified besides the N enrolled speakers[10].

In most cases, speaker identification is more difficult than speaker verification, because it involves multiple comparisons of utterances that are likely to be different from each other and may not have been recorded with comparable equipment. Speaker identification does not expect to receive a claim of identity. Processing begins when a sample of speech from of an unknown speaker is presented to the system; the sample may be live or recorded and systematically compares the new voiceprint with all or with a specified subset of the system's reference voiceprints. It is text-independent.
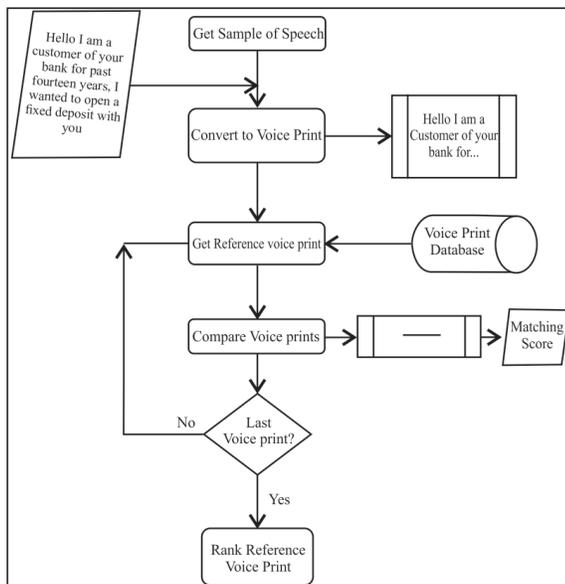

Figure II : Speaker Identification

5. ACCURACY OF VOICE BIOMETRIC SYSTEM

The recognition of speech becomes a daunting task in the face of uncooperative speakers and uncontrolled environmental parameters such as noise in the transmission channel; background noise etc. especially when the user is accessing an application. The performance of a biometric is fundamental to the implementation of security for an application. Hence, accuracy of a biometric system is gauged by the errors encountered.

There are two types of error that can occur during a verification task:

(a) False acceptance rate or false match rate.

(b) False rejection rate or false non-match rate.

False acceptance rate is where an unauthorized user is able to access the system. False rejection rate defines the rejection of even the authorized user. Both types of errors are a function of the decision threshold where the voice may be either accepted or rejected. The rejection rate of automatic speaker recognition increases with the background noise as it impacts the acoustic index in the recognition phase[12, 13].Hence the decision of the threshold value is critical to a secure system; as choosing a high threshold will result only in a few users being authenticated by the application i.e. a high false rejection rate. However, having a low threshold value would result in compromising security i.e. a high false acceptance rate.

The decision threshold or equal error rate is the operating point where the false acceptance rate and the false rejection rate become equal. It determines how much variability it will allow before the identity claim is questioned or actually rejected. The voice biometric application has to be tuned around this equal error rate to allow rejection or acceptance rate based on the security of the requisite application.

6. SECURITY OF APPLICATIONS: TWO-FACTOR OR MULTIFACTOR AUTHENTICATION

Authentication is a process where the user proves his or her identity. This verification of a person is dependent on factors like knowledge of the user, something the user possesses or on the unique features of the user [16]. The user knows passwords and PIN numbers that are allocated to him. He or she may possess smart cards, tokens or PKI certificates for strong authentication. Voice biometrics as we know captures the physiological feature – voice- of the person for authentication.

The login ID and password is the most prevalent method of authentication. This form of authentication is also called single factor authentication as each of these factors are deployed individually. But, single factor authentication is highly susceptible to malware attacks, key logger Trojans, replay attacks and shoulder surfing. [17].

Two-Factor Authentication using voice

The traditional and prevalent method of authentication is an easy target for hackers, but the level of security can be increased with two factor authentication. Two-factor authentication provides a significant increase in security over the traditional username/password combination. The security of an application can be improved tremendously by combining two factors such as the password and a biometric recognition system. The threat of eavesdropping on passwords is reduced as even if it is hacked, the hacker will not be able to challenge the biological characteristic of the user. Hence, on remote transactions and on applications where the phones can be used, voice becomes an inexpensive tool for security.

However, the strongest form of authentication occurs with multi-factor authentication. These authentication mechanisms are strong deterrents to fraudsters and are a combination of several

single factor authentications. It is used for priority customer information and high-risk financial transactions [18].

7. INDUSTRIES IN VOICE BIOMETRICS

Voice offers the best combination of precision, ease and cost effectiveness. Many industry watch dogs have shown a significant growth for voice biometrics in general and voice-based identification. This new market segment has a potential to grow to $500 million[14]. Opus Research shows the exponential increase graph for voice biometrics [15]. They have projected a market of $350 million by year 2015 as shown in figure. Hence this increases our interest to look out for various companies that deal with voice biometric.

Global revenue forecast for voice biometric-based solutions					
Voice Biometrics Revenues ($thousands)					
2010	2011	2012	2013	2014	2015
$140,548	$167,773	$172,386	$188,633	$252,626	$316,279
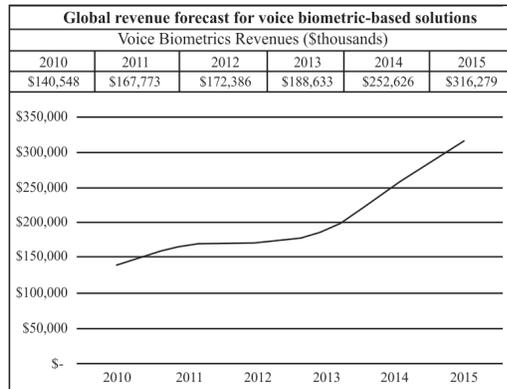
Source: Opus Research (2011)

The industry in this segment caters to two sectors of speech recognition - Speech Processing and Biometric Security. Speech processing tools capture the samples to understand the lexical meaning of the spoken words to convert them into text. Even voice biometrics works on the same principle like the other speech-processing tools; extracting information from the stream of speech to accomplish their work. The captured model, however, does not represent the entire sample, hence it is difficult to reverse engineer the sample to recreate original biometric sample. It can, also, not be utilised as input to biometric system which expects to receive a biometric sample for analysis.

Based on the previous sections, we have identified the various parameters to draw an analysis in the spectrum of available products of various companies checking for the various security features. These parameters include the possible techniques the fraudster employ to cross the authentication barriers.

A. Fraudster Techniques

With speech recognition being used as an authentication mechanism, the fraudsters deploy many techniques to rupture the authentication mechanism. They can cheat into recognizing the voice for identification using the following techniques: Spoofing, Replay attacks, Noise Interference.

B. Spoofing attack

A spoofing attack occurs when one person or program successfully masquerades as another by falsifying data and thereby gains an illegitimate advantage. Spoofing is the biggest challenge to speaker recognition, especially in situations where a user has a close same-sex relative with similar voice physiology and DNA.

The products designed should have mechanisms to handle spoofing by cleaning and correcting the sound from changes caused voice deviations. This adaptation should lead to a clear voice print.

C. Noise Interference

Noise interference is not a sophisticated way of bypassing security efforts, though the fraudsters have used it quite effectively. Noise can become part of the mobile while travelling by trains or walking in crowded places. A fraudster can try to inject noise expressing his inability to use the automated system and then gains to access the financial accounts by sweet-talk an inexperienced call centre agent into providing confidential data or even wiring funds. The voice biometrics products should be able to handle noise interference to make the transactions secure.

D. Replay Attacks

Replay attacks or the tape attacks occur when someone records the voice of an authorized person to fool the system by playing that recording into the phone. This can be amended with liveness testing where the application provides for a mechanism to compare between the sample voice provided by a live human being and a copy of a feature provided by an object. Liveness testing for voice can be attained via text prompting in the form of challenge-response handles these attacks effectively. With this form of testing the physical presence of a person can be verified since the person is asked to respond to randomly generated requests which may involve repeating a sequence of words or digits. For e.g. 10, 125 or park, traffic, car. The randomness of the selection renders it very difficult for the fraudster to record and play them quickly as well as naturally. Some systems might handle these attacks using a knowledge based question; such as what school did you study in at the age of12? Some questions may be such that were never asked to the user before.

Besides the above areas of breach, speech architecture for verification and identification, itself, creates vulnerabilities in the software. Consider the files created at the time when a caller is using the system. These speech system log files are a rich repository for sensitive information at risk. Logging suppression suppresses the contents of these files to help combat the security issue.

Tuning of the speech applications, for better performance, involves capturing the audio file as well as transcribing what the system thought it heard into a text format. These files may contain social security information, personal identification numbers or other sensitive data that needs to be protected through encryption. The DTMF input to a speech system where the users are allowed to enter information through the keypad is also a log which needs to be protected.

Speech verification applications also support DTMF input for a caller, who for security reasons, prefer to enter an account number, for example, with telephone keypad. In many cases these DTMF strings will be maintained in a log file and be accessed over the network. Computer Telephony Integration where the information recorded in the system is retrieved by the agent for further analysis presents a potential area of risk. The highly distributed architectures of VoiceXML browsers, media servers and application servers spanning across local and remote networks are points on the transmission media from data become accessible.

The security of financial, banking and other speech based applications requires that audit trails be maintained. It can be used to ensure that the authorization originated from an identified source. In case of repudiation, audit trails are exercised as a proof. Speaker recognition when used as a security mechanism for editing or saving a digital document, such as a database record, might be marked with tags relating to the speaker verification procedure or these tags could be recorded in a separate audit trail. This provides a verified record of access to and modification of the protected document, record etc. [19]

Industry

There are many companies that are dealing with speaker verification and identification. We have drawn a comparative analysis of the various companies depending on their algorithmic features as well as their security features. These features have been picked up from the brochures of the individual companies.

The security features are concerned with the kind of authentication the product offers such as suppression of logs, whether it maintains the audit trails or encrypts for further security.

8. SPEAKER VERIFICATION TABLE

Vendors / Criteria	IBM Websphere Voiice Server	Nuance Voice Verifier	Voice vault voice vault Server	Voice Trust Voice Trust Server	Diaphonics Spike Core Server	Persay Freespeech	Loquendo Speaker verification	Armorvox Speaker identity system
Algorithmic Features								
Speech Recognition and verification	√		√ (Speech Recognition -optional)	√	√		Verification only	Voice atuthentication- and verifacation
Liveness testing		√	√	√		√		√
Multilingual	√	√	√			√	√	√
Text dependent			√				√	
Text Independent	√	√	√			√	√	√
Background verification		√	√					
Explicit Verification	√	√		√	√	√	√	
Tuning or Voice Print Adaptation		√						√
Security Features								
Multifactor Authentication		√	√	√		√	-	-
Two-factor Authentication	√		√	√	√	-	-	√
Audit trail	√	√			√	√	-	
Encrypted Voice Prints and speaker IDs		√		√	√	√	-	√
Logging Suppression			√				-	
Support for VoIP					√	√	-	√
Operative in TDM (phones)	√	√	√	√	√	√	√	√
Operating System	Is a parr of Websphere Application server	Windows server 2003 and red hat Linunux	IVR call flow as well windows	Open platform can be intgrated with oracle, SAP etc			Window 2000, XP, Linux Red Hat	Windows, Linux and also Linux Red implemented on cloud

9. SPEAKER IDENTIFICATION TABLE

Vendors / Criteria	Voice biometric group\n\nSpeaker identity system	Uniphore\n\nSpeech authentication and voice biometrics	Lexis nexis\n\nMultifactor authentication and voice biometrics	Agnitio\n\nSpeaker identification system and voice biometrics	Validsoft\n\nMulti factor\n**Identity verification**	Speechpro\n\nVoice authentication and speaker identification
Algorithmic Features						
Speech Recognition and Verification	Identification- and verification	√	√	√	√	√
Liveness testing	√	√	√	√	√	√
Multilingual	√	√	√	√		
Text dependent						√
Text Independent	√	√		√		√
Background Verification	√	√	√		√	√
Explicit Verification	√	√	√	√	√	√
Tuning or Voice Print Adaptation	√	√	√	√	√	
Security Features						
Multifactor Authentication	√		√			
Two-factor Authentication	√		√			
Audit Trail					√	
Encrypted Voice Prints and Speaker IDs	√		√	√	√	√
Logging Suppression				√		√
Support for VoIP / cell / phone	VoIP		VoIP		VoIP	VoIP
Operative in TDM (phones)	√	√	√	√		On GSM
Operating System	Windows 2003 and 2008 and saas developer	Mobile applications		Microsoft windows 2008 and mobile applications		Almost all windows version and on mobile applications
Out of band						

10. CONCLUSION

From the above, it can be seen that each of the products have their own set of features and each is different from the other. Each company have their own set of parameters and features that make their product different. Nuance is one of the leading company when we talk about Voice Biometrics and its Speech Verification tool is being used by most of the companies.

Standalone biometric doesn't provide us sufficient information to

authenticate a person. We need other parameters to detect and trace the person. Unimodel authentication often suffer from enrolment problems due to non-universal biometrics traits, susceptibility to biometric spoofing or insufficient accuracy caused by noisy data . One of the methods to overcome these problems is to make use of multimodal biometric authentication systems, which combine information from multiple modalities to arrive at a decision. Multi sample or multi instance algorithms use multiple samples of the same biometric. Multi sample has advantage that using multiple samples may overcome poor performance due to one sample that has unfortunate properties. Acquiring multiple samples requires either multiple copies of the sensor or the user availability for a longer period of time.

Two or more biometrics are used to authenticate a person in a better way. Face and Voice biometrics are mostly used in forensic fields. We have proposed tri-modal biometric system with fingerprint, voice and teeth. A personal identification using teeth image, which is relatively new biometric traits considered for authentication was first proposed by Tae-Woo KIM and Tae-Kyung CHO (2006) based on Linear Discriminant Analysis (LDA) as sequential steps. Other method that is used in digital signature is speech and signature model. In this model a digital pen is used and a person's signature is taken on a particular sensor tab. When signature is made that is taken as first input for authentication and the sound produced that can only be sensed by highly equipped technology is the second input. Combination of both provide us a better way to identify a person's identity.

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Personal Authentication with Fingerprint, Speech and Teeth Traits using SVM classifier, European Journal of Scientific Research ISSN 1450-216X Vol.76 No.3 (2012), pp.463-473.

From Retail to Pre-Tail & E-Tail: Evolution of E-Commerce in India

☆☆ ━━━━━━━━━━━━━━━━━━━━━━━━━━━━ ☆☆

Stuti Gupta *

ABSTRACT

Today online retail represents a small fraction of the e-Commerce space but it is one of the fastest growing segments in India; only in 2012 online shopping e-Commerce site number has crossed 600 from 100. India is at the verge of a big digital revolution. Declining prices of broadband subscription, aided by the launch of 3G services and the likely launch of 4G services is expected to significantly add up to the country's internet user base. Because of India's rising internet population, the trend of online shopping is set to see greater heights in coming years. Furthermore, the Indian consumer's perception of online shopping has undergone a drastic change, and only for the good. In this paper, we discuss Pre-tailing: the need of the hour. Also the factors which are driving online retail consumption in India. We also talk about the popular trends in the online retail industry and analyze other factors contributing to the growth of e-Commerce in India.

KEYWORDS

E-Commerce, E-Tail, Online Retail, Online Shopping, Pre-Tail

1. INTRODUCTION

The macro outlook for India's e-Commerce sector couldn't be more attractive: declining prices of broadband subscription, launch of 3G services, the likely launch of 4G services, favorable demographics with two-thirds of the population younger than 35 years, coupled with increased urbanization and the third largest population of internet users globally.

Against this backdrop, we think Indian e-Commerce is at an inflection point and has the potential to quadruple from about USD 10bn in 2013 to USD 43bn over the next five years, largely driven by online retail and increasing internet penetration.

Online retail, while today representing a small fraction of the e-Commerce space is one of the fastest growing segments. The essence of e-retailing is in its ability to transcend physical boundaries and reach customers in a manner different from the traditional brick-and-mortar stores, to their very doorstep.

The major evolution in the e-Commerce industry can be attributed to lifestyle transformation of Indian consumers, spreading out of online niche and accessibility of modern technology. The ease and convenience that online shopping offer is probably the major reason behind the flourishing e-Commerce industry in India.

Online shoppers in India are almost at par with their global peers in their shopping habits despite online shopping being a recent phenomenon in India. This is owing to the growing popularity of technologies such as social media, smartphones and tablets.

In this article, we seek to provide an insight into India's e-Commerce market. The article focuses on the various sub-segments of the e-Commerce market and focuses on factors driving growth across these segments. This article is an attempt to evaluate and highlight the potential e-Commerce holds and the role it can play in context of emerging Indian consumers and economy.

Pre-Tail

Pre-tail is a sub-category of e-commerce and online retail. It is meant for introducing new products by first selling online, sometimes in limited quantity, before the release, realization, or commercial availability. Pre-tail includes pre-sale commerce, pre-order retailers, incubation marketplaces, and crowd funding communities. Retailers today are increasingly pre-tailing to test, scale, and monetize consumer demand in the initial phase of the new commerce pipeline. Consumers engaging in pre-tail activities are commonly referred to as pre-launch consumer.

Pre-tailing owes its velocity to the ability to merge with supply and demand trends. Pre-tailing is a first step, but it's not a guarantee of success. Not all pre-tailers will become e-tailers just like not all e-tailers will become retailers.

A company comes up with a product concept and puts together a low-cost web-based presentation to pitch the idea directly to potential micro-investors and/or customers. The pitch is published online, typically on a crowd funding site and promoted via social networks like Facebook, Twitter and Pinterest. These products and services typically exist only as ideas or prototypes. The proposition is that the product will only make it into customers' hands if the developer reaches a defined threshold of support. The developer has the luxury of refining a product based on real customer feedback before deciding whether or not to ramp up production. It reduces waste and encourages innovation giving smaller players a shot at the marketplace and ensuring a built-in community of customers who will support entrepreneurs from the start.

2. TOP CATEGORIES DRIVING ONLINE RETAIL

Device	• Increased PC penetration • Increasing smartphone and tablet market • Declining PC, tablet and smartphone costs
Demographic factors	• Rising disposable income • Rapid urbanisation • Need for convenience
Internet	• Growth of internet user base • Increased broadband penetration and launch of 3G • Declining internet tariffs

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I. INDIA'S INTERNET PENETRATION

In any country where e-tailing has achieved reasonable success, consumers have shown signs of evolution on two dimensions which has enabled e-tailing market's growth- access to internet and internet usage beyond browsing. In India, consumers are displaying positive traction on both of these. Despite 4x+ growth in internet users over the past five years, Internet penetration in India is less than half of China's rate. Indian internet user projection (mn) is ~0.5bn users by 2018F, recording an 18% CAGR over 2013-18F, more than double the pace of China. First, the internet is rapidly becoming a part of more and more Indian lives across the spectrum of "online" activities. Second, India's internet users are rapidly graduating to complex and interactive internet usage, from merely accessing e-mails and casual browsing in the past. Over time, they are becoming more transactional online; this is only expected to grow.
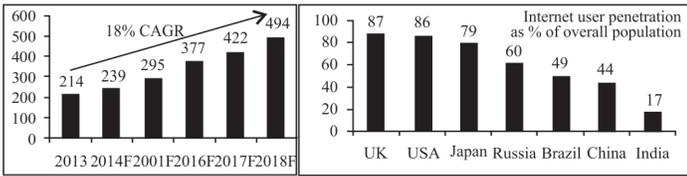

Source: FICCI-KPMG

II. AGE PROFILE OF INTERNET USERS

Demographics in India with ~2/3rd of the population being below 35 years of age and changing consumer lifestyles seeking convenience, more variety, a better price and greater flexibility, make the internet businesses attractive. The second factor likely to drive internet businesses in India is increasing urbanization driving aspirations higher and infrastructural challenges leading to an underdeveloped organized retail market with low access to brands.

India is predominantly young with a median age ~26 years. This will continue to be the case for the next ten years, projected median age of 29 years in 2020. By 2020, 40% of India would have been born after the launch of internet and mobile phones in the country. Thus, for a sizeable mass of Indians, access to internet and the use of mobile phones will be a norm to which they won't have to make transition to, unlike previous generations. For these young consumers, spending time on internet will be as normal as watching television is for today's consumers. This key pillar is thus quickly falling into place to facilitate the growth of India's e-tailing sector.

India's internet users' age profile is lower than its BRIC counterparts, with 75% of internet users in India being below 35 years of age.
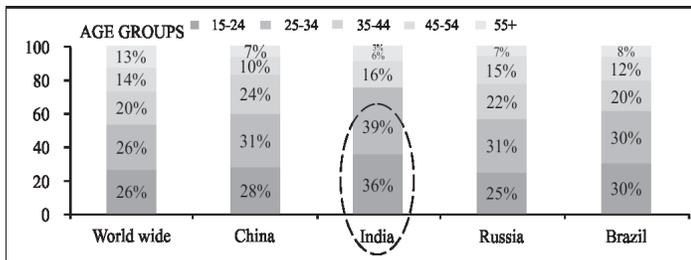

Source: Comscore

III. PENETRATION OF DEVICES THROUGH WHICH TO ACCESS THE INTERNET

Access to the internet requires internet-supporting devices, which can be broadly classified into PCs/laptops, mobile phones (smartphones), and tablets. The penetration of these devices is rapidly increasing. In India, desktop-based internet access has largely been bypassed with the preferred mode of accessing internet now being mobiles. Currently, ~85% of internet connections in India are wireless resulting in ~61% of users accessing through their mobiles. Internet through mobile is rapidly becoming a part of more and more Indian lives across the spectrum of "online" activities.
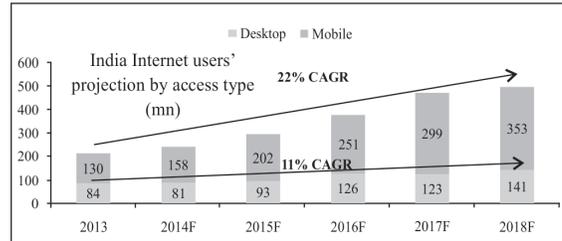
Source: FICCI-KPMG

Mobile share of transaction is increasing across categories and improving their mobile interface remains a big area of investment for most companies.
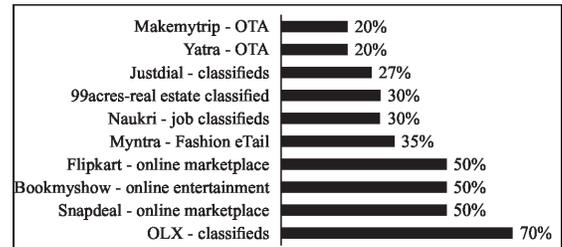
Note: OTA – Online Travel Agency
Source: Company, Industry data, Newsreports

IV. PROLIFERATION OF TECHNOLOGIES ENABLING INTERNET ACCESS

Smartphones have revolutionized the way people access internet and communicate. India's mobile internetusers are shifting to more complex activities like travel booking, job hunting, shopping, event booking, matrimonial website and more. They have higher penetration due to easy and cheap availability. Consumers are swapping their feature phones for smartphones, which are much faster and provide a better user experience. 57% of the smartphones sold in India are below Rs. 10,000, making them affordable for a large number of people.
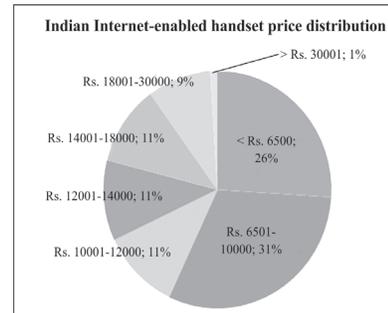
Source: IAMAI-IMRB

India being the second largest mobile phone market in the world, is poised to record a manifold increase in the penetration of high speed internet, primarily driven by the rollout of 3G and 4G wireless technology. 3G services are a key driver of internet access through mobile phones, providing high data speeds for downloads, content streaming, making video calls, etc.

India 3G subscriber trends (mn)
54% CAGR
2013: 42, 2014F: 82, 2015F: 146, 2016F: 219, 2017F: 284, 2018F: 369
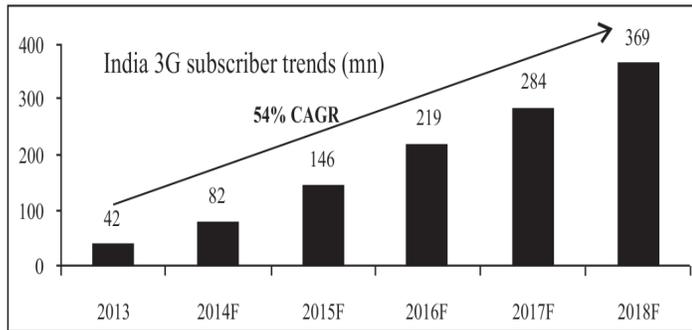
Source: FICCI-KPMG

V. INCREASING URBANIZATION TO DRIVE INTERNET ADOPTION

Today urban consumers look for convenience in all modes of living, including shopping. Each day is increasingly packed with an ever greater range of activities such as 66% of the urban Indian's time is taken up by sleep, time spent at work, and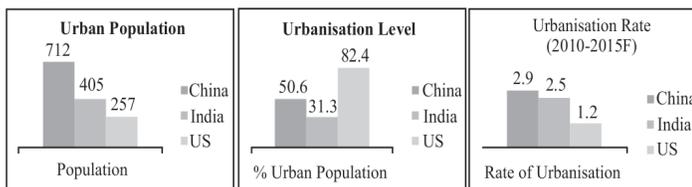 commuting to work, resulting in just a third of their time for other activities like socializing, household chores, spending time with children, health, leisure and entertainment and shopping. These consumers are therefore seeking alternatives that can free up more time in their crunched schedules but at the same time offer them more variety and better quality. This trend is accentuated by the increasing participation of women in the workforce. Most of these consumers also spend significant time at work and home with access to both the internet and internet-enabled devices. Thus, there is an enhanced growth in the adoption of internet and mobile banking, online travel bookings, etc.

By 2020, 35% of Indians will reside in urban India, compared to the current 31%. The scale and quality of urban living will result in a compelling case for the growth of e-tailing. 75% + of India's internet users are located in urban locations and increase in urbanization will be a positive trigger for the expansion of internet adoption in India.

Urban Population: China 712, India 405, US 257
Urbanisation Level: China 50.6, India 31.3, US 82.4
Urbanisation Rate (2010-2015F): China 2.9, India 2.5, US 1.2
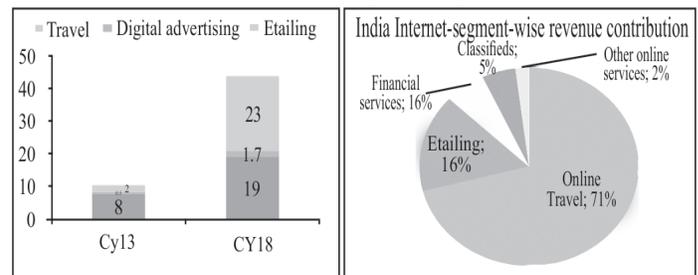
Source: CIA World Factbook

VI. GLOBAL AND LOCAL E-COMMERCE PARTICIPANTS HAVE LAUNCHED WEBSITES THAT OFFER INDIAN CONSUMERS A RANGE OF PRODUCTS (APPAREL, BABY PRODUCTS, ELECTRONICS, ETC.)

VII. CONVENIENCE, SPEED AND 24-HOUR ACCESSIBILITY IN PURCHASING PRODUCTS IS BEING VALUED INCREASINGLY

VIII. BUSY LIFESTYLES, URBAN TRAFFIC CONGESTION AND LACK OF TIME FOR OFFLINE SHOPPING

CHARACTERISTICS OF INDIA'S E-COMMERCE INDUSTRY

India's e-Commerce industry is ~USD 10bn in terms of revenue size and has been growing at 30%+ growth rates in INR terms over the past four years. E-tailing is a subset of e-commerce, which encapsulates all "commerce" conducted via internet. It refers to that part of e-commerce which entails the sale of product merchandise and does not include sale of services viz. railway tickets, airlines tickets, job portals, etc. For India's e-Commerce industry, ~70% of the revenues come from travel e-Commerce, with e-tailing being the second largest component at 16% of revenues at ~USD 2bn in 2013. This is an opportunity which remains fairly attractive and is all set to grow 4x by 2018F to USD 43bn, driven significantly by the e-tailing business which we believe will grow 11x during the same timeframe to become the largest component of the industry.

Travel, Digital advertising, Etailing
Cy13: 8, CY18: 23 / 1.7 / 19

India Internet-segment-wise revenue contribution
Classifieds; 5%, Other online services; 2%, Financial services; 16%, Etailing; 16%, Online Travel; 71%

Source: IAMAI-IMRB

India's Digital e-Commerce market has been growing at a strong pace, recording ~34% CAGR over 2009-13.

Segment	2009	2010	2011	2012	2013	CAGR (2009-13)
Travel Industry	150	204	266	345	449	32%
Non Travel Industry	43	58	86	128	181	43%
E-tailing	16	24	38	65	100	59%
Financial Services	15	18	23	29	36	24%
Classifieds	8	11	17	24	31	41%
Other Online services	4	5	8	11	14	34%
Total	192	263	351	473	630	34%

Source: IAMAI-IMRB

3. KEY E-COMMERCE SEGMENTS AND PLAYERS WITHIN EACH OF THE SEGMENTS:

Category	Sub-category	Players
Travel	OTA (Online travel agents)	Makemytrip, Goibibo, Cleartrip, Yatra, IRCTC (rail bookings)
Etailers	Full Service Niche retailers - Fashion - Child care - Health - Furniture - Jewellery	Flipkart, Snapdeal, Amazon, eBay, Homeshop18 Myntra (acquired by Flipkart), Jabong, Yepme, Zovi, Zivame, Yebhi, Fashionandyou Babyoye, Firstcry, Hopscotch Healthkart, Lenskart, Healthadda, Healthgenie Pepperfry, Fabfurnish, Urbanladder, Zansaar Caratlane, Bluestone

Classified	Horizontal
	Vertical
	- Jobs
	- Matrimony
	- Real Estate
	  * advertising led
	  * transaction led
	- Auto
	- Food
		OLX, Quikr, Justdial Naukri, Timesjob, Shine, Linkedin Bharatmatrimony, Shaadi, Jeevansathi 99acres, Magicbricks, Commonfloor, Housing Proptiger, Indiaproperty, Indiahomes Carwale, Cardekho, Gaadi Zomato, Burrp, Yelp

Others	Online food Online entertainment Online grocery	Foodpanda, Deliverychef, Butlerbhai, Tastykhana Bookmyshow Localbaniya, Bigbasket
Enablers	Payment services Logistic services Digital advertising	Ccavenue, Payzippy, Payu, Direcpay Bluedart, Gati or own logistics etc. InMobi, Pubmatic, Komli

4. KEY CHALLENGES FACED BY E-COMMERCE SECTOR:

I. Enticing buyers to internet is an expensive affair

One of the biggest challenges currently facing India's internet companies is the high costs of attracting users to the online retail platform through high marketing spends and consistent promotional schemes.

Marketing currently remains the single biggest expense for e-Commerce companies after the product itself. Both the reach and engagement of users on the online retail platform is lower than global averages which entails significant marketing costs to entice customers to the web.

II. Low data speeds

The data speeds in India remain among the lowest globally and act as a constraint to high engagement in online buying. Internet penetration in India is still a small fraction of what you would find in several western countries. On top of that, the quality of connectivity is poor in several regions. But both of these problems are fast disappearing.

III. Well-funded players in each category causing intense competition

The increase in investors' interest in India's e-Commerce sector is a positive trend. The trend is manifested by:

1. Increased funding activity by private equity (PE) players/ venture capitalists (VC) in India

2. An increase in the number of deals in the internet space

This, however, has a negative consequence in terms of every category having many well funded players and that is leading to intense competition to grab traffic/transaction share, thus pushing profitability out for players.

Top 10 PE/VC investments in E-Commerce space:

Company	Investors	Amount (USD mn)	Date
Flipkart	Tiger Global, Iconiq Capital, DST Global, others	210	May-14
Flipkart	Tiger Global, Accel India, Iconiq Capital, others	200	Jul-13
Flipkart	Morgan Stanley, Tiger Global, Dragoneer Investment Group, Vulcan Capital, others	160	Oct-13
Snapdeal.com	Kalaari Capital, Intel Capital, Nexus Ventures, Bessemer, Saama Capital, others	134	Feb-14
Snapdeal.com	Temasek, PremjInvest, others	100	May-14
Myntra	Kalaari Capital, Tiger Global, IDG Ventures (I), Accel India, PremjInvest, others	50	Feb-14
Jabong.com	CDC Group	28	Jan-14
UrbanLadder.com	SAIF, Kalaari Capital, Steadview	21	Jul-14
Cardekho	Sequoia Capital India	15	Nov-13
FirstCry	SAIF, IDG Ventures India, Vertex	15	Jan-14

RECENT ACQUISITIONS:

Buyer	Target
Flipkart ⟶	Myntra
Babyoye ⟶	Hoopos
Tradus ⟶	BuyThePrice
Zovi ⟶	InkFruit
BookAdda ⟶	KoolSkool

IV. Cash on delivery remains high, which creates issues

Given the hesitation of Indian consumers to use credit/debit cards online, pervasiveness of cash in offline retail, low penetration of credit/debit cards and convenience, cash on delivery (COD) is a predominant payment method for most Indian e-Commerce companies. But on one hand COD helps entice customers to the web with a payment method they are more comfortable with, on the other hand it creates issues for e-Commerce companies:

- Negative working capital implications as it could take up to two weeks to realize the cash.

- Issues of handling cash such as pilferage and increased costs.

- In some states or locations, logistics companies do not entertain cash on delivery requests or there are regulatory issues related to COD.

- Returns are typically higher in COD vs. electronic payment.

V. India's internet is English centric which restricts participation for Hindi/regional language consumers

English-speaking population has been the biggest driver of internet adoption in India but there remains a limitation in taking the internet countrywide with requirement for more local language content.

VI. Logistics issues are a big challenge for Indian e-Commerce

In India, logistics and courier services require lots of improvement. While, perfect and strong logistics service is one of the key reasons behind the success of any online company, India is lagging far behind in this sector as most of the town and small villages are still not covered under serviceable area of many of the courier and logistic companies. E-Commerce is hampered in a big way owing to the limited services offered by the courier service companies; with just 20% of India's pin codes being currently serviced by them and only 5% of codes have cash-on-delivery options.

5. CONCLUSION

Internet has become an integral part of growing population segment for remaining connected with friends, accessing emails, buying movie tickets and ordering food. The changing lifestyles of the country's urban population have also led many people relying on the internet for their shopping needs. The convenience of shopping from the comfort of one's home and having a wide product assortment to choose from has brought about increased reliance on the online medium.

First we had organized big-box retail, then catalogue shopping, then TV shopping, Internet and then mobile shopping. In India, this entire journey is compressed into 15 years, and especially e-Commerce has been compressed in nine years. It is moving for-ward quite rapidly. Industry statistics talk of a 55-60 per cent year-on-year growth, and moving from a USD 2.1 billion to a USD 3.2 billion market in 2014.

Over the last two decades, rising internet and mobile phone penetration has changed the way we communicate and do business. E-commerce is relatively a novel concept. It is, at present, heavily leaning on the internet and mobile phone revolution to fundamentally alter the way businesses reach their customers. It is also the most challenging in fulfilling its fundamental proposition of transcending physical boundaries to deliver a variety of products to the customer's doorstep.

Online shopping offers fast, easy, money saving and interesting shopping experience, it has many advantages like 24 hours shopping, shopping with coupon to get discount, shopping from home, rich product availability, specifications etc.

The customer has embraced digital economy in a big way to discover, engage and transact.

While the future is mobile and the present already on wheels, potholes remain. These include enticing buyers which is expensive, high data prices and low data speeds, intense competition caused by well-funded players, the complexities of the cash-on-delivery model and the English-centric internet which restricts reach.

The future competitors and winners in the e-retailing space will be the ones who use both bricks and clicks and not bricks or clicks alone.

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Freedom of Press and Good Governance: an Indo-US Comparison

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ABSTRACT

Freedom of expression has always been emphasised as an essential basis for the democratic functioning of a society. The right to know, receive and impart information has been recognized within the right to freedom of speech and expression. A citizen has a right to know about the activities of the instrumentalities, the departments and the agencies of the State. Press plays a crucial role in dissemination of information. A free and vigilant Press is vital to restrain corruption and injustice by generating political discourse. Freedom of Press inevitably helps drive scientific progress which in turn propels innovation and economic prosperity. Although the expression "Freedom of Press" has not been used in Article 19 but it is implicit in the right of freedom of speech and expression. It is the heart of social and political intercourse.

Through this paper the authors try to emphasise the role of media on the basis of Aristotle's 'theory of Politics'. Further, want to consider the US position where there is an absolute Freedom of Press which has fostered innovation and also comment upon the various tests laid down by the Supreme Court of US to put reasonable restrictions upon such freedom.

KEY WORDS

Press, Corruption, Freedom, Restrictions.

1. INTRODUCTION

Democracy means government for the people, of the people and by the people. In this people occupy the central stage. Once the people are given due importance and necessary encouragement they could be motivated to achieve the purpose for which democracy existed. *Aristotle believed that the state existed for realizing the good life of the people.*[1] So is the object of democracy in the modern times. This could be achieved only where there is people's participation in the system of governance. Media plays a crucial role in ensuring the involvement of the masses in nation building. Therefore, freedom of Press is a concomitant of democracy.

2. ARISTOTLE'S- THEORY OF POLITICS

According to Aristotle the *telos* of Politics is nothing less than to enable people to develop their distinctive human capacities and virtues- to deliberate about the common good, to acquire practical judgment, to share in self government, to care for the fate of the community as a whole. Aristotle emphasises the importance of true political communities. He further states that the end and purpose of the polis is the good life, and the institutions of social life are means to that end.[2]

Aristotle's vision of politics is the elevated role of citizenship. He believed that the faculty of language possessed *exclusively* by

human beings is not without purpose. This he locates in the conceptualization of good life. Thus virtues refers to qualities that the society wants to honour but these are not to be identified in a despotic manner for Aristotle envisages a participatory role for the citizen in this exercise. Therefore, it is apparent that Aristotle was a strong supporter of local self-governance as it gives the opportunity to the citizens to participate in the governance. He always emphasised upon the people's participation which is only possible when the individuals have the knowledge and information regarding the policies of the Government. Here media plays a vital role in providing such information to the masses. It acts as a catalyst in generating social and political discourse which is an essential facet of a *'real democracy'*.

Thus, it can be said that Aristotle's theory of Politics encourages people's participation and thereby would have supported the Freedom of Press.

3. FREEDOM OF PRESS- THE INDIAN STANDPOINT

Everyone has a right to freedom of opinion and expression; the right includes freedom to hold opinions without interference and to seek and receive and impart information and ideas through any medium. This resolve is reflected in Article 19(1) (a). The right to freedom of speech and expression is subject to limitations imposed under Article 19(2).

Article 19(1) (a) of the Indian Constitution states that all citizens have the right to freedom of speech and expression. Freedom of speech and expression means the right to express one's own convictions and opinions freely by words of mouth, writing, printing, pictures or any other mode. It thus includes the expression of one's idea through any communicable medium or visible representation, such as gesture, signs, and the like. This expression connotes also publication and thus freedom of press is included in this category. The freedom includes liberty to propagate not only one's view but also includes the right to propagate or publish the views of other people.

The fundamental right of the freedom of press is implicit in the right to freedom of speech and expression, is essential for the political liberty and proper functioning of democracy. The democracy can thrive not only under the vigilant eye of legislature, but also under the care and guidance of public opinion and the press is par excellence, the vehicle through which opinion can become articulate[3]. The editor of a press is merely exercising the right of the expression, and therefore, no special mention is necessary for the freedom of press. Freedom of Press is the heart of social and political intercourse. It is the primary duty of the courts to uphold the freedom of press and invalidate all laws or

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[1]ARISTOTLE- THE POLITICS.
[2]MICHAEL J. SANDEL, JUSTICE: WHAT'S THE RIGHT THING TO DO, 194 (Farrar, Straus and Giroux) (2010).

administrative actions, which interfere with it contrary to the constitutional mandate.[4]

The question of validity of censorship came up in the case of *Brij Bhushan v. State of Delhi,*[5] the court held that-the imposition of censorship on a journal prior to its publication would amount to the infringement of Article 19(1) (a).

4. THE US POSITION

In USA, the first amendment specifically protects a free press. It states as follows:-

"Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or *abridging the freedom of speech, or of the press;* or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances."[6]

The view developed by the US Supreme Court is that the freedom of press includes more than merely serving as a "neutral conduit of information between the people and their elected leaders or as a neutral form of debate." [7]

The prime purpose of the free press guarantee is regarded as creating a fourth institution outside the government as an additional check on the three official branches- executive, legislative and the judiciary.[8] It is the primary function of the press to provide comprehensive and objective information on all aspects of the country's social, economic and political life. The press serves as a powerful antidote to any abuse of power by government officials and as a means for keeping the elected officials responsible to the people whom they were elected to serve.[9]

The democratic credentials of a state are judged today by the extent of the freedom press enjoys in the state. DOUGLAS, J., of the US Supreme Court has observed that "acceptance by Government of a dissident press is a measure of maturity of the nation."[10] Suppression of the right of the press to praise or criticise government agents and to clamour and contend for or against change violates the First Amendment by restraining one of the very agencies the framers of the U.S Constitution selected to improve the American society and to keep it free.[11]

5. THE COMPARISON

Unlike the American Constitution, Article 19 (1) (a) of the Indian Constitution does not expressly mention the liberty of press but it

has been held to be included in freedom of speech and expression. In India, freedom of press is implied from the freedom of speech and expression guaranteed under Article 19(1) (a). There is no specific provision ensuring freedom of the press as such. The freedom of press is regarded as a "species of which freedom of expression is a genus".[12] Thus being only aright flowing from the freedom of speech, the freedom of press in India stands on no higher footing than the freedom of speech of a citizen, and the press enjoys no privilege as such distinct from the freedom of the citizen.

The Supreme Court has laid emphasis in several cases on the importance of maintaining freedom of press in a democratic society. The press seeks to advance public interest by publishing facts and opinions without which a democratic electorate cannot make responsible judgments.[13] Articles and news are published in the press from time to time to expose the weaknesses of the government. This leads at times to the suppression of the freedom of the press by the government.

The Indian judiciary for the first time dealt with the issue of freedom of press in *Romesh Thapar v. State of Madras*[14] where it was observed that freedom of press is not specifically provided in the said article but court made it with interpretation and said that these are the concomitant rights.What is concomitant right, the court said that these are those rights whose realization is must for the realization of the main right.[15] This was also held in *Sakal Papers v. Union of India*[16] and made the freedom of press as species of freedom of speech and expression. Further in *Bennett Coleman v. Union of India*[17] the court maintained that Freedom of Press embodies the right of the people to speak and express. Te freedom of speech and expression is not only in the volume of circulation but also in the volume of news and views. The press has the right of free publication and their circulation without any obvious restraint on publication. "Freedom of press is both qualitative and quantitative. Freedom lies both in circulation and in content."[18]

Further in *Indian Express Newspapers (P) Ltd v. State of Bombay*[19] the Supreme Court observed that the fundamental principle involved was the people's right to know. Freedom of Speech and Expression should therefore, receive a generous support from all those who believe in the participation of the people in administration. The court noted that with a view to check malpractices interfering with the free flow of information, democratic constitutions the world over make provisions guaranteeing freedom of speech and expression and laying down the limits of interference therewith.[20]

[3]Puspanjali Paikarey: Media Responsibilities and Ethics, ODISHA REVIEW 81, (2012).
[4]Indian Express Newspapers v. Union of India, AIR 1986 SC 515.
[5]AIR 1950 SC 129.
[6]US First Amendment clause- Freedom of Religion, Press and Expression, ratified on 15/12/1791.
[7]PROF. M.P. JAIN, CONSTITUTION OF INDIA, 1085 (Lexis-Nexis) (2010).
[8]New York Times v. Sullivan, 376 U.S. 254.
[9]Ibid.
[10]Terminiello v. Chicago, 337 U.S. 1.
[11]Mills v. Alabama, 384 U.S. 214.
[12]Sakal Papers v. Union of India, AIR 1962 SC 305.
[13]Indian Express Newspapers (P) Ltd. v. State of Bombay, AIR 1986 SC 515.
[14]AIR 1950 SC 124.
[15]Ibid.
[16]AIR 1962 SC 305.
[17]AIR 1973 SC 106.
[18]Ibid.
[19]AIR 1986 SC 515.

Another remarkable difference between the freedom of Press as lay down in Indian and the US Constitution is that of reasonable restrictions upon the freedom. In India, especially Article 19(2) imposes the reasonable restrictions on the right to freedom of speech and expression which includes the freedom of press, in the interest of sovereignty, integrity and security of the State. Further restrictions may also be imposed on grounds of protecting friendly relations with foreign states, public order, decency or morality, or contempt of court and defamation. However, it is pertinent to note that no such restrictions are mentioned in the US Constitution. This does not mean that there are absolute rights. There restrictions are imposed by virtue of the due process clause.

Fourteenth Amendment to American Constitution incorporated principle of "due process" i.e. any right of the citizen of the country can be struck down only by the due process of law. Further the US Supreme Court has adopted various tests for restricting the exercise of the rights in the interest of the State. These are the following:-

a. **Bad tendency** test- In US law the bad tendency test principle is a test which permits restrictions on freedom of speech by government if it is believed that a form of speech has a sole tendency to incite or cause illegal activity. This principle was first formulated in *Patterson v. Colorado*[21] but was overturned by clear and present danger test.

b. **Clear and present danger test**- This was a doctrine adopted by the Supreme Court of the United States to determine under what circumstances limits can be placed on First Amendment freedoms of speech, press or assembly.

   The clear and present danger test was established by Justice Oliver Wendell Holmes, Jr. in the unanimous opinion for the case *Schenck v. United States,*[22] concerning the ability of the government to regulate speech against the draft during World War I:

   "The question in every case is whether the words used are used in such circumstances and are of such a nature as to create a clear and present danger that they will bring about the substantive evils that the United States Congress has a right to prevent. It is a question of proximity and degree. When a nation is at war, many things that might be said in time of peace are such a hindrance to its effort that their utterance will not be endured so long as men fight, and that no Court could regard them as protected by any constitutional right."[23]

c. **Balancing test**- The balancing test in American jurisprudence arose from the question of Due process, a consideration arising from fifth and fourteenth Amendment to the US Constitution. This test weighs the considerations of the private interest affected by an official action taken by a government agency, official, or non-governmental entity (company) acting as a governmental agency. Therefore, it looks to prioritize and harmonize the governmental actions over the individual rights by creating a balance between the two. The Indian Supreme Court, in *Reliance Petrochemicals v. Indian Express*,[24] also pointed out that the court had to balance two

interests of great public importance- freedom of speech and administration of justice. A balance has to be struck between the free press and free trial.[25]

d. **Police power test**- In United States constitutional law, police power is the capacity of the states to regulate behaviour and enforce order within their territory for the betterment of the health, safety, morals and general welfare of their inhabitants. The exercise of police power can be in the form of making laws, compelling obedience to those laws through legal sanctions, physical means, or other forms of coercion and inducements. Controversies over the exercise of police power, particularly the use of physical means, arise when its exercise by the federal government conflicts with the rights of the states or when its exercise by federal or state authorities conflicts with individual rights and freedoms.

Therefore, though freedom of press in US appears to be in unqualified terms still it is subject to almost same restrictions as are incorporated in the Indian Constitution.

6. CHALLENGES

We have seen that media has played a prominent role in the Anna Movement and has brought the masses together. Further in the Delhi rape case, the role of press was noteworthy. Also one can say that nowadays Social media, which is the youngest species of the traditional media, plays a vital role in generating discourse by providing a platform to the common man to express his views on the matters of public policy. However, the other facet of media in modern day democracy is that due to corporate funding and paid news concept, the same media is sometimes used as a mouthpiece of political parties, which is really a challenge for true democracy. Therefore, there is need of a 'FREE' Press. Here 'Freedom' is not only confined to the freedom of Press concept as discussed by the hon'ble Supreme Court in the above-cited judgments. But there is a demand for the real freedom, i.e. freedom from control of the Corporate houses and Political parties. Once such a freedom is assured, there will be a true democracy.

7. THE WAY FORWARD

Media is the mirror of democracy. The tender plant of democracy flourishes only in an atmosphere where there is free interchange of views and ideas. Aristotle also emphasised on the importance of deliberation for governance as it leads to exchange of thoughts and opinions. Freedom of press generates discourse. But such freedom is not absolute; it is always subject to certain restrictions because with every right there is a responsibility. Therefore, media not only has moral rights but also moral duties to spread fair and accurate information without being under any influence in order to serve the true democracy. Thus, we can conclude that Freedom of press is a means to the ends of Good Governance.

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[20] Ibid.
[21]205 U.S. 454 (1907).
[22]249 U.S. 47 (1919).
[23]Ibid.
[24]AIR 1999 SC 190.
[25]Ibid.

The Role of Innovation in Social Media and Business Function

(A STUDY OF SELECTED ENTREPRENEURS IN MADHUBANI, BIHAR)

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Gopal Thakur *

ABSTRACT

This research study examines the nature of innovation between social media and business function using selected entrepreneurs in Madhubani, Bihar as respondents. At present, scores of businesses have a presence on social networks as a way of supporting their business processes such as marketing. The objectives of the study are; (a) The extent to which social media networks are used by entrepreneurs (b) To find out the purpose of social network (c) To know the effect of social media on sales turnover and (d)To identify the effect of social networking on business function. The study used survey research method with structured questionnaire that was distributed among the sampled respondents. The findings of the study revealed that Facebook, YouTube and Twitter were the mostly visited social network by the entrepreneurs for business purposes. The result further revealed that social network has significant effect on sales turnover. It allows an enterprise to connect with both existing and potential customers, engage with them and reinforce a sense of community around the enterprise's offering(s).

KEY WORDS

Facebook, Twitter, Entrepreneurs, Social Network

1. INTRODUCTION

There are many ways to approach the word entrepreneurship and its definition differs depending on the context. The earliest definition of entrepreneurship dates back to eighteenth century, when it was used as an economic term describing the process of bearing the risk of buying at certain prices and selling at uncertain prices. Clearly, today's definition has been broadened to cover not only the risk taking but also to include the concept factors of production. For example, The Business Dictionary (2010) describes entrepreneurship as follows:

"Entrepreneurship is the capacity and willingness to undertake conception, organization, and management of a productive venture with all attendant risks, while seeking profit as a reward. In economics, entrepreneurship is regarded as a factor of production together with land, labour, natural resources, and capital. Entrepreneurial spirit is characterized by innovation and risk-taking, and an as essential component of a nation's ability to succeed in an ever changing and more competitive global marketplace." As this definition proofs, the concept of innovation is important when thinking about entrepreneurship. This innovation could be related to the process of innovation, product innovation, market innovation, factor innovation, or in a broader scale even organisational innovation. Having said that, it is no wonder why people tend to describe an entrepreneur with words like opportunistic, self-confident or risk taker. Some think that an entrepreneur is an innovator while the others see it solely as someone who creates a new business venture. In this particular research, the emphasis

goes to the entrepreneurs who are working for a company or they have a business of their own. Therefore, from a business point of view, we can name a person with entrepreneurial qualities as a sole proprietor or a sole trader. The sole proprietor is the person who owns the company and basically the whole business is run by the individual itself. In addition, we can say that a sole proprietorship is one of the most common legal forms of ownership for new businesses. However, it is good to note that entrepreneurs can equally exist in small firms as well as within large firms, even in ones they did not set up themselves. Burns would use his own definition for entrepreneurship as follows:

"Entrepreneurs use innovation to exploit or create change and opportunity for the purpose of making profit.

They do this by shifting economic resources from an area of lower productivity into an area of higher productivity and grater yield, accepting a high degree of risk and uncertainty in doing so."

The term entrepreneurship may cover the creation of new enterprises, innovation and even the management of new enterprises, thus entrepreneurship can be viewed in its essence to be individuals or teams creating works, such as products or services, for other people in the market place. Entrepreneurs require information, capital, skills, and labour to start business activities. While they hold some of these resources themselves, they often complement their resources by accessing their contacts. Entrepreneurs are often confronted by problems associated with obtaining credit and financing the business, as well as with having the requisite managerial and technical experience that facilitates success. The success of a business can be attributed to a number of factors, but the greatest determinant of a business's success is the entrepreneur him/herself. People who start up and run businesses need to know their own strengths and weaknesses because "entrepreneurship involves the ability to build a 'founding team' with complementary skills and talents". Social networks are becoming increasingly important to business owners as they provide firms with access to markets, ideas, information, advice, business opportunities, and other resources. Entrepreneurs are, to some extent, dependent on their networks of personal relationships, especially social networks, when making decisions and solving problems. One result of networking is the development of social capital, which essentially consists of the "resources individuals obtain from knowing others, being part of a network with them, or merely being known to them and having a good reputation". Researchers arguing that entrepreneurs value their independence and are reluctant to engage in behavior that may lead to dependency have challenged the network perspective. However, points out that networking does not create dependency but a generic dependency/independence paradox. Entrepreneurs need information, resources, and compe-

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tence to run the business. Many of such research were done in developed countries; little attention had been given to it in developing countries. Therefore, it is necessary to understand the role of social networking in developing countries. Many businesses are now turning to social networks as a worthwhile communication tool and, if used adequately, they can significantly improve their online presence, in the form of effective promotion. To achieve success with the online marketing, the marketers need to have a presence in the environment that their customers inhabit. Mark Zukerberg, co-founder of Facebook supports this by saying that advertising is fast changing and businesses need to understand the usage of Internet technologies in order to remain relevant. The internet can boost sales and generate opportunities to come up with new products and services.

Social media allows an enterprise to connect with both existing and potential customers, engage with them and reinforce a sense of community around the enterprise's offering(s). Further, an information rich website can help a business to develop relationships with customers by providing more effective marketing, new communication and distribution channels, shorter time to market, customized products, 24hour online technical support and online interactive community. Social networking can be an excellent way to acquire new customers and retain existing ones. The real challenge lies in the way to engage with the audience on a personal level. Social networking sites can build online groups around various companies, where clients and prospective customers can interact with like-minded individuals. These groups provide valuable insights, plus useful feedback that help the marketers improve their products to suit the needs of their customers. Social networking has led to the introduction of social media marketing and presented new ways of communicating to expanse audiences on various Internet platforms.

Based on all these contradicting positions about the relevance of social network to entrepreneurial success in business, this study intends to bridge this gap by analysing the following objectives:

(a) The extent to which social media networks such as Facebook, Twitter, YouTube, LinkedIn are used by entrepreneurs (b) To find out the purpose of social network (c) To know the effect of social media on sales turnover and (d) To identify the effect of social networking on business function.

To achieve these objectives, the study raised two propositions, which were stated in the form of null hypotheses. These are;

H0: Physical networking does not have significant effect on sales turnover

H0: Social networking does not have any effect on business efficiency

2. NETWORK

The term "network" is generally used for the structure of ties among the actors in a social system. These actors could be roles, individual persons, organizations, industries, or even nation states. Their ties may be based on conversation, affection, friendship, kinship, authority, economic exchange, information exchange, or anything else that forms the basis of a relationship. "Networking" emphasizes relation- ship initiation, often between strangers. The

use of internet-based social media programs to make connections with friends, family, classmates, customers and clients. Social networking can be done for social purposes, business purposes or both. The programs show the associations between individuals and facilitate the acquisition of new contacts. While networking is possible on social media sites, it is not the primary practice on many of them, nor is it what differentiates them from other forms of computer-mediated communication (CMC).

Physical Networking: This Social networks are nodes of individuals, groups, organizations, and related systems that tie in one or more types of interdependencies: these include shared values, visions, and ideas; social contacts; kinship; conflict; financial exchanges; trade; joint membership in organizations; and group participation in events, among numerous other aspects of human relationships. Networks could be religious, political, financial, technical or business. Religious networks are found in religious organizations to bring people together. The main objective of religious networks is to ensure that Mandir, GuruDware & Maszid religious group members come together to achieve a particular religious objectives. Business network could be in form of trade associations or club associations that provide platform for entrepreneurs to meet and discuss business issues, even though in a relaxed mood.

Electronic Social Networking: Social network sites are web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site. The social networks utilized are Facebook, WordPress (blog), YouTube and Twitter. Each of them has a different role in their strategic plans. Through Facebook, company's try to spread their message about their free service. Companies consider that Facebook is a gateway to checkmyhead.net. This online social network is viewed by companies as a "very quick tool where the customers can see who they are, what they say and what is done". The blogs gives a great importance to providing their users with high quality content related to computer user level. Once the company has a "Fan" or "Friend" whether on Facebook or Twitter, the company would try to offer added value in order to differentiate itself from other companies, for example, a particular company uses YouTube as a channel to provide video tutorials to explain simple repairs and maintenance of computer. It also use YouTube video spots and campaigns to launch the company's message through a much more visual and entertaining way. The company uses Twitter in two very different forms: a) Monitoring what people say about the company in social networks; b) Promoting all the other social tools, the company, the campaigns and the blog. "Twitter is especially based on the conversation. It has been observed that although there is Facebook, Twitter conversation is much more dynamic and especially viral. Twitter is a great conversation where everyone can participate. People do not need to accept you as a friend first if they want to participate.

Social media network and business functions: Networking with others is carried out because the entrepreneurs mostly depend on the information, raw materials, technology or knowledge, in order

to make their enterprises continuously develop and be acceptable to societies. Numerous researchers found that networking provided many benefits and encourages success of an enterprise. I found that networking increases profit from investment and access to growth, particularly for new founded companies and made dynamic relationship to these companies. In another study networking is strongly needed to develop entrepreneurial capabilities since networking enhances learning. Besides learning, the entrepreneurs should also be able to open or to have internal networking within their enterprises or external networking with other parties including individuals and existing firms. They argue that networking with others is carried out because the entrepreneur mostly depends on the information, raw materials, technology or knowledge, in order to make their enterprises continuously develop and be acceptable to societies.

4. RESAERCH METHODOLOGY

Questionnaire technique was adopted to elicit relevant information to this study from entrepreneurs that is, SME owners. The special emphasis is on the role of innovation in social media and business function. The questionnaire is divided into two main sections. Section A was designed to obtain information on the respondents' demography and general information about the work environment while section B focuses on the issues central to this study topic. The questions in the questionnaire were close-ended questions. They were administered personally to the respondents.

following the recommendation of Assistant. Professor Dr. Abhishek Kumar Singh and Mr. Deo Nadan Singh that suggested that 5 cases for each item is adequate in most cases. Since all the respondents in the area cannot be ascertained, 19 items were in the questionnaire there were 5 respondents to 19 items which was 95 as a sample size, and for the purpose of any faults, 120 copies of questionnaire were distributed and in the process 105 questionnaires were returned .

3. RESULTS

Table 1 shows the descriptive statistics of how entrepreneurs visit social networks websites. The first part of Table 1 classifies the opinion of respondent on whether the entrepreneur frequently uses Facebook. It shows 50.0% daily, 3.8% weekly, 1.9% monthly, 28.6% occasionally and 15.2% never. This implies that respondents mostly visit Facebooks daily. The twitter aspect of the table shows 42.9% daily, 7.6% weekly, 2.9% monthly, 30.5% occasionally, 16.2% never. Here we see that the respondents frequently log on to twitter. LinkedIn is another popular electronic social network. It shows 31.4% daily, 12.4% weekly, 6.7% monthly, 29.5% occasionally, 20.0% never. It is deduced that respondents are always on the LinkedIn site. Table 1 further provided information about how often the respondents visit YouTube site. It shows 1.9% daily, 1.9% weekly, 2.9% monthly, 12.5% occasionally, 80.8% never. This means that respondents hardly visit or use the MySpace site. It can therefore be inferred. Table 2 classifies the responses of the respondents on what they use these sites for.

Table - 1. Which social networks do entrepreneurs visit?

VARIABLE	FACEBOOK		TWITTER		LINKEDLN		YOUTUBE	
	Freq.	Percentage	Freq.	Percentage	Freq.	Percentage	Freq.	Percentage
Never	16	15.2	17	16.2	21	20.0	85	81.0
Occasionally	30	28.6	32	30.5	31	29.5	13	12.4
Monthly	2	1.9	3	2.9	7	6.7	3	2.9
Weekly	4	3.8	8	7.6	13	12.4	2	1.9
Daily	53	50.5	45	42.9	33	31.4	2	1.9
Total	105	100	105	100	105	100	105	100

Source: Field survey, 2013

Table 2. Visiting Social Network sites

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Keeping in touch with friend	28	26.7	26.7	26.7
	Business	53	50.5	50.5	77.1
	Make New friends	4	3.8	3.8	81.0
	Local Events Information	20	19.0	19.0	100.0
	Total	105	100.0	100.0	

Source: Field survey, 2013

However, for the purpose of this research work, survey research design, precisely exploratory design was used. Purposive sampling technique is used to identify personal business owners, in Madhubani, Bihar, with workforce between 5 and 50 in their organizations. These persons are mostly starters. 120 was considered appropriate

It shows 20(19.0%) respondents used it for local events, 4 (3.8%) used it for making new friends, 53 (50.5%) visited the sites for business purposes and (26.7%) used it for keeping in touch with friends. This implies that these sites are mostly used by the entrepreneurs for business purposes.

Table 3: Effect of Electronic Social Networking on Sales Turnover

Table 3a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.354 a	.126	.100	.7454

Table 3b: ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.066	3	2.689	4.839	.003 a
	Residual	56.124	101	.556		
	Total	64.190	104			

a. Constant:, Electronic social networking

b. Dependent Variable: sales turnover

Table: 4a Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.139 a	.019	.000	.60243

Table: 4b ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.720	2	.360	.992	.374 a
	Residual	36.655	101	.363		
	Total	37.375	103			

a.Constant: Physical social networking

b. Dependent Variable: business functions

5. HYPOTHESIS

H0: Electronic networking has a significant impact on sales turnover. H1: Electronic networking does not have any significant impact on sales turnover. The results from the Tables 3a and 3b revealed that the extent to which the variance in sales turnover can be explained by electronic networking is 12.6% that is, (R square =.126) at .003 significance. This implies that electronic networking has a significant effect on sales turnover. Thus, the decision would be to reject the null hypothesis (H 0), and accept the alternative hypothesis (H 1).

Hypothesis:

H0: Social networking has no significant impact on the efficiency of business functions.

H1: Social networking has significant impact on the efficiency of business functions

The results from the Tables 4 revealed that the extent to which the variance in efficiency of business functions can be explained by social networking is 1.9% that is (R square =.019) at .374 significance level. This implies that social networking has a significant effect on efficiency of business functions. Thus, the decision would be to reject the null hypothesis (H 0), and accept the alternative hypothesis (H 1). Table 4a and 4b

6. CONCLUSION

In terms of social media innovation, these findings indicate that majority of entrepreneurs see social media as a great marketing opportunity in which their businesses can build professional networks and engage with customers.

The study has been able to validate, empirically, the fact that entrepreneurs in a Madhubani, Bihar have been taking advantage of ICT for their business networking. It has been further established that there is a positive impact of physical networking and electronic networking on sales turnover, efficiency and business success at large. Despite the positive image of social media among entrepreneurs, it does not mean that it is actively used to meet its full potential. I do believe that many entrepreneurs are still uncertain on how to plan social media campaigns and how to coordinate them with the rest of the marketing mix. Even though entrepreneurs believe that social media is effective tool to communicate and are actively using it for business purposes, there are still a long way to go to regard social media as a part of marketing mix. The findings of the work show that network-based system can bring the success every entrepreneur craves in business. Owners of businesses should be involved in social networking which will enhance their business and the right social media should be used to get current information relevant for the business, which will increase business success. It can be concluded that social media networking has become a viable tool in the hand of any modern entrepreneur for business differentiation and success because the business world is becoming more competitive in the emerging global village. Based on the findings of this study, some recommendations and suggestions are meaningful, which may help and ensure the impact of social networking on entrepreneurial networking, the recommendations are summarized as:

i. Entrepreneurs should not lag behind in joining social networks that will help them to get current and relevant information from everywhere to run their businesses. ii. It is recommended that entrepreneurs should adopt networking in their businesses in order to enhance business efficiency thereby creating more demands and new market. iii. Entrepreneurs should endeavour to learn and adopt electronic social network in order to fit into the business world at large since the world is becoming a global village. iv. Investment should be made on ICT and particularly on the right social media that will enhance the efficiency of their operations to be of high quality, reliable and effective.

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Digital India: Recent Paradigm shift in IT, Media & Management

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Objective of the Conference:

Digital India is an initiative by the Government of India to ensure that Government services are made available to citizens electronically by improving online infrastructure and by increasing Internet connectivity. It was launched on July 1, 2015 by the Prime Minister Shri Narendra Modi. The initiative includes plans to connect rural areas with high speed internet networks. Digital India is a program to transform India into a digital empowered society and knowledge economy. The Digital India vision provides the intensified impetus for further momentum and progress for e-Governance and would promote inclusive growth that covers electronic services, products, devices, manufacturing and job opportunities. This will be achieved by preparing India for the knowledge based transformation and delivering good governance to citizens by synchronized and co-ordinated engagement with both Central Government and State Governments. The role of all the stakeholders ranging from academics to industry is essential for the success of Digital India campaign.

The conference is driven by the idea of providing a unique learning experience on the exchange of insights and practical knowledge, deliberating upon the paradigm shift in the fields of management, IT and media to make 'Digital India' a success.

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2. The impact of Digital India Programme on Management, IT and Media
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