TRINITY
JOURNAL OF MANAGEMENT, IT & MEDIA (TJMITM)

LIGHT TO ENLIGHTEN

CONTENTS

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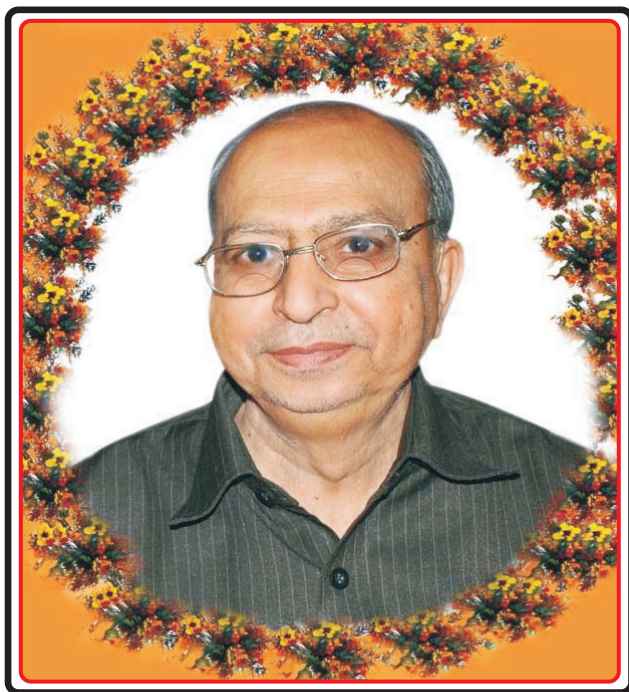
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EDITOR'S PAGE

We are happy to launch the fourth issue of "Trinity Journal of Management, IT & Media **(TJMITM)**". The present issue incorporates 13 research papers – 06 from Management, 04 from IT & Computer; and 03 from Media. All these papers were presented at the 3rd National Seminar of Trinity Institutes held on 23 March 2013. With this issue, TJMITM is completing four 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 dedication and involvement in printing the 4th issue of TJMITM.

World has been witnessing tremendous advancements in technology usage in various sectors including IT, media and commerce. The Internet and the World Wide Web have transformed commerce in a direct manner through the fulfillment of transactions directly over the Internet and this is broadly referred to as e-commerce. There has been a steady growth of e-commerce since the beginning of this century. Keeping the same in mind, the 3rd National Seminar was arranged on the topic: *World at the Conclave of Technology, Media and Economic Advancements.* The Seminar concluded that as the world today is experiencing a confluence of advancements in technology, media and economic policy, we need to ensure that they all work in tandem towards a unitary goal of sustainable development at large. Out of 45 papers received, this issue carriers only thirteen research papers. This is due to space constraints. The remaining research papers are very much worthy 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 up new dimension of research in the identified areas, such as, *Technology Enabled Permission Marketing Practices: Driving Indian Consumers through Innovation; A Study on Consumer Behaviour of the Young Decision-Makers of India; Healthcare through Retail Medical Clinics: A Critical Analysis; The Ethics of Recruitment and Selection Practices; Electronic Fund Transfer: A Mechanism to Money Laundering Crime; Indians' Liking for Gold and Causes for Rising Prices of Gold; Studying of Multimodal Biometric System Using Different SVM Kernels; Privacy Sanitization in Data Transmission; Data Warehousing "The Viable Solution to Modern Business Strategies"; Social Media is the Fifth Pillar of our Society; Media Revolution through New Media, etc.* My thanks to the authors who have presented the papers in the 3rd National Seminar and extended their cooperation in making the seminar a grand success.

On behalf of the Editorial Team of TJMITM, I extend 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 Mrs. 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
Director, TIPS

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FORM 5 (RULE 8)

1. Printer's Name : Dr. R.K.Tandon
   Nationality : Indian
   Address : Trinity Institute of Professional Studies
   Sector-9, Dwarka, New Delhi-110075

2. Place of Publication : Delhi

3. Periodicity of Publication : Yearly

4. Publisher's Name : Dr. R.K.Tandon
   Nationality : Indian
   Address : Trinity Institute of Professional Studies
   Sector-9,Dwarka New Delhi-110075

5. Editor's Name : Dr. M.B.Pahari
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7. Printed at : Ranjana Grafix Pvt Ltd
   C-126, Gate No.-1, Naraina industrial Area,
   Phase-1, New Delhi- 110028
   Phone : 011-45111911/12

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TECHNOLOGY ENABLED PERMISSION MARKETING PRACTICES: DRIVING INDIAN CONSUMERS THROUGH INNOVATION

Dr. Vikas Nath *
Nimit Gupta **

ABSTRACT

Consumers around the world are bombarded with too many options of products which are either new or seems to be new .Consumers, therefore feel that they are a part of marketing arena where either the products or schemes related to them are making life miserable. Permission Marketing (PM), which emphasise on seeking permission first and then dissemenation of marketing messages has become the need of hour. PM practices which are technology driven either by mobile technology or internet technology give respite to consumers by allowing permitted marketing messages. Present study is based on secondary data which had been collected from various sources like Book Reviews of book authored by Seth Godin, Review Reports, Survey Reports of Telecom Regulaory Authority of India (TRAI) , Marketing White Book and various other reports.The data available in various dissertations ,research papers and articles have been also utilized by the accession of DELNET and EBESCO. This paper will emphasise on how by using mobile and inernet technology , Indian consumers can make a better decision keeping their choice in consideration. This paper is useful for marketing professionals who are in the business of marketing of various goods and services by highlighting the future research directions in this bizarre area.

KEYWORDS

Mobile, Internet, Permission Marketing, Technology, Innovation

INTRODUCTION

The marketing of products/services and the techniques in which communication takes place with customer(s) are changing worldwide at a rapid pace. Consumers had changed tremendously over the last two decades and are still evolving in their pattern of behavior. Consequently marketers have to modify the ways; they perform their marketing communication activities and should move towards holistic and customer-oriented marketing. In this new environment, marketers are being forced to adopt new paradigms to survive and grow in intense competition by meeting ever rising consumer demands. These developments have endless opportunities in terms of large, free global markets and improved ability to meet the challenges by using technology. Technological development has redefined world as a whole. Internet and mobile technology has emerged as a new medium of communication, a mechanism of collaboration and reservoir of information. Getting connected has become the new mantra of business management in general and marketing in particular. Therefore, marketing communication has become more transparent, flexible and technology driven. This evolution has become the turning point for new age marketers especially who are practicing marketing communications.

PERMISSION MARKETING: CONSUMER LED MARKETING

Milne and Gordon (1993) discussed the role of customer permission and its importance in marketing. This was acted as a foundation point of evolution of Permission Marketing as a new mantra of ethical marketing. According to them, the information could remain the property of the consumer, and no marketing organization would be permitted to use it for any other purpose without taking pre-permission from the consumer. The insertion of Permission Marketing in direct mail proposals is geared toward preventing undesired dissemination of consumer information. Hagel and Singer (1999) discussed the concept of infomediaries or information brokers who strongly elicit the permission of consumers and protect their privacy. Godin (1999) coined the term "Permission Marketing" which is based on the premise of customer centricity, in which consumers give their consent to receive marketing information of their choice.Permission Marketing is gaining importance because it is useful for marketer as well as for the consumer. Permission Marketing is different than traditional forms of marketing as it is built on the foundation of customers receiving promotional messages of their interest and with their approval, where consumers control the entire process right from the beginning to the end. Marketers in return will get advantage in form of targeted, information seeking and using consumers. At the same time, the technique of Permission Marketing proves to be cost effective and easier in operations. Marketers therefore prefer this marketing technique of giving information to select but response oriented group of customers. Permission Marketing is important for consumers and marketer as it provides advantages to both customers and marketer as shown in table 1.1

CONSUMER ADVANTAGES
• Messages are anticipated, personalized and relevant
• Has ability to opt-out or unsubscribe at any time
• Privacy is preserved
MARKETER ADVANTAGES
• Cost of technology and infrastructure is low and feedback is instantaneous
• Customer loyalty and pass-along marketing
• Marketers can segment their audience better

*Table 1.1: Advantages of Permission Marketing
(Source: Author's Own)*

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TECHNOLOGY ENABLED PERMISSION MARKETING PRACTICES

To establish itself in the new era, marketing has begun adapting new methods. Both execution and organization of marketing have adopted the new role of electronic communication. The terms virtual marketing, web-based marketing and interactive marketing refer to the use of the Internet and other such related technologies to achieve marketing goals and objectives.

Permission Marketing is perceived as an innovative promotional tool which is used for targeting those recipients who consented to receive commercial messages from the sender, either with the internet practices or with the advent of mobile communication practices which are technology driven. Permission relationships start with the consumer's explicit and active consent to receive commercial messages and always give consumers the right to stop receiving messages at any time. Marketer can use Permission Marketing by integrating it with internet and mobile technology in general and with e-mail and SMS in particular. Permission Marketing Practices can be viewed as:

a) PERMISSION MARKETING WITH INTERNET AS A MEDIUM

With the success stories of companies, market share together with the rapidly increasing adoption of the internet is becoming need of the day. Organizations had realized that they must have an effective internet presence, if they want to prosper, or possibly even survive. According to Porter (2001) the key question is not, whether to deploy internet technology or not. If organizations want to remain competitive they have to put in. Internet is rapidly changing traditional marketing methods by use of new technologies (Hoffman and Novak, 1996). Internet has brought many unique benefits to marketing; one of the important benefits is the interactivity of this method. By using internet as a marketing medium, marketer can gain advantage in terms of instant and assured response. Every organization, from profit to non-profit firms, producers to retailers, and hard-goods manufacturers to service providers, is found on internet, in various capacities. As marketers are engaged in effective use of Internet technologies, e-mail seems to be the most pervasive application of internet.

It is important to note that there are two ways of using e-mail marketing in context of internet based permission marketing. One can either send unsolicited e-mail promotions to those who had not requested or send permitted e-mails to those who have requested.. Sending spam e-mails will ruin organization's reputation and brand value. The intelligent e-mail marketer does not adopt the practice of sending unsolicited e-mail. Permission based e-mail marketing, on the other hand, can be used in order to built valuable brands and for further strengthening relationships with customers.

According to Swanson (2000); Rizzi (2001) and Rosenthal (2001) e-mails which are having permission of the consumers can provides better means of communication and reaches target audiences promptly. According to Yager (2001) Permission Marketing respects the privacy of targeted customers who have actually expressed interest in the product and a level of trust and responsibility with them which further lead to brand loyalty. According to Book (2004) in order to market well, organizations should use an integrated multi-channel marketing strategy, where the key focus should be on permission based e-mail. He argued that by using this technique, organizations are able to synchronize customer marketing activities with the overall business activities.

b) PERMISSION MARKETING WITH MOBILE AS A MEDIUM

Mobile has emerged as a bizarre media which has huge penetration among the masses. Usage of mobile phones has significantly grown in number of years especially in Asian continent. Short Messaging Service (SMS) had taken a leap because of the innovative features associated with it. Advertising of various products and services by using "Short Messaging Service" is gaining popularity almost in all industries. Short Messaging Service (SMS) marketing is a subset of electronic-marketing and is defined by Haghirian and Dickinger (2005) as using a wireless medium to provide consumers with personalized information that promotes goods, services and ideas. Permission based SMS marketing refers to the asking of consumers' consent to receive commercial messages while giving the individual and opportunity to stop receiving them at any time (Tezinde et al., 2002).

The growth of the market, the profusion of new technologies and their convergence has opened many new opportunities for marketing promotions and advertisements. It was observed that more than 10 billion messages were being sent each month, making short messaging service the most popular mobile advertising method. Permission-based mobile advertising is considered to be the easiest way to tackle the privacy issue as it involves pre-permission.

4) DRIVING INDIAN CONSUMERS USING INNOVATION

Indian consumers are bombarded with too many messages in a single day. Therefore marketers must understand that in order to have recognition in consumers mind, they must innovate. Using permission marketing and mobile and internet technology, they can innovate the way marketing can be done.

For instance various marketers provides the offers on various social media sites and requests the consumers to fill in their details specially e-mail address , so that in future , various marketing messages can be sent using permitted e-mail address. Also on this e-mail address, they share the latest happenings. For instance, holiday inn (as shown in figure 1.2) acknowledges the visit and also request for regular update permission.

Figure 1.2: Request for Regular Update Permission
(Source:consultnimit@gmail.com)

Similarly various organizations take the permission from their customers to provide an update using sms as a medium and at the same time, they also communicate about the new promotional offers and other such schemes. Marketers generally send messages which are very specific and time bound in order to have immediate consumer attention. For instance Domino's (as shown in figure 1.3) sends sms which is very thematic and relevant

Figure 1.2: SMS Marketing by Domino's
(Source: text2vip.com)

5) CONCLUSION

In present-day business environment it is needless to say that customer holds the key for the triumph of any business, whether small or big. Technology and its innovative usage is therefore much required in each and every business. Since consumers are becoming technologically updated, they expect the same from the business organizations. The soul of modern marketing is consumer centricity; hence each marketing activity should be directed towards satisfaction of consumers using various innovative technologies on one hand and also keeping the privacy of the consumers intact on the other hand. A mismatch will lead to untimely failure. It is not necessary that organizations must venture into every new thing by their own. They can also outsource activities, for instance various organizations had outsourced the digital marketing activities to third parties who are more experienced and resourceful. Whatever is the strategic framework, any organisation adopts, technological advancements and innovative adaptations are always needed as these practices are pervasive in nature.

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A STUDY ON CONSUMER BEHAVIOUR OF THE YOUNG DECISION- MAKERS OF INDIA

Dr. Rajeshwari Malik *

Dr. Parul Deshwal **

ABSTRACT:

All of us are consumers and we consume things of daily use which we consume and buy according to our needs, preferences and buying power. Consumer behaviour can be defined as the decision-making process and physical activity involved in acquiring, evaluating, using and disposing of goods and services. Consumer companies thus realizing that the Indian consumer market is a tough nut to crack but the one they can't do without. **Consumer behavior** *is the study of when, why, how, and where people do or do not buy a product. It blends elements from psychology, sociology, social anthropology and economics. The emerging market is used to evaluate the socio economic scenario of the country in terms of the growth of the market and industrial development. The Indian consumer market has never had it better. Higher disposable incomes, the development of modern urban lifestyles and an increase in consumer awareness have affected buyer behaviour — in cities, towns and even rural areas. On the other hand we said that the main factors behind this booming emerging market are the economic liberalization and the perfect competition market, the high standard of living and per capita income, the development of medical facilities and infrastructure, the increase in foreign investments etc. Due to the favourable emerging market, more and more industries are being set up and the customer base is also increasing. Currently, India is the 4th largest economic system in the world in terms of the purchasing power parity. The recent economic development has also put a positive impact on the various sectors. There are too many question floating in the air, the major ones are what the reasons of changes in Consumer Buying Behaviour are? How the Indian Consumer Market change from pyramid to sparkling diamond? What type of Emerging Market the companies dealing with? This primary data based research paper is an attempt to answer the above major questions and present the linkage between consumer preferences and the impact of change in the buying patterns of the consumers. The starting point of the study is to analyse the changing conditions of the products in Indian Market and this study will also be useful to bridge the gap between theory and practice and will provide valuable insight to the managers involved in Marketing and Selling of products and services in Indian Market.*

KEYWORDS

Indian Consumer Market, Economic Liberalization, Emerging Market.

INTRODUCTION

"The Indian consumer is also maturing fast and is upgrading within product segments at a pace that consumer companies are struggling to keep up with." Who are the new consumers? What are they spending their money on? The discussions around us provide interesting insights into these emerging consumer segments and their buying behaviour. From pester power; kids have changed their role to becoming influencers. In the older age group, they have actually become consultants, whom parents turn to for advice during the decision-making process. And this is not only in product categories like confectionary and toys, but in larger long-term-use categories such as cars, electronics and even consumer durables like refrigerators and air conditioners, which were, traditionally, decisions taken by parents. Today the roles are reversed, with kids pointing out the pros and cons of purchase decisions to their parents. "In fact, in the older age group, kids have actually become consultants, whom parents turn to for advice during the decision-making process," said Rajat Jain. One aspect that has contributed to this change is the fact that kids seem to be growing older younger — a 12-year-old's state of mind today is similar to what a 14-year old's would have been 10 years ago. Due to a higher degree of exposure to the outside world, their awareness levels are rising and as a result, they are clearer about what they want. Another driver is their mastery of technology, which is a primary component of a high proportion of new products in the market. The relative ease with which they are able to grasp technicalities and understand product features and usability (or lack of) has made them experts in the eyes of their parents.

The demand for recognition of the right of young people to be heard, to have their views given serious consideration, and to play an active role in promoting their own best interests is far from universally respected, however. Structural problems such as poverty, discrimination and injustice cannot be dealt with through participation alone. Adults need to learn to work more closely in collaboration with youth to help them articulate their needs and develop strategies to enhance their well-being. Youths influence substantial additional family spending by expressing their preferences for certain products or brands that their parents don't want to purchase. Apart from their spending power, youths are an important market for other reasons. Teens set trends, both for their peers and for younger children who emulate. Youths are the "future": by winning the business of young generation, a company may be able to create a lifelong loyal customer. They are an attractive market for lifestyle and entertainment companies, in particular, due to their heavy usage of entertainment media and awareness about perfect lifestyle. The *1999 Rope Youth Report* confirmed that teens, in contrast to adults, are able to spend much of their money on discretionary purchase like movies CD's and electronic games, apparels, gadgets etc.

Today, some hold the view that predictions for the Indian consumer market are over-optimistic. However, it is said

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that any new trend is always overestimated in the short term but underestimated in the long term. Furthermore, in these changing times, consumer behaviour patterns are likely to see drastic shifts and it will become critical for marketers to be cognisant of developments in the present and of the potential for the future. In consumer marketing, the future will belong to people who can see the storm through, while others drop out because of over-predictions in the short term.

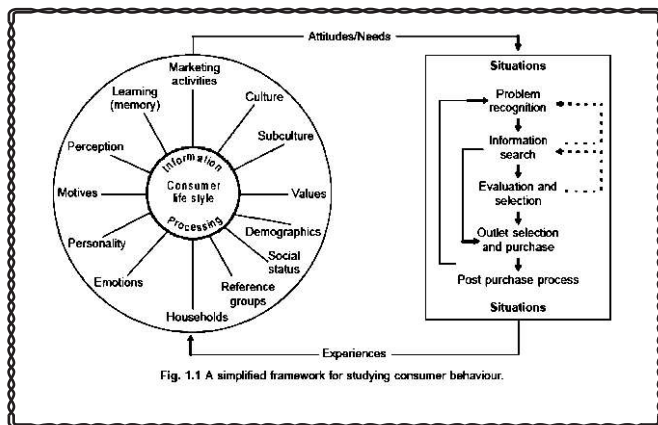Fig. 1.1 A simplified framework for studying consumer behaviour.

Figure 1.1 gives in detail the shaping of consumer behaviour, which leads a consumer to react in certain ways and he makes a decision, keeping the situations in mind. The process of decision-making varies with the value of the product, the involvement of the buyer and the risk that is involved in deciding the product/ service. The figures show the consumer life style in the centre of the circle. The consumer and his life style is influenced by a number of factors shown all around the consumer. These are culture, subculture, values, demographic factors, social status, reference groups, household and also the internal make up of the consumer, which are consumers, emotions, personality motives of buying, perception and learning. Consumer is also influenced by the marketing activities and efforts of the marketer. This model is used in designing of questionnaire and collection of data for consumer decision-making. The analysis of the primary data so collected is presented later in this paper.

Different Segments of Indian Consumers:

❖ **The Socialites:** Socialites belong to the upper class. They prefer to shop in specialty stores, go to clubs on weekends, and spend a good amount on luxury goods. They are always looking for something different. They are the darlings of exclusive establishments. They go for high value, exclusive products. Socialites are also very brand conscious and would go only for the best known in the market.

❖ **The Conservatives:** The Conservatives belong to the middle class. The conservative segment is the reflection of the true Indian culture. They are traditional in their outlook, cautious in their approach towards purchases; spend more time with family than in partying and focus more on savings than spending. Slow in decision making, they seek a lot of information before making any purchase. They look for durability and functionality but at the same time is also image conscious.

❖ **The Working Women:** The Conservatives belong to the middle class. The conservative segment is the reflection of the true Indian culture. They are traditional in their outlook, cautious in their approach towards purchases; spend more time with family than in partying and focus more on savings than spending. Slow in decision making, they seek a lot of information before making any purchase. They look for durability and functionality but at the same time is also image conscious.

❖ **India's Rich:** India's rich can be categorized into five major categories as:- The Rich, The Super Rich, The Ultra Rich and The Obscenely Rich. A variety of people belong to this category. They are just equivalent to the rich in the developed countries. They crave for exclusivity in what they buy. Most premium brands are relevant to them.

Children's Entertainment Media Usage: Children today face an entertainment media environment that has changed significantly over the last three decades, when network television, radio, and the record album were the dominant forces. Since then, new media have emerged to compete for audience share: cable and satellite television; videotapes; cable radio; cassette tapes, CDs, and mini-disk or MP3 players; video games; computers; and the Internet. Children are avid consumers in this rich media environment, spending significant time both old and new media. Data about children's movie watching, game playing, and music listening habits illustrate the ubiquity of these media and their importance in the lives of children. The 1999 kaiser family foundation's *kids & media @ the new millennium survey* found that 97% of homes with children have a VCR, 90% have a CD player, 70% have a video game player, 69% have a computer, and 45% have internet access.

CHANGING TRENDS IN INDIAN CONSUMER BEHAVIOUR:

❖ **Bulk Purchasing:** Urbanisation is taking place in India at a dramatic pace and is influencing the life style and buying behaviour of the consumers. The working urbanites are depending more on fast and ready-to-serve food, they take less pain in traditional method of cooking and cleaning. Bulk purchases from hyper stores seems to be the trend these days with purchasing becoming more of a once-a-week affair, rather than frequent visits to the neighbourhood market/store/vendor. The popular growing shopping trend among urbanities is purchasing from super markets to hyper stores.

❖ **Trendy Lifestyle:** The current urban middle and upper class Indian consumer buying behaviour to a large extent has western influence. There is an increase in positive attitude towards western trends. The Indian consumer has become much more open-minded and experimental in his/her perspective. There is now an exponential growth of western trend reaching the Indian consumer by way of the media and Indians working abroad. Foreign brands have gained wide consumer acceptance in India, they include items such as –Beverages, Packed food and Ready to eat food ,Pre-cooked food and Canned food, Personal care products, Audio/video products ,Garment and apparel, Footwear, Sportswear, Toys and Gift items.

Foreign brands vie increasingly with domestic brands for the growing market in India. Foreign made furniture is well accepted by the Indian consumers. Malaysian, Chinese, Italian furniture are growing in popularity in India. Indian consumers have also developed lifestyles which have emerged from changing attitudes and mind sets; exposure to western influences and a need for self-gratification. Beauty parlours in cities, eateries, designer wear, watches, hi-tech products are a few instances which reflect these changes.

❖ **Buyers Market In The Making:** The sellers' market is slowly moving towards becoming the buyers' market. Since, India's economic liberalization policies were initiated in 1991, many new product offerings have entered the Indian market and product variety has also increased manifold. Import licensing restrictions are being eliminated and tariffs significantly reduced and this has led to large range of consumer goods made available in India. Indian consumers have always preferred foreign goods and with the liberalization, they now have a choice of foreign products vis-à-vis the local products.

BENEFITS OF YOUTH'S PARTICIPATION IN DECISION MAKING:

Youth participation leads to better decisions and outcomes. Many of the profound difficulties faced by young people around the globe—illiteracy, poverty, HIV/AIDS, substance abuse, discrimination and forced engagement in armed conflict— are subjects of widespread concern at the national and international levels. Effective strategies are needed to resolve these concerns. Ideally children can begin to experience participation at a very early age. It can begin within their own families, if they are adequately listened to and their opinions are valued. Through increasingly meaningful and active participation in decision-making children can develop their own identity, a sense of belonging and usefulness. This encourages them to respond to educational opportunities and enter more fully into life at school. A child, whose active engagement with the world has been encouraged from the outset, will be an adolescent with the confidence and capacity to contribute to democratic dialogue and practices at all levels, whether at a local or an international level.

YOUTH PARTICIPATION:

❖ Leads to better decision and better outcomes.

❖ Are integral parts of a democratic society.

❖ Strengthens young people's understanding of human rights and democracy

❖ Promotes social integration and cohesion in society.

❖ Encourage more young people to participate.

Participation promotes the well-being and development of young people. It is by questioning; expressing their views and having their opinions taken seriously that young people develop skills, build competencies, acquire confidence and form aspirations. It is a virtuous circle. The entertainment industry developed the movie and game ratings and music advisory label to inform parents about the product's content. In some but not all instances, these ratings and labels may also be communicated to children through advertising, marketing, and product packaging, raising the question whether this information directly affects children's behavior. A number of academic studies suggest that this rating/labeling information does affect children's behavior, although its precise effects are uncertain. A child might respond to information restricting access to material as if the restricted material were "forbidden fruit," leading the child to resist the restriction and seek out the restricted material. By contrast, children might view restricted material as if it were "tainted fruit," leading them to avoid content with which they might not be comfortable.88 In that case, a rating restriction or advisory would directly dampen a child's interest in the material, apart from the indirect role the information might play in facilitating parents' efforts to reduce the child's exposure to restricted material.

Studies on the impact of rating information on children's attraction to restricted entertainment media products suggest that both of these phenomena may occur, depending on such factors as the age and gender of the child and the format of the rating itself. There are also some studies suggesting the existence of a tainted fruit effect, at least with younger children. For example, in an experiment by Christenson (1992) that tested the effects of the parental advisory label used by the Youth in the study also reported less interest in buying explicit-content labeled albums. Though some studies show little or no effect of rating or labeling information on children, at least for certain rating or advisory formats, the research taken as a whole suggests that entertainment media ratings do have some impact on children's media choices, impact that may depend on factors such as age, gender, the format and type of rating information, and the medium involved. The clear message of this research is that ratings or advisory labels may have not only intended, but also unintended, effects on youth that should be considered in determining how best to communicate this type of information.

DATA ANALYSIS AND FINDINGS:

A small study was conducted to find out the factors affecting consumer behavior in youth. A questionnaire was prepared and after pilot testing it was finally administered for collection of primary data. The sample size chosen was 75 people. But useable data was available only for 56 people. The analysis of the data so collected was done with SPSS 16.00. The results of the study are presented as below.

The above table shows that the youth in the age group of 15- 20 years and 20-25 years are very actively involved in purchase decisions. They are playing a very active role in shaping the current pattern of consumer behaviour. Also, another important trend visible in the table above is the income per month is below Rs.10, 000/- i.e. most of these people are earning something more than their pocket money. This increased money in their wallets can be the reason behind such active involvement.

Table 1: Descriptive Statistics

Items	Categories	Frequency	%	Cumulative %
Gender of Consumers	Male	31	55.4	55.4
	Female	25	44.6	100.0
Age Groups	15-20 Years	16	28.6	28.6
	20-25 Years	13	23.2	51.8
	25-30 Years	12	21.4	73.2
	30-35 Years	8	14.3	87.5
	35 Years and Above	7	12.5	100.0
Income per Month	Below Rs. 10,000/-	26	46.4	46.4
	Rs. 10,000/- ---20,000/-	5	8.9	55.4
	Rs. 20,000/- --- 30,000/-	5	8.9	64.3
	Rs. 30,000/- --- 40,000/-	9	16.1	80.4
	Rs. 40,000/- --- 50,000/-	7	12.5	92.9
	Rs. 50,000/- and Above	4	7.1	100.0

The table 2, below is the representation of coefficients of correlation between various factors. The major factors affecting consumer decision –making are personality i.e self image, status symbol shopping, family and friends and also the rise in purchasing powers. The table shows that the people are now more and more conscious of their image and purchase things not just for need and requirements, but also as part of their distinguished image and personality symbol. Family, relatives and friends are also encouraging this trend. All this is triggered as a result of the rise in purchasing power.

A list of factors effecting consumer decision making was prepared from primary and various secondary sources. Factor analysis was done by principle component analysis method for 10 components namely: Peer Group, Family and Relatives, Personality, Endorsement, Status Symbol, Special Occasions, Shopaholics, Sales and Best Deals, Rise in Purchasing Power, Experimenting with Innovation.

Table 2: Coefficient of Correlation between various factors

	Peer Group	Family and Relatives	Personality	Endorsements	Status Symbol	Special Occasions	Shopaholics	Sales and Best Deals	Rise in Purchasing Power	Experimenting with Innovations
Peer Group	1.000	.221	.359	.115	-.308	-.731	.252	-.486	.207	-.277
Family and Relatives	.221	1.000	.635	-.776	.065	-.212	-.287	.112	.647	-.465
Personality	.359	.635	1.000	-.300	.521	-.770	-.696	-.147	.947	-.304
Endorsements	.115	-.776	-.300	1.000	.223	-.154	.069	-.292	-.227	-.016
Status Symbol	-.308	.065	.521	.223	1.000	-.204	-.930	-.197	.703	-.062
Special Occasions	-.731	-.212	-.770	-.154	-.204	1.000	.268	.257	-.612	.322
Shopaholics	.252	-.287	-.696	.069	-.930	.268	1.000	.227	-.825	-.044
Sales and Best Deals	-.486	.112	-.147	-.292	-.197	.257	.227	1.000	-.176	-.423
Rise in Purchasing Power	.207	.647	.947	-.227	.703	-.612	-.825	-.176	1.000	-.366
Experimenting with Innovations	-.277	-.465	-.304	-.016	-.062	.322	-.044	-.423	-.366	1.000

Table 3: Factor Analysis

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.166	41.658	41.658	4.166	41.658	41.658
2	2.112	21.119	62.777	2.112	21.119	62.777
3	2.043	20.426	83.203	2.043	20.426	83.203
4	1.206	12.060	95.263	1.206	12.060	**95.263**
5	.458	4.585	99.848			
6	.015	.152	100.000			
7	5.31E-016	5.31E-015	100.000			
8	2.71E-016	2.71E-015	100.000			
9	-3.00E-017	-3.00E-016	100.000			
10	-3.74E-016	-3.74E-015	100.000			

Extraction Method: Principal Component Analysis.
a 4 components extracted.

All '56' respondents ranked the above said attributes in the order of preference, which taking purchase decisions. Table 3 and Table 4 interpret the factor loading for all the factors and as is visible from the table 4 lowest variance are for the factors special occasions and sales and deals. However the remaining 8 attributes have a very high factor loading of above 90% (bold values from communalities extraction column of table 3 have been converted as percentage factor variance score). The rotated component matrix has four factors explaining above 95% of the decision making.

As is visible in table 4 the Factor 1 has four significant loadings, factor 2, 3 and 4 have 2 each significant loadings. Factors like family and relatives, personality, status symbol and rise in purchasing power accounts for 42% of variance. When shop-holism is also taken into consideration, 63% of variance is explained. Lowest contributors like special occasions and sales and best deals can further add 20% of variance. Endorsements are also contributing, and together these factors can explain almost 96% of the consumer decision making.

Table 4: Total Variance Explained

	Communalities		Component			
	Initial	Extraction	1	2	3	4
Peer Group	1.000	.994	.314	.374	-.861	-.122
Family and Relatives	1.000	.941	**.653**	**.608**	.299	-.235
Personality	1.000	.957	**.973**	.078	-.038	-.059
Endorsements	1.000	.988	-.229	-.596	-.545	**.533**
Status Symbol	1.000	.981	**.637**	-.671	.279	.217
Special Occasions	1.000	**.877**	-.694	-.095	**.605**	-.142
Shopaholics	1.000	.998	-.767	**.537**	-.344	.051
Sales and Best Deals	1.000	**.885**	-.205	.460	**.585**	**.537**
Rise in Purchasing Power	1.000	.996	**.992**	-.058	.096	.021
Experimenting with Innovations	1.000	.910	-.375	-.528	.029	-.700

Extraction Method: Principal Component Analysis.
a 4 components extracted.

The findings of the study show that the first extraction factor gives personality rise in purchasing power, family and relative and status symbol which accounts for 41.66% of the variance. The overall variance of more than 95% can be explained through the four extraction factors. Hence, we can conclude that the youth today are more actively involved in consumer decision making and guiding the family and relatives.

CONCLUSION:

A decade ago, India didn't have a single mall. There has been a transformation in society, fed, in part, by the explosion of new jobs for young people, primary in the software world and as operators in "call centres" Interestingly, the young person's influence in family purchase in family purchases is high. Anything to do with technology- He is God. The decision of which brand of mobile phone, flat screen. TV or two wheeler to buy can be selected by the resident youth in the family. While companies across all goods and services categories fall over themselves towards the young spender, application avenues of disposable incomes are quadrupling by leaps, all leading to the next big jump in consumerism. The study shows that youth are ruling the consumer behaviour for majority of the products in today's India.

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Healthcare through Retail Medical Clinics: A Critical Analysis

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ABSTRACT

The most true and sensible quote 'Health is Wealth' is deliberated whenever there is a point of discussion on healthcare. Healthcare is primary concern for every human being and also for the stakeholders of health care industry. Healthcare services now days are gauged with Quality, Cost and Delivery parameters for evaluation. This paper aims at providing the analytical view on the healthcare services provided through Retail Medical Clinics in Delhi. The landscape of retail medical clinics and their contribution for affordable and accessible healthcare to the people across the social and economic class has been critically analyzed in the paper. This paper highlights the innovative way of providing healthcare with strategies adopted by the pharmacies, retail clinic owners for a profitable business. It has been expected that this new sector of retail medical clinics will emerge as a leading healthcare provider, while growing its scope of services with respect to location and better health plans for the customers. The issue of healthcare services such as inaccessible primary health care services, unnecessary healthcare expenditure borne by the customer and emergency requirement of healthcare fulfillment are addressed in the paper and how the Retail Medical Clinics will be beneficial is deliberated in the paper. The growth and evolution of retail medical clinics highlight opportunities with innovative ways other than the traditional way of delivery of health care services through doctors at hospitals and with an improved value proposition for the Indian health care system.

KEYWORDS *Retail, Medical, Clinics, Healthcare, Innovation*

INTRODUCTION

Healthcare and the Medical Services are two terms comes to our mind when we talk about the Health of the human being. A lot of research and developments are in progress and also showing fruitful result for providing the healthcare and medical services to the needy and otherwise who can afford for a better healthcare and medical facilities. A common phenomena which prevails in our society is the *Desi Nushka* which generally adopted when any small health and medical related problem occurs to any person in general per se. The near and dear one of the individual immediately gives advice to the patient that what he should do at that time of suffering. The preliminary hit and trial method is first applied to get some relief from the disease or health complication. However, sometimes the treatment is fruitful and sometimes the case becomes complicated and finally the person faces the music of the ill treatment. We cannot say it is ignorance but we can term it as a callousness and casual attitude of the individual. Self medication is more dangerous and we must not go for self medication, whatever the case may be, whatever little the disease or suffering may be. There is a need for consultation to doctor(s)/Physician etc. But some of the issues are to be put forth here are; the mindset of the individual towards the medical treatment, the availability of medical facility at that point of time; the affordability of the individual and the awareness level of the individual. The healthcare facilities in India are not adequate and all the time the facility is not readily available also at affordable price. The hospitals are the prime stakeholders in the society for providing the healthcare. The government is also trying its level best to provide a better healthcare to the citizens of our country. There are categories of hospitals as Super specialty, Specialty, General, Private and Primary Health Centers and lastly the paramedic centers run by the paramedical staffs. According to the recent report in The Times of India 56% people of India purchase drugs without prescription of doctor. Over the Counter (OTC) drugs are available plenty and people are used to it also to purchase due to convenience we can say. But here we can go one step further by analyzing the mode of operation of the Pharmaceutical Stores. How much drugs they sell without the prescription of authorized medical practitioner is the big question. How they cheat the customer with spurious drugs and charge higher amount for the drugs. The business is of very high volume be it urban, semi-urban or rural. The violation of norms are there and sometimes they are being caught by the government authorities and also the government tries to be vigilant towards the unauthorized selling of medicines and selling of un prescribed drugs. Here we will discuss about the term RETAIL MEDICAL CLINICS, Retail medical clinics are the small clinics which act as facilitator to the customer with doctors, labs and medicine stores but not in the format of Regular Hospital/ Clinics of Doctors. Some of the literatures in the regard of Retail Medical Clinics are reviewed for better understanding of the concept.

LITERATURE REVIEW

Disruptive innovation, a term of art coined by Clayton M Christensen, a renowned Harvard University Professor describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors (Claytonchristensen.com). The Retail Medical Clinics are the disruptor for the regular and traditional doctors' office or hospitals and they are the disruptee. The walk-in clinics are now days can commonly visible in every corner of the market, residential societies and facilitating the customer for convenient, affordable healthcare. (Simona,2011). According to Craig Bowron a renowned Physician in U.S.A. "Screening for disease -- finding it early, before obvious symptoms develop -- works best when there is a treatment available that can capitalize on early detection." The availability of affordable healthcare in India is very alarming. According to ICC-PwC (Indian Chamber of Commerce-Pricewaterhouse Cooper) report in 2012 "India is at the crossroads of an exciting and challenging period in its history. Making healthcare affordable and

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accessible for all its citizens is one of the key focus areas of the country today. The challenge is immense, as nearly 73% of the country's population lives in rural areas and 26.1% is below poverty level (Census of India 2011). While on one hand, India lacks strong healthcare infrastructure, on the other hand, the country has several inherent weaknesses in its healthcare system. Though the overall level of funding allocated for healthcare nationally is comparatively high (4.1% of GDP), the government's funding is low (<1% of GDP) compared to other emerging nations". (WHO Health Statistics 2012). The ICC-PwC report , 2012 also highlighted that "The health care delivery segment is dominated by the private sector in India, with 70% of the total delivery market in India catered to by the private sector. However most of the organized private infrastructure is confined to the state capitals or Tier I cities. Very few have made inroads in Tier II and Tier III cities. This presents the country with both a challenge and opportunity to not only increase the penetration of quality health services but also be the growth driver in these regions. The central government has given priority to healthcare and is making significant investments to improve the infrastructure and delivery mechanism jointly with the state governments (who will act as the primary implementer) through National Rural Health Mission (NRHM). Before NRHM, the healthcare system in India was marked with significant disparities between urban and rural areas as well as between different states."

DELIBERATION ON THE ISSUE & PROBLEM STATEMENT

Ideas are not set in stone. When exposed to thoughtful people, they morph and adapt into their most potent form (TED Weekends). The greatest challenge in front of the government is to provide healthcare to all at affordable price or free to poor and destitute. However, the government is also trying its level best to provide it. So many new concepts and ideas are deliberated every time to find out an amicable solution for provision of good healthcare to the citizen of India. According to 2009 KPMG report on Global Infrastructure: Trend Monitor the Indian healthcare industry was estimated to double in value by 2012 and more than quadruple by 2017. The main factors propelling this growth are rising income levels, changing demographics and illness profiles, which shift from chronic to lifestyle diseases. This is likely to result in considerable infrastructure challenges and opportunities. Indian healthcare delivery model (including the use of Public Private Partnership (PPP) has to date only had success in the provision of more health-care services in relatively small segments.

"The need for accessible, affordable, quality healthcare in India has never been greater, which gives way to a novel concept of 'retail clinics' for the Indian healthcare market. Also known as walk-in clinics or Convenient Care Clinics (CCC), this is an established and popular concept in the US over 1,000 CCCs are located throughout the US. They serve the routine illness or casual health problems. The concept of retail clinics is similar to any retail outlet. Primarily located in high footfall areas like shopping malls, high streets, office complex etc, they make healthcare as convenient as buying groceries". (Simona, 2011)

The challenge remains to develop scalable and sustainable healthcare delivery models to deal with India's diversity and changing socio-economic population profiles. **The major innovation in Indian healthcare delivery models needs to be focused on developing and delivering affordable basic healthcare services. Retail Medical Clinics may be a ray of hope for providing the convenient solution.**

OBJECTIVES OF THE STUDY

After deliberating the healthcare problems, the main objective of the study is to know about the affordable healthcare services available, to know about how the retail medical clinics are helpful for easy, convenient and amicable solution to the customer who are in need of basic healthcare and finally to suggest suitable business model for developing the Retail Medical Clinics keeping in mind the business and social environment.

RESEARCH METHODOLOGY

A descriptive research was used to gain an insight into the Retail Medical Clinics by using 10 variables and measurement scale designed by the researcher. Primary data were collected for the research. A total of 250 questionnaires were distributed and 200 were returned. All the 200 data were included for analysis. So, each demographic variable had a varied response rate (See Table-1). An undisguised structured questionnaire was used for the research. The sample size used was 200 respondents from Delhi & NCR (particularly South and West Delhi) visiting Retail Medical Clinics. The Statistical tool used was through the SPSS.15.0 software for analysis.

The respondents were selected on the basis of convenience sampling. The questionnaire is personally administered to the valued customers in English and also explained them in Hindi and English as required basis for better understanding. Since the variables identified might not be exhaustive, other variables can be explored in subsequent studies.

Six demographic variables were investigated as covariates in this research. These variables were as follows: **age, gender, marital status, educational qualification, occupation, monthly income**.

Table-1: Demographic factors of the respondents

Variable		FREQUENCY	PERCENTAGE
Gender			
	Male	150	75
	Female	50	25
Age			
	18-25	30	15
	26-35	62	31
	36-50	70	35
	50-75	38	19
Education Qualification			
	Upto Matric	30	15
	Higher Education	35	18
	Under Graduate	50	25
	Post Graduate	60	30
	Others	25	12
Marital Status			
	Married	120	60
	Unmarried	80	40

Variable		FREQUENCY	PERCENTAGE
Occupation			
	Government	50	25
	Private	65	32.5
	Self Employed	40	20
	Student	22	11
	House Wife	18	9
	Retired	5	2.5
Monthly Income			
	Less than 10000	12	6
	10000-25000	140	70
	25001-40000	34	17
	More than 40001	14	7

Analysis of demographic variables as follows: There were 50 females and 150 males, ranging in age from 18 to 75; 108 subjects (54%) were aged between 36-45. 80 subjects were single and 120 were married. As to educational background, there were 60 subjects who had post graduate. 65 subjects were private employment followed by 50 in government employment and 40 were self-employed. In relation to income, 152 subjects had a monthly salary of less than 25,000 Indian Rupees, and 34 subjects had a monthly income between Rs.25001-40000. All the respondents are the visitors to Retail Medical Clinics.

The analysis of current Retail Medical Clinics business in the context of 10 variables

The purpose of this research was to investigate prevailing Retail Medical Clinics business in the Healthcare industry, in relation to the variables taken for the study shown in **Table-2** which reports the extent of scores in relation to each variable for all the subjects who answered the questions.

The Variables Used in the Study:

1) Evaluation of the Retail Medical Clinics in terms of convenience.

2) Diagnosis and Treatment

3) Services provided by the Doctors, Pharmacists, Nursing staff.

4) Education & Counseling

5) Preventive care including screening, vaccination and physical examination.

6) Minimum facilities like X-Rays, Ultra sound and sample collection Lab.

7) Affordable price for service.

8) Availability of Medicine counters.

9) Minimum waiting period for the patients.

10) Linkage with Hospitals for referral.

ANALYSIS

Table-2: Variables analyzed for study with Mean and Standard Deviation

Variable No.	Variable	Mean	SD
V1	Evaluation of the Retail Medical Clinics in terms of convenience	1.504	0.942
V2	Diagnosis and Treatment	1.350	0.56
V3	Services provided by the Doctors, Pharmacists, Nursing staff	1.45	0.546
V4	Education & Counseling.	1.47	0.576
V5	Preventive care including screening, vaccination and physical examination.	1.419	0.645
V6	Minimum facilities like X-Rays, Ultra sound and sample collection Lab.	1.324	0.541
V7	Affordable price for service.	1.368	0.820
V8	Availability of Medicine counters.	1.345	0.765
V9	Minimum waiting period for the patients.	1.568	0.679
V10	Linkage with Hospitals for referral.	1.678	1.568

Factor analysis has been carried out for reducing the variables into groups, and identifying the emerging factors combining group of variables. In the rotated component matrix, there are six factors emerged (Table-3).

Table-3:

Variable No.	Description	Factor 1	Factor 2	Factor 3	Factor 4
V1	Evaluation of the Retail Medical Clinics in terms of convenience	0.675			
V9	Minimum waiting period for the patients	0.664			
V3	Services provided by the Doctors, Pharmacists, Nursing staff		0.747		
V2	Diagnosis and Treatment		0.643		
V4	Education & Counseling		0.638		
V5	Preventive care including screening, vaccination and physical examination.		0.591		
V6	Minimum facilities like X-Rays, Ultra sound and sample collection Lab			0.627	
V8	Availability of Medicine counters			0.606	
V7	Affordable price for service				0.828
V10	Linkage with Hospitals for referral				0.801

The output of factor analysis is given for further analysis of the problem.

The first step in interpretation of the output is to look at the factor extracted their Eigen values. We can see from this table that **four factors extracted together out of 10 original variables**. This is a pretty good bargain, because we are able to economize on the number of variables. (From 10 we have reduced to 4 underlying factors)

Now the next task is to interpret what these 4 factors represent. This we can accomplish by looking at Table-3.

1. In Table-3, the rotated factor matrix, we notice that **Two** variables such as variable number 1(Evaluation of the Retail Medical Clinics in terms of convenience) with factor loading 0.675, variable number 9(Minimum waiting period for the patients) with factor loading 0.664. Through this interpretation we can say that, all these variables are grouped and the **Factor-1** emerged can be named as **Convenient and Soothing Care**.

2. Factor -2 emerged out of the rotated factor matrix, we notice that Four variables such as variable number 3 (Services provided by the Doctors, Pharmacists, Nursing staff) with factor loading 0.747 variable number 2 (Diagnosis and Treatment) with factor loading 0.643, variable number 4 (Education & Counseling) with factor loading 0.638, variable number 5 (Preventive care including screening, vaccination and physical examination) with factor loading 0.591. Trough this interpretation we can say that, all these variables are grouped and the **Factor-2** emerged can be named as **Minimum Required Service Provision.**

3. Factor -3 emerged out of the rotated factor matrix, we notice that Two variables such as variable number 6 (Minimum facilities like X-Rays, Ultra sound and sample collection Lab) with factor loading 0.627, variable number 8(Availability of Medicine counters) with factor loading 0.606, Trough this interpretation we can say that, all these variables are grouped and the **Factor-3** emerged can be named as **Infrastructural Facility**.

4. Factor -4 emerged out of the rotated factor matrix, we notice that Two variables such as variable number 7 (Affordable price for service) with factor loading 0.828, variable number 10 (Linkage with Hospitals for referral.) with factor loading 0.801. Trough this interpretation we can say that, all these variables are grouped and the **Factor-4** emerged can be named as **Cost and Benefit**

FINDINGS & SUMMING UP THE STUDY

The factors emerged and named as follows:

Factor 1 : **Convenient and Soothing Care**.

Factor 2 : **Minimum Required Service Provision**.

Factor 3 : **Infrastructural Facility**.

Factor 4 : **Cost and Benefit**

The Retail Medical Clinics are providing Convenient and soothing care to the patients with fulfilling the minimum required service for the patients with availability of Physician and specialists at a designated and fixed time.

Minimal infrastructural facility like ultrasound facility, X-Ray facility, Sample collection for laboratory tests and medicine counters are facilitating the medical service to the patients. The patients are getting an affordable healthcare at a minimum cost also.

The research has tried to highlight the Scope of Healthcare Services through Retail Medical Clinics and some of the major scopes are providing quick treatment at affordable prices, apart from these, clinics are open for long hours and need no prior appointment. The clinics are normally staffed with registered practitioners and different specialists (some are visiting medical practitioners) , who can provide different healthcare services, ranging from evaluation of patient, treatment, diagnosis, education and counseling.

SUGGESTION AND RECOMMENDATIONS

Presently, it is a known fact that our healthcare system which is challenged to provide access to basic healthcare services when people need it the most. There is a need of some alternative innovative model of healthcare system and we hope through the successful replication of the concept of Retail Medical Clinics in India, the necessity can be fulfilled to some extent. The gap therein creates an opportunity for existing players in the healthcare to use their resources and leverage the scale of operations to expand their presence. Traditional Hospitals or Multi-Specialty Clinics can bring up Retail Medical Clinics in high footfall areas. Besides general ailments, these clinics will provide preventive healthcare solutions. So, if a problem is encountered to be severe, a patient can be referred to a hospital. Similarly, for post-treatment follow-ups, a patient need not visit the hospital again and can get the check-up done from the clinic in the vicinity.

SUGGESTIVE BUSINESS MODEL

The suggestive Business Model is a combination of Healthcare and Retailing. The model is primarily focused on setting up small clinics after fulfilling the legal formalities with provision of minimal medical services by associating with some specialists with fixed time of consulting hour at the clinic. A medicine store will help the patients for getting the prescribed medicine then and there and also they can verify with the practitioner available. Ultrasound, X-Ray and Sample collection facilities for testing in the Labs can also be facilitated in the Retail Medical Clinics. The Retail Medical Clinics can be set up at high foot-fall areas like market areas of residential colonies with minimum space in the market complexes. It is an opportunity for the Big Medical hospitals can set up small Retail Medical Clinics and subject to fulfilling the Legal requirement.

CHALLENGES

It is obvious that where there opportunities available there are some challenges also. As the most of the health care clinic market is unorganized and highly segmented, many private facilities may have been remaining unlicensed or are rarely inspected. "At present there is no system of registration of private clinics by health authorities in India. The Clinical Establishments (Registration and Regulation) Bill, 2007 is still pending in the parliament. Only the operation of private clinics is being governed by the Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations 2002. Registration with health authorities is not mandatory for private clinics but the clinic

will be subject to inspections in case of any complaints. If and whenever the Clinical Establishments (Registration and Regulation) Bill, 2007 is passed by the parliament and implemented by the states, registration of all clinics (Private/Public) of all systems of medicine will become mandatory" (Joshi, 2012) .The private medical market is unregulated with a little concern for effectiveness, quality, costs and consumer safety, creating a need for quality and uniform health services to align with the rising demand of healthcare. Primary care in the Indian context is yet to be institutionalized. It is driven by individual physicians with their own set-up and a loyal client base. In India, for most of the time customers generally visit a pharmacy shop and procure over-the-counter medication. The willingness to pay in many cases may not justify the set-up and operational costs associated with such a Retail Medical Clinics.

LIMITATIONS AND SCOPE FOR FURTHER STUDY

As there is a paucity of time the research has been carried out with a sample of 200 respondents only and confined to the small population size limited to West and South Delhi area. Further study can be carried out by analyzing the marketing potential and also the quality of service provided by the Retail Medical Clinics. How these Retail Medical Clinics service can be broadened and will reach to the maximum number of needy people, amicable solutions in this regard can be explored in future study. The Opportunity of Franchising the Retail Medical Clinics Model with full Legal Requirement compliance can be further explored by the different big stakeholders be it Private, Government or Public Private Partnership organizations for providing a extensive health care to the people of India.

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THE ETHICS OF RECRUITMENT AND SELECTION PRACTICES

* Ms. Shalini Sahni

ABSTRACT

Recruitment and **selection** is a backbone of human resource management (HRM) practices and its incorporation to business is vital to organizational success. When people sense the difficulty in cracking the interview it is related to unfairness and unethical hiring during the selection process. This paper examines the difference between ethics, Morals and values which people boast about while making important business decisions like hiring. A decision of recruitment that is becoming the burden is exercising unethical hiring practices. Most unethical hiring practices occur when a company decides to hire an employee based on his or her race, color, religion, appearance sex or national origin. This paper examines the patterns which people adapt for hiring to face the challenge and beat the competition in the industry. A secondary research has been conducted with an objective to analyze why people engage in discriminatory acts while hiring. It has been found that employees sometimes feel pressure to sacrifice ethics in today's competitive market place due to increased expectations and cutbacks. Understanding the major causes of unethical practices in the workplace will help us become sensitive to signals of escalating pressure to compromise our values. These values change occasionally and are not lived by, for which the excuse is always financial but that is not the cause of adapting unethical behavior.

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INTRODUCTION

Recruitment and selection practices are the backbone of any industry and hiring is critical not only for sustained competitive advantage but also for basic organizational survival (Taylor and Collins, 2000). Barber (1998) discussed that the recruitment and selection function is associated to the organizations strategic human resource planning. Boudreau and Rynes ,(1985) studied it was not so easy for the organizations to attract potential employees as the organizational success depends on the successive selection.

Recruitment of a right candidate increases the organizational performance as it is the employee who performs, yields results and makes the organization successful. But, what if these recruitment and selection practices are unjust and unfair with an intention of making short term benefits not only for organization but for internal as well as external customers also. A good match requires a strong decision making power and a decision that can burden their goal is exercising unethical hiring practices. Decision makers are surrounded by different ethics, morals and value which helps them in judging right or wrong practices. Ethics is the study of morality and Morals are the standards used to judge right and wrong, Values is the degree of conviction about the way to conduct a life and decides how one acts in a situation .Value influence every facet of human behavior (Rokeach,1973) – attitudes, decisions, moral judgments, evaluations, and social action. Studies in the past suggest the importance of personal values to ethical practices and work behaviour (Akaah and Lund,1994; Posner and Schmidt,1993)

This paper proposes a conceptual framework which links the various psychological factors and behaviors that are adapted while making recruitment and selection decisions for the organization. A secondary qualitative study has been conducted where the cases have been referred to confirm the theories given by the researchers in the past.

Decision makers feel that they are empowered to make any type of decisions and usually overlook the rules and policies of hiring. When people sense the difficulty in cracking the interview it is related to unfairness and unethical hiring during the selection process. It has been seen that unethical behavior arises due to the difference seen in personal and organizational values and the extent of mismatch between them which influences unethical practices and different kind of work behavior at work place

Common forms of Unethical Hiring

The disparity between the policy and practice seen during recruitment and selection patterns gives rise to different behavior patterns of unethical hiring. This behavior may be planned or unplanned but extend its roots through social networking, thereby exercising different morals, ethic and values. For illustrative purposes different kinds of unethical practices have been discussed below with real cases falling in each category so as to embed some arguments in a real world context.

1. **Lateral Hiring-/ Employee poaching**. Loosing employees to competitors is very common but now poaching by vendor and distributors has become rampant in last two years. Over the past few years with India's economy liberalization and the changes in employment trends, employee poaching has intensified and has become a common feature. As such there is no law that prevents poaching but an agreement between the competitors can prevent this to a certain extent. Few cases of employment poaching have been studied to find out the gaps

a) Pepsi Foods Ltd and Others versus Bharat Coca-Cola Holdings Pvt Ltd & Others [1999 (50) DRJ 656]

Pepsi in 1998 filed a 33 page law suit accusing coca cola of illegal and unethical hiring practices in India after coca cola hired several of its marketing and strategic employees and asked the court for a a permanent injunction barring Coca Cola from hiring Pepsi employees or "hindering" Pepsi's business through "illegal" actions.

The cola wars in India have been aggressive, featuring extensive and expensive promotions and luminary sponsors. There was a specific agreement restricting

employees from joining competitors within one year of leaving Pepsi.

b) Wipro Limited versus Beckman Coulter International SA [1996 OMP   463/ 2005]

The respondent and the petitioner were prohibited from alluring each other employees in terms of distribution agreement. In this case restriction has been casted upon the contracting parties and not the employee.

From such cases it has been evident that court has been pro employee therefore employers themselves have to find out the solution for employee poaching.

2. Revoking offer of employment- There is a problem with the early bird offers as there has been many cases which usually is faced by fresher's both at the graduation and post graduation level. A recent case of April 2012 has been discussed below to understand the gaps and the problems caused by early appointments.

This information has been retrieved from the web page http://indiankanoon.org posted on 30th July,1999 and has been authored by D. Bhandari. It was accessed on 3rd December,2012.

The article employment poaching- The war for talent has been written by Nikita Ved, (January ,2008) and has been retrieved   from http://www.asialaw.com on 3rd December,2012

a) LG Electronics revokes job offers , compensates the jobless - Management graduates across B –school in Mumbai, Pune, Bangalore got an annual package of Rs 6 lacs for sales and channel management profile in September 2011 from LG Electronics India Limited (LGEIL). But these offer letters were revoked during the second week of April 2012 and South Korean chaebol sent individual letters to these graduates. Though these management graduates were compensated with a cheque worth Rs 70,000 but would this compensation be sufficient. Had this decision be informed earlier these students would have been allowed to sit for other interviews.

3. Employment discrimination - Title VII of the Civil Rights Act of 1964, as amended, protects applicants and employees from discrimination in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment, on the basis of race, color, religion, sex (including pregnancy), or national origin. There are several moves currently a foot to create new legislation on disability and sexual harassment as well as an equal opportunity commission.

a)   Gender discrimination case against Wal-Mart- The Company found itself facing one of the biggest law suits ever in the history of the U.S Wal-Mart was charged with discrimination against its female employees in terms of compensation, job assignments, and promotions in violation of the title VII of the civil rights act 1964. The plaintiffs alleged that the Wal-Mart mistreated women in various ways and in 2001 a former employee filed a case against company accusing them off sex discrimination in promotions, hiring, training and pay. Many more joined Betty Dukes and the case took the shape of mass action by 1.5 million women. Wal-Mart allowed both disparate treatment as well as impact on its employees.

b) In Hoffman v. South African Airways14 - In this case an applicant who applied for the position was denied employment based on the grounds that he was HIV positive which accounts for to unfair discrimination and was contrary to the right to equality provided for under the provision of the South African constitution which specifically prohibits discrimination on the basis of sexual preference. The court ordered the employer to hire the applicant.

This news has been taken from the webpage http://www.pagalguy.com/news (15may,2012) authored by Jayashri Maji and was accessed on 3rd December,2012.

This case has been taken from the web page http://www.huffingtonpost.com ,authored by Alice Hines,posted on 6th June 2012 and was updated on 6th July 2012.It was accessed on 3rd December,2012.

An overview on this case has been taken from the weblink http://www.frontlinedefenders.organd was accessed on 3rd December,2012.

CONCEPTUAL FRAMEWORK FOR RECRUITMENT AND SELECTION PATTERNS

Many cases have been referred for this study and it has been found that ethics and the values are the standards used to judge right or wrong. These values change occasionally and are not lived by. For which the excuse is always financial but that is not the cause of adapting unethical or ethical behavior while exercising recruitment and selection decision. Employees sometimes feel pressure to sacrifice ethics in today's competitive market place due to increased expectations and cutbacks. Discrimination during hiring is unethical on utilitarian grounds, which perhaps increases the social benefits for e.g. the person with the best qualification gets the job but with discrimination this doesn't happen. Employment on discrimination is unethical but Indian law does not make it illegal.

A conceptual framework has been developed keeping in mind the cause and effect relationship between the variables where individual goals are taken as an independent variable , behavior is taken as an intervening variable and hiring patterns are the dependent variables. Dependent variable can be either individual goals or organizational goals but for my study only individual goals have been considered. Behaviour is taken an intervening variable as it helps in the decision making process of recruitment and leads to a selection of a candidate which is a dependent variable. Behavior has got different dimensions as per the past studies which depends on the employee well being and organizational climate . Selection of a candidate could be due to ethical or unethical hiring pattern adapted by an employee. Recruitment and selection practices are often seen in this way, with apparently unethical discriminatory practices presented by managers as economically rational(Ram & Holliday,1993 . Ethics and morality must not only be interpreted situationally (Feldman,1996) , in which the right to select new employees is claimed and the wider responsibilities of such selection denied.

ORGANIZATIONAL CLIMATE

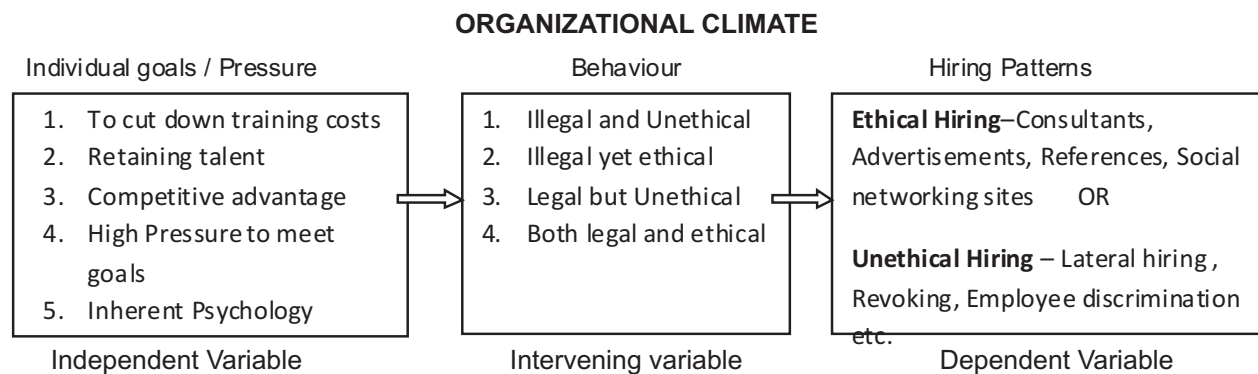| Individual goals / Pressure	Behaviour	Hiring Patterns
1. To cut down training costs 2. Retaining talent 3. Competitive advantage 4. High Pressure to meet goals 5. Inherent Psychology	1. Illegal and Unethical 2. Illegal yet ethical 3. Legal but Unethical 4. Both legal and ethical	**Ethical Hiring**–Consultants, Advertisements, References, Social networking sites OR **Unethical Hiring** – Lateral hiring , Revoking, Employee discrimination etc.
Independent Variable	Intervening variable	Dependent Variable

Figure 1. Impact of Behaviour on Hiring Patterns

Understanding the major causes of unethical practices in the workplace will help us become sensitive to signals of escalating pressure to compromise our values. Unethical behaviors arises due to number of causes like Excessive emphasis on profits, Personal advancement, Uncertainty about whether an action is wrong, Unwillingness to take a stand for what is right. Leaders should review the reasons for bad hiring and hone their capacities to assess "right fit".

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Electronic Fund Transfer: A Mechanism To Money Laundering Crime

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ABSTRACT

Many new developments in the field of information technology have affected modern society in numerous ways, including advancement in communication, education, commerce, and so on. These modern up gradations have brought incredible benefits to the society at large but they have also provided numerous opportunities for various forms of crime, thus making crime a highly profitable avenue. Among the many types of criminal activities, modern technology has allowed money laundering to become an online crime. Money laundering is the process where cash raised from criminal activities is made to look legitimate for re-integration into the financial system. It also refers to the process of concealing the source of money obtained by illicit means. This new type of crime has raised some legal questions about the capability of national and international regulations in relation to current and upcoming issues. These include finding electronic funds transfer records and determining money laundering activity that includes electronic funds transfer.

***Electronic funds transfer (EFT)** is the electronic exchange, transfer of money from one account to another, either within a single financial institution or across multiple institutions, through computer-based systems. Electronic money provides an easy method of transferring value without revealing identity. The increase in the amount of crime indicates the following series of techniques and mechanisms that had been detected in relation to money laundering activity. This research will examine current issues under the light of various regulations, and will put forward some proposals to close the legal vacuum.*

Keywords: Electronic Fund Transfer, Money Laundering, Technology and Crime Interaction, Developing Economy

INTRODUCTION

Advances in technology are one of the main reasons that globalisation has escalated in the past decade. In information and communication technology, innovations have become smaller in size, more efficient and often more affordable.

Today a country's economy largely depends upon the advancement of technology. It made the job a lot easier, but it came with its own challenge. Which concerns the international financial community the most is the bad guys are also using the technology to give their 'proceeds of crimes' a legal look. In short the money made by various criminal activities in various parts of the world is injected into a nation's economy to camouflage it or give it a lawful appearance. This system is known as Money Laundering and this problem is growing to a serious proportion over time. IMF estimated that the aggregate size of laundered money worldwide is 2% to 5% of global GDP in 1998.

Because of the worldwide growing concerns over money laundering, G-7 summit established Financial Action Task Force (FATF) in Paris in1989. Its purpose was to generate an international response to this increasing problem. Since then this organization has been playing a vital role in tackling money laundering. It works closely with other international bodies that develops and regulates Anti-Money Laundering (AML) policies worldwide. FATF members have 29 countries and jurisdiction includes major financial centres in Asia, North and South America, Europe- as well as the European Commission and The Gulf Co-Operation Council.

A channel or medium is required to carry out money laundering activity. The preferred medium that a Money launderer chooses is the financial institution that is efficient and costs less while carrying out the transactions (Masciandaro, 1999).Such activities ruin the integrity of those financial institutions and affects their soundness or stability. As a result of their weak integrity, they loses the investors confidence and eventually direct foreign investments are reduced. This process in turn disturbs the long-term economic growth of the country. Barret (1997), Quirk (1997), Paradise (1998) and Masciandaro and Portolano (2003) argued in their studies that the economic and financial systems of a country are threatened by money laundering.

MONEY LAUNDERING- A BRIEF HISOTRY

The term "money laundering" is said to originate from Mafia ownership of Laundromats in the United States. Gangsters there were earning huge sums in cash from extortion, prostitution, gambling and bootleg liquor. They needed to show a legitimate source for these monies.

One of the ways in which they were able to do this was by purchasing outwardly legitimate businesses and to mix their illicit earnings with the legitimate earnings they received from these businesses. Laundromats were chosen by these gangsters because they were cash businesses and this was an undoubted advantage to people like Al Capone who purchased them.

Al Capone, however, was prosecuted and convicted in October, 1931 for tax evasion. It was this that he was sent to prison for rather than the predicate crimes which generated his illicit income and according to **Robinson** this tale that the term originated from this time is a myth. He states that:

"Money laundering is called what it is because that perfectly describes what takes place - illegal, or dirty, money is put through a cycle of transactions, or washed, so that it comes out the other end as legal, or clean, money. In other words, the source of illegally obtained funds is obscured through a succession of transfers and deals in order that those same funds can eventually be made to appear as legitimate income".

It would seem, however, that the conviction of Al Capone for tax evasion may have been the trigger for getting the money laundering business off the ground.

Meyer Lansky (affectionately called 'the Mob's Accountant') was particularly affected by the conviction of Capone for something as obvious as tax evasion. Determined that the same fate would not befall him he set about searching for ways to hide money. Before the year was out he had discovered the benefits of numbered Swiss Bank Accounts. This is where money laundering would seem to have started and according to **Lacey** Lansky was one of the most influential money launderers ever. The use of the Swiss facilities gave Lansky the means to incorporate one of the first real laundering techniques, the use of the 'loan-back' concept, which meant that hitherto illegal money could now be disguised by 'loans' provided by compliant foreign banks, which could be declared to the 'revenue' if necessary, and a tax-deduction obtained into the bargain.

Since then, the term has been widely accepted and is in popular usage throughout the world.

ROLE OF ELECTRONIC FUND TRANSFER IN MONEY LAUNDERING CRIME

Money laundering involves the transfer money obtained from criminal activity into legitimate channels to disguise its illegal origins. According to the federal law, money laundering occurs when someone attempts to conceal or disguise the nature, the location, the source, the ownership, or the control of the proceeds of unlawful activity.

The type of criminal activity does not matter when bringing a charge of money laundering, but the most common sources of illegal money is from illegal drug sales, fraud, corruption and tax evasion. The crime of money laundering usually consists of three steps: placement, layering and integration. The cash obtained illegally is placed into the financial system, a financial transaction takes place to disguise the source of the funds and then the money can be used as legal funds.

Placement- A large volume of cash which was obtained through illegal means is placed in to the financial system, can be used to buy high-price item or may be smuggled out of the country. The point here is to transform the cash into some other kind of asset to avoid detection.

Layering- this stage takes place to hide the true origin of the unlawful money. Here in layering stage a complex set of transaction takes place to obscure the trail of that cold

hard cash and its real ownership. At this point the advancement of technology helps them. One the methods are electronic fund transfer r (EFTs). Others include conversion of monetary instrument, investments in legitimate businesses, purchasing real estates. In most of the EFTs are used frequently. Because of the busy lifestyles and easy access, a lot of EFTs are processed everyday. Among all those when a Phoney EFT takes place between an offshore account and a shell company, It is pretty hard to spot a criminal transaction at first look.

Integration- The final step of the process where the illicit money comes back clean to its owner and then integrated to the economy as investment into a legal business. Once integrated, it hides the identity or origin even further. This figure below gives an overview of the whole process.

Money laundering can range from simple to complex strategies - from breaking up large amounts of cash into
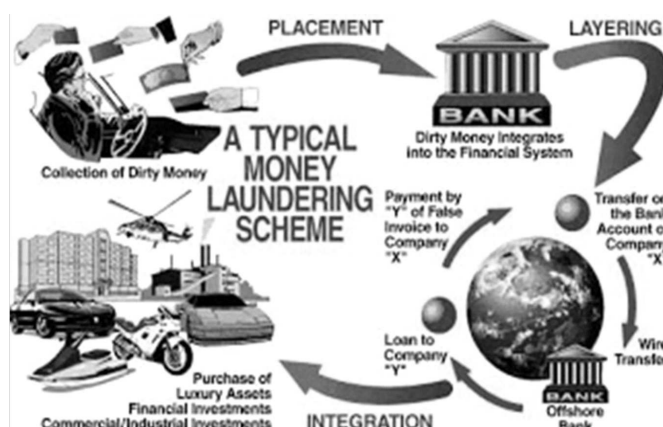
smaller amounts then depositing the smaller amounts, to purchasing real estate, selling it and then depositing the proceeds from the sale.

In the United States, all financial institutions must report to the federal government all transactions of $10,000 or more. Money laundering as a crime only attracted interest in the 1980s, essentially within a drug trafficking context. It was from an increasing awareness of the huge profits generated from this criminal activity and a concern at the massive drug abuse problem in western society which created the impetus for governments to act against the drug dealers by creating legislation that would deprive them of their illicit gains.

Governments also recognised that criminal organisations, through the huge profits they earned from drugs, could contaminate and corrupt the structures of the state at all levels. Money laundering is a truly global phenomenon, helped by the International financial community which is a 24hrs a day business. When one financial centre closes business for the day, another one is opening or open for business.

As a 1993 UN Report noted: The basic characteristics of the laundering of the proceeds of crime, which to a large extent also mark the operations of organised and

transnational crime, are its global nature, the flexibility and adaptability of its operations, the use of the latest technological means and professional assistance, the ingenuity of its operators and the vast resources at their disposal.

In addition, a characteristic that should not be overlooked is the constant pursuit of profits and the expansion into new areas of criminal activity.

The international dimension of money laundering was evident in a study of Canadian money laundering police files. They revealed that over 80 per cent of all laundering schemes had an international dimension. More recently, **"Operation Green Ice" (1992)** showed the essentially transnational nature of modern money laundering.

ROLE OF FINANCIAL INSTITUTION IN CRIME OF MONEY LAUNDERING

Anti-money laundering (AML) is a term mainly used in the financial and legal industries to describe the legal controls that require financial institutions and other regulated entities to prevent, detect and report money laundering activities. Anti-money laundering guidelines came into prominence globally as a result of the formation of the Financial Action Task Force (FATF) and the promulgation of an international framework of anti-money laundering standards. These standards began to have more relevance in 2000 and 2001 after FATF began a process to publicly identify countries that were deficient in their anti-money laundering laws and international cooperation, a process colloquially known as "name and shame".

An effective AML program requires a jurisdiction to have criminalized money laundering, given the relevant regulators and police the powers and tools to investigate; be able to share information with other countries as appropriate; and require financial institutions to identify their customers, establish risk-based controls, keep records, and report suspicious activities.

The elements of the crime of money laundering are set forth in the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances and Convention against Transnational Organized Crime. It is knowingly engaging in a financial transaction with the proceeds of a crime for the purpose of concealing or disguising the illicit origin of the property.

Today, most financial institutions globally, and many non-financial institutions, are required to identify and report transactions of a suspicious nature to the financial intelligence unit in the respective country. For example, a bank must verify a customer's identity and, if necessary, monitor transactions for suspicious activity. This is often termed as KYC – "know your customer". This means, to begin with, knowing the identity of the customers, and further, understanding the kinds of transactions in which the customer is likely to engage. By knowing one's customers, financial institutions will often be able to identify unusual or suspicious behavior, termed anomalies, which may be an indication of money laundering.

Bank employees, such as tellers and customer account representatives, are trained in anti-money laundering and are instructed to report activities that they deem suspicious. Additionally, anti-money laundering software filters customer data, classifies it according to level of suspicion, and inspects it for anomalies. Such anomalies would include any sudden and substantial increase in funds, a large withdrawal, or moving money to a bank secrecy jurisdiction. Smaller transactions that meet certain criteria may also be flagged as suspicious. For example, structuring can lead to flagged transactions. The software will also flag names that have been placed on government "blacklists" and transactions involving countries that are thought to be hostile to the host nation. Once the software has mined data and flagged suspect transactions, it alerts bank management, who must then determine whether to file a report with the government.

CONCLUSION

The countries with weaker governance and Poor AML policies are the safe heaven for the people who are looking for a safer route to clean up their proceeds of dirty deeds. They take advantage of the corrupt practices and with the help of technologies; they inject a large sum of money in to the economy. But that money disappears as quickly too. This activity leaves the economy distorted. Banks and NBFIs loose the trust of foreign investment, thus loosing the chances of long-term sustainable economic development. In the light of this review, it can be concluded that much of the literature on money laundering are focused on legal and regulatory framework. There is still a vast area to explore if perceived from the point of a developing economy. Although this crime does not have any apparent victim, the countries where the placement and layering takes place are the victim of it. Because money laundering encourages economy depressing crimes, and creates liquidity problem in the financial sector.

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Indian's Liking for Gold and Causes for Rising Prices of Gold

*Dr.Jyoti Bhambhani Jeswani

CONTENTS

- ❖ Abstract
- ❖ Key Words
- ❖ Research Methodology
- ❖ Objectives of the Study
- ❖ Limitations of the Study
- ❖ Introduction
- ❖ Importance of gold in Indian culture
- ❖ Production and Consumption of Gold
- ❖ Why the prices of gold rise
- ❖ Conclusion

ABSTRACT

Gold has always been considered as a sacred item in the Hindu way of life. The prices of gold have risen very fast during the last decade. It generally happens that whenever price of a commodity increases, its demand decreases, but in case of gold it is not true. The prices of gold have increased and at the same time demand has also increased in India. In this paper titled, "Indian's Liking for Gold and Causes for Rising Prices of Gold", an attempt has been made to find out why Indians are so much attached to gold. It has been observed that gold is much more just than a precious metal for Indians. There are such Indian customs that require buying of gold for special occasions such as Diwali, Dhanteras, Akshay Tritiya etc. The liking for gold is so deep in India that gold jewellery is transferred from grandmother to mother, mother to daughter and so on.

The research paper will also throw light on various factors that are responsible for increase in the price of gold. It has been found that investment in gold has been found safe even in the inflationary periods. Gold worldwide has been accepted as a safe store of value. The supply of gold cannot be increased very much at any price because it is still difficult and costly to discover gold. Real estate market and bank failure also affect price of gold.

KEYWORDS

Gold, Indian culture etc.

RESEARCH METHODOLOGY

There are two types of data, primary and secondary. The research paper is based on secondary data only.

Sources of Data Collection: For the purpose of research, only secondary data have been collected from internet and personal observation**.**

LIMITATIONS OF THE STUDY

The following are the limitations of the study.

- ❖ The study is based on secondary data only.
- ❖ Time constraint

OBJECTIVES

The following are the objectives of the study.

- ❖ To find out importance of gold in Indian society
- ❖ To find out 10 top producing and ten top consuming countries of gold in the world
- ❖ To find out why the prices of gold rise.

INTRODUCTION

Gold was first discovered in its natural state. In fact, it was the first metal known to early hominids. Gold has been always valuable for human beings as it is compared with power, prestige and beauty. It is considered so valuable that rich people not only use jewellery of gold, but also plates, glasses and vessels of all kinds of gold. Gold has always been considered as a desirable commodity so much so that at one time, prisoners of wars were sent to work in mines to find gold by the Phoenicians, Egyptians, Indians, Hittites, Chinese, and others.[1]

Gold is different from other metals in the sense that it does not perish, tarnish or corrode.

Gold is produced primarily for accumulation while other metals like silver and platinum are produced primarily for consumption. The demand for other metals arises principally from their industrial applications while gold is worldwide accepted as a store of value.[2]

IMPORTANCE OF GOLD IN INDIAN CULTURE

Gold is part of our Indian culture. It is **much more just than a precious metal**. Gold, as the basis of so much purity and beauty, is referred to as the seed of *Agni*, the God of Fire. *Manu* the ancient law-giver decreed that gold ornaments should be worn for specific ceremonies and occasions. Mythological tales tell us how our Gods and Goddesses rode on golden chariots. Gold has always been considered a sacred item in the Hindu way of life and is a must in every religious function.

There are such **Indian customs that require buying of gold for special occasions** (particularly at the time of marriage and birth). Further, gold is purchased on important occasions like Onam and Pongal in the South, and Durga Puja in the East, at the time of Diwali, Dhanteras, Dussehra, Akshay Tritiya etc.

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In india, it is a **custom to gift gold jewellery** to the bride. This is called stridhan. This custom is so popular that even very poor people also give gold to their daughters at the time of their marriage.[3] Gold does not rust as it is imperishable. Therefore, it has become a **good store of value and also a medium of exchange**. The liking for gold is so deep that gold jewellery is transferred from grandmother to mother, mother to daughter and so on. Further, Indians keep it not only as a store of value and but also to show it off at the time of marriages. They do not intend to liquidate this asset except in the case of emergency. It is the safest currency that can be used at the time of natural calamities.[4]

PRODUCTION AND CONSUMPTION OF GOLD

Following is a table of the world's 10 biggest gold-producing countries ranked by 2011 output, compiled by London-based metals-consulting company CRU. Figures are in metric tons.

Country	2011 Output	2010 Output
1. China	380	341
2. Australia	272	260
3. U.S.	243	236
4. South Africa	221	209
5. Russia	205	197
6. Peru	156	163
7. Ghana	102	92
8. Canada	101	91
9. Indonesia	97	128
10. Mexico	82	72
11. World Production	2,789	2,638 [5]

ANALYSIS

We see that China is at number one position in producing gold, the output has increased by 11.44 %. The output of Australia, U.S. South Africa and Russia has also increases by 4.62%, 2.97%, 5.74%, 4.06% respectively. The output of Peru has decreased by 4.29% The output of Ghana and Canada has increased 10.87% and 10.99% by respectively. The output of Indonesia has decreased by 24.22% while the output of Mexico has increased by 13.89%. The overall output has increased by 5.72%.

TOP 10 GOLD CONSUMING COUNTRIES IN 2010 (AMOUNT IN DOLLARS)

1. **India** 963.1 tons
2. **China** 607.1 tons
3. **The United States** 233.3 tons
4. **Germany** 126.9 tons
5. **Turkey** 114.6 tons
6. **Switzerland** 91.7 tons
7. **Saudi Arabia** 87.5 tons
8. **Vietnam** 81.4 tons
9. **UAE** 72.0 tons
10. **Russia** 67.5 tons[6]

ANALYSIS

We see that India is the largest consumer of gold in the world followed by China and U.S. So we can say that Indians have a great liking for gold.

WHY THE PRICES OF GOLD RISE

Gold is one of the oldest forms of investments available. Earlier, the value of gold was based on the gold standard where people were able to convert their paper money into fixed quantity of gold. But, the gold standard ended on 15 August 1971 when governments were given the freedom to print as much paper money as they require.[7]

Aristotle defined five reasons why gold is so valuable. Those five reasons are as valid today as they were then. A good form of money must be: durable, divisible, consistent, convenient, and have value in and of itself. Gold has historically been a **safe haven during inflationary spirals**, because its value goes up and money's purchasing power falls. Gold is considered to be a **good hedge against political and economic uncertainty**.

The **supply of gold is price inelastic** in the short run. That is, even when the price of gold rises dramatically the quantity of gold supplied cannot be increased by anywhere near the same rate as the price increase. Even in the long run the supply of gold cannot increase by very much at any price, because it is still difficult and costly to discover, extract and process gold. It remains **one of the scarcest and most revered metals** on earth.[8]

The price of gold is greatly influenced by supply and demand. Gold **price increase at the time of natural calamities** (like natural disaster, war etc.) as people lose faith in paper currency. **Speculation and hoarding activities** further increase the price of gold.

Real estate market affects price of gold. When there are low or negative returns on real estate, the demand for gold increases, as a result its price also increases

Bank failures may also cause increase in the price of gold. The best example of this occurred during the Great Depression, when rising gold prices due to bank failures led President Roosevelt to ban the holding of gold by private citizens.[9]

Gold is a precious metal whose availability is limited. Unlike currencies people cannot print excess gold for greedy gains. So they prefer to invest in it.

Gold's value does not arise from its industrial applications but from its **worldwide acceptance as a safe store of value**. As the public loses faith in debased paper currencies, the clamor for gold increases exponentially. Also fueling demand are the world's central banks, which

in a major trend reversal have now become net buyers of gold instead of sellers. [10]

Although the prices of gold and oil don't exactly mirror one another, there is no question that **oil prices do affect gold prices**. If oil prices rise or fall sharply, investors can expect a corresponding reaction in gold prices, often with a lag.[11] The **attraction for gold as jewellery in Asian market** has not dwindled, and as the purchasing powers of individuals in the Asian countries are increasing, the demand for gold jewellery is also increasing. In India we know this practically as every wedding season the gold price increases. This makes the gold price steadily on the uptrend.

The **present rise in price of gold is mostly attributed increased purchasing gold by central banks** of some countries. As there is a doubt about US dollar, some countries now turn to keep their reserves in Gold as a back up.

Analysis by Standard Chartered Bank based on study of production in 345 gold mines gives a clue that that **gold production will be increasing by only 3.6% next five years**. But demand will be at a much higher rate. This itself is enough to trigger speculative increase in gold prices.[12] A number of new vehicles like Central Gold Trust and gold Exchange Traded Funds (ETFs) have been created. Although the price of gold can be volatile in the short-term, gold has maintained its value over the long-term, serving as a hedge against the erosion of the purchasing power of paper money. Gold is an important part of a diversified investment portfolio because its price increases in response to events that erode the value of traditional paper investments like stocks and bonds. Last but not the least, r**eal interest rates are now negative**. There has been a very strong historical relationship between negative real interest rates and stronger gold prices.

CONCLUSION

 It can be concluded that gold is not only a good store of value but also a medium of exchange. Gold is different from other metals as it does not perish, tarnish or corrode. The demand for gold is high in Indian market in spite of its high prices. It is because of Indian customs that require buying of gold for special occasions. Further, it is a tradition in India to gift gold jewellery to the bride. This custom is so popular that even poor people follow this custom. Therefore India is the largest consumer of gold in the world.

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STUDYING OF MULTIMODAL BIOMETRIC SYSTEM USING DIFFERENT SVM KERNELS

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ABSTRACT

Biometric security system is based on a binary classification problem: reject or accept identity claim. The performance and robustness of biometric security systems can be improved by combining two or more different modalities (speech, face, fingerprint, etc.). In literature, one of the issues is to improve the performance of multimodal biometric system. In this paper, we investigated the performance of multimodal biometric system using different SVM kernel functions and its parameters. Our experiment on XM2VTS dataset shows that the performance of multimodal biometric system is improved with the proper choice of kernel function and its parameters.

KEYWORDS

Binary classifiers, biometric system, feature extraction, fusion classifier, support vector machine.

INTRODUCTION

A wide variety of applications require reliable and secure verification schemes to confirm the identity of an individual requesting authorized accessing to a specified service. Examples of such applications include secure access to buildings, personal computer systems, laptops, cellular phones and ATMs. In the absence of robust verification schemes, these systems are subject to the tricks of an impostor. Credit card hacking for example, costs the industry millions of dollars annually, primarily due to the lack of secure customer verification techniques (Wallich, 1999).

In the last few years, **the area** of identity recognition has received a lot of attention. There is need of reliable automatic user identity recognition systems for secure accesses to buildings or services. Identity recognition systems based on passwords and cards are associated with a number of drawbacks. This is because of events in which one forgets or compromises his password, losses or stolen of his card, the system is not able to differentiate between a real client and the impostor *etc*. A lot of techniques have been investigated by different researchers to recognize original users using personal characteristics which are difficult to be faked.

A biometric security system can be used for person identification or verification. The biometric verification problem can be considered as a classification problem. The system accepts or rejects a claimed identity on the basis of some matching criteria. Several verification systems have been developed based on different biometrics characteristics (fingerprint, face, speech, iris etc.) which help to distinguish individuals from each other. Each biometric has its own advantages and drawbacks due to its discriminative power, complexity, robustness involved. Research in last few years has shown that no single modal biometric system can achieve 100% authentication accuracy. This problem can be alleviated by combining two or more biometric modalities [1], also known as the field of multimodal biometric authentication. A user verification scenario involving two modalities (Face and Speech) [2] is figured out in Fig. 1.
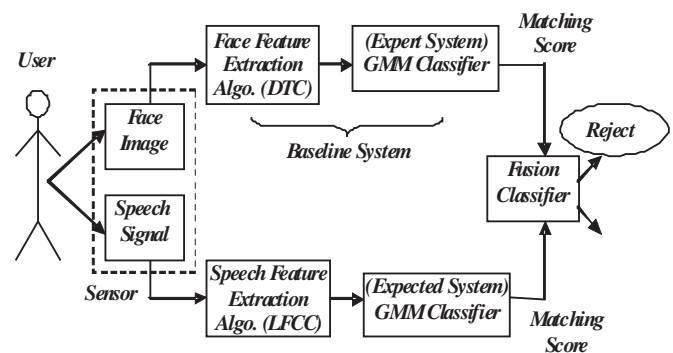

Fig. 1. Multimodal Biometric Security System.

It has been observed in pattern recognition problems that combining multi biometric modalities enables to achieve better performance than techniques based on the single modalities [4]. If one of the modality is weak, the other modality involved in multimodal biometric system can be complimentary in nature which reduces the intrinsic problems involved in single modalities. This can increase the robustness of the multimodal biometric authentication system. The *fusion* classifier which combines different modalities is a very critical part of the biometric recognition system.

Support Vector Machines (SVMs) are based on statistical learning theory developed by Vapnik [10],[8]It transform the training vectors into a high-dimensional feature space, labeling each vector by its class. It classifies data by determining a set of support vectors, which are members of the set of training inputs that outline a hyperplane in feature space [19 It is based on the idea of Structural risk minimization, which minimizes the generalization error. The number of free parameters used in the SVM depends on the margin that separates the data points and not on the number of input features. SVM provides a generic technique to fit the surface of the hyperplane to the data through the use of an appropriate kernel function. Use of a

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kernel function enables the curse of dimensionality to be addressed, and the solution implicitly contains support vectors that provide a description of the significant data for classification [11]. In training a SVM, we need to select an appropriate kernel and its parameter, and then we need to set the value to the margin parameter C. The main modeling freedom consists in the choice of the kernel function and the corresponding kernel parameters, which influences the speed of convergence and the quality of results for a given training dataset.

Multimodal Identity verification using SVM [30] is already studied using linear, polynomial and Gaussian. In literature, the classifier accuracy of SVM is being improved upon with the use of new kernels other than using linear, polynomial and Gaussian.

In this paper, we have investigated the performance of multimodal biometric systems in terms of classification accuracy which depends on the choice of the kernel function and its parameters, and the value of margin parameter C empirically and optimal classification accuracy is achieved. We have also proposed and used in classification new kernel function which satisfies Mercer condition.

In section 2 feature extraction and expert system are introduced. Section 3 briefly outlines the theory of SVM. Evaluation Criteria of Biometric Systems is presented in section 4. **In Section 5, we describe experimental setup and results on** a baseline systems obtained from **the XM2VTS database. Conclusions are drawn in Section 6.**

FEATURE EXTRACTION AND EXPERT SYSTEM

The performance of any biometric system depends on the choice of feature selection and extraction method. Feature extraction methods remove redundancy from the data and transform the given data in a suitable space that can best represent the data.

Face recognition as one of a biometric system has received considerable attention in recent years and many face feature extraction methods have been proposed and implemented. Among them, the following are quite familiar: Discrete Cosine Transform (DCT), Face Histogram (FH) [6], [13], and [18]. Also several speech features extraction methods such as Linear Filter-bank Cepstral Coefficient (LFCC) [12], Phase Auto-Correlation Mel Filter-bank Cepstral Coefficient (PAC-MFCC) [5], Spectral Subband Centroid (SSC) [7],[9] have been proposed and implemented [18].

The expert system plays a role of a classifier in matching features and generating scores as output of this classifier. Two different types of classifiers were used for score matching: Multi-Layer Perceptrons (MLPs) and a Bayes Classifier using Gaussian Mixture Models (GMMs) [3]. In theory both classifiers could be trained using any of the previously defined feature sets, in practice MLPs are better at matching feature vectors of fixed-size while GMMs are better at matching unequal size of feature vectors [18].

SVM Classifier

This section briefly introduces the theory of SVM. Let $\{(x_1, y_1),...,(x_m, y_m)\} \in R^n \times \{+1,-1\}$ be a training set. The SVM classifier finds a canonical hyperplane $\{x \in R^n : w^Tx + b = 0, w \in \mathcal{R}^n, b \in \mathcal{R}\}$, which maximally separates given two classes of training samples in R^n. The corresponding decision function $f : \mathcal{R}^n \rightarrow \{+1,-1\}$ is then given by $f(x) = \text{sgn}(w^Tx + b)$. For many practical applications, the training set may not be linearly separable. In such cases, the optimal decision function is found by solving the following quadratic optimization problem:

Minimize: $J(w, \xi) = \dfrac{1}{2} w^T w + C \sum_{i=1}^{l} \xi_i$ **(1)**

Subject to $y_i(w^Tx_i + b) \geq 1 - \xi_i, \quad \xi_i \geq 0, i = 1,2,...,m$

where ξ_i is a slack variable introduced to relax the hard-margin constraints and the regularization constant $C > 0$ determines the trade-off between the empirical error and the complexity term. The generalized optimization is based on a theorem about the VC dimension of canonical hyperplanes. It was shown that if the hyperplane is constructed under the constraint $\|w\| \leq A$ then the VC dimension of the class H is bounded by $h \leq \min(R^2 A^2, n) + 1$ [8], where R is the radius of the smallest sphere around the data. Thus, if we bound the margin of a function class from below, say by 2/A, we can control its VC dimension and hence apply the SRM principle.

Applying the Karush-Kuhn Tucker complimentarily condition [22] which gives optimal solution of a non-linear programming problem, we can write $w = \sum_{i=1}^{m} y_i \alpha_i x_i$ after minimizing (1). This is called the dual representation of w A x_i with nonzero α_i is called a support vector. The coefficients α_i can be found by solving the dual problem of (1):

Maximize: $L(\alpha) = \sum_{i=1}^{l} \alpha_i - \dfrac{1}{2} \sum_{i,j=1}^{l} \alpha_i \alpha_j y_i y_j x_i x_j.$ **(2)**

Subject to $0 \leq \alpha_i \leq C, i = 1,2,...,l$

and $\sum_{i=1}^{m} \alpha_i y_i = 0$

Let S be the index set of support vectors, then the optimal decision function becomes:

$$f(x) = sgn(\sum_{i \in S} y_i \alpha_i \, x^T x_i + b) \qquad (3)$$

The above equation gives an optimal hyperplane in R^n. However, more complex decision surfaces can be generated by employing a nonlinear mapping $\Phi : \mathcal{R}^n \to F$ while at the same time controlling their complexity and solving the same optimization problem in F. It can be seen from (2) that x_i always appears in the form of inner product $x_i^T x_j$. This implies that there is no need to evaluate the nonlinear mapping Φ as long as we know the inner product in F for a given $x_i, x_j \in \mathcal{R}^n$. So, instead of defining $\Phi : \mathcal{R}^n \to F$ explicitly, a function $K : \mathcal{R}^n \times \mathcal{R}^n \to \mathcal{R}$ is introduced to define an inner product in F. The only requirement on the kernel $K(x, y)$ is to satisfy Mercer's condition is the following:

If a symmetric function $K(x,y)$ satisfies:

$$\sum_{i,j=1}^{M} h_i h_j K(x_i, x_j) \geq 0 \qquad (4)$$

For all M, x_i, and h_i, where M takes on a natural number and h_i takes on real numbers, there exists a mapping function, $\Phi(x)$, that maps x into the dot-product feature space and $\Phi(x)$ satisfies:

$$K(x,y) = \Phi^T(x)\,\Phi(y) \qquad (5)$$

and

$$\sum_{i,j=1}^{M} h_i h_j K(x_i, x_j) \geq 0 = \left(\sum_{i=1}^{M} h_i \Phi^T(x_i)\right)\left(\sum_{i=1}^{M} h_i \Phi(x_i)\right) \geq 0 \qquad (6)$$

The function that satisfies (4) or (6) is called the positive semidefinite kernel or Mercer kernel. Substituting $K(x_i, x_j)$ for $x_i^T x_j$ in (3) produces a new optimization problem:

Maximize $\quad L(\alpha) = \sum_{i=1}^{m} \alpha_i - \frac{1}{2} \sum_{i,j=1} \alpha_i \alpha_j y_i y_j K(x_i, x_j) \qquad (7)$

Subject to $\quad 0 \leq \alpha_i \leq C, i = 1,\ldots., m$

and $\quad \sum_{i=1}^{m} \alpha_i y_i = 0$

Solving it for **α** gives a decision function of the form:

$$f(x) = sgn(\sum_{i=1}^{m} y_i \alpha_i \, K(x_i, x_j) + b) \qquad (8)$$

Whose decision boundary is a hyperplane in F, and translates to nonlinear boundaries in the original space. Commonly used kernels for decision functions of a binary SVM classifier such as linear, polynomial and Gaussian may not be suitable for classification to map every dataset well in high dimensional space. Recently, a new kernel function, Cauchy is defined:

$$K(x, x_i) = (1 / (1 + \gamma \, |x - x_i|^2)) \qquad (9)$$

It satisfies Mercer's condition. Similarly, one can also define a new kernel function which satisfies Mercer's condition and can enhance classifier accuracy using appropriate transformation in high dimensional space. We can define the new kernel function with the knowledge of the following two theorems:

Theorem 1: If $K(x, y) = a$ where $a > 0$ then, $K(x, y)$ is a positive semidefinite.

Theorem 2: If $K_1(x, y)$ and $K_2(x, y)$ are positive semidefinite then,
$K(x, y) = K_1(x, y).K_2(x, y)$ is also positive semidefinite.

Since, polynomial function, $K1(x, y) = (1+xy^T)^d$ and Gaussian function,
$K_2(x, y) = exp(-\gamma \, |x-y|)^2$ are positive semidefinite.

Hence, $K_3(x, y) = K_1(x, y).K_2(x, y)$ is also positive semidefinite according to Theorem 1 and 2 [23]. We called this new kernel function as Gaussian cum polynomial.
Table 1. shows kernel functions used in our experiments:

Table 1. Kernel Functions.

Kernel Function	$K(x, x_i)$, for $\gamma > 0$
Linear	xx_i^T
Polynomial	$(1 + xx_i^T)^d$
Gaussian	$\exp(-\gamma \mid x - x_i \mid)^2$
Cauchy	$(1 / (1 + \gamma \mid x - x_i \mid^2))$
Gaussian cum Polynomial	$\exp(-\gamma \mid x - x_i \mid^2) * (1 + xx_i^T)^d$
Cauchy cum polynomial	$(1 / (1 + \gamma \mid x - x_i \mid^2)) * (1 + xx_i^T)^d$

EVALUATION CRITERIA OF BIOMETRIC SYSTEMS

Biometric systems can be evaluated in terms of any one of the following three concepts [18]: (a) types of errors in biometric authentication, (b) threshold criterion and (c) evaluation criterion. Types of errors are false acceptance and false rejection. An evaluation criterion of biometric system is used to calculate the performance over evaluation set. A threshold criterion is an approach of choosing a threshold which can be tuned on a developmental set.

A biometric system takes a decision using the following decision function:

$$F(X) = \begin{cases} accept & if \quad y(X) > \Delta \\ reject & otherwise \end{cases} \quad (\mathbf{10})$$

Where Δ is the proposed threshold used for decision making (accept / reject).

Since the outcome of decision function is in terms of accept or reject, the system may make two types of errors, i.e., false acceptance (FA) and false rejection (FR). Normalized versions of FA and FR are often used and called false acceptance rate (FAR) and false rejection rate (FRR), respectively. They are defined as:

$$FAR(\Delta) = \frac{FA(\Delta)}{NI} \quad , \quad FRR(\Delta) = \frac{FR(\Delta)}{NC} \quad (\mathbf{11})$$

Where FA and FR count the number of FA and FR accesses, respectively; and NI and NC are the total number of impostor and client accesses, respectively.

The performance of a biometric system can be measured by reporting its false accept rate (FAR) and false reject rate (FRR) at various thresholds [17]. These two factors are brought together in a receiver operating characteristic (ROC) curve that plots the FRR against the FAR. The FAR and FRR are computed by generating all possible genuine and impostor matching scores and then setting a threshold for deciding whether to accept or reject a match. The point on the ROC curve defined by FAR = FRR is called equal error rate (EER).

EXPERIMENTAL SETUP

All the tests have been carried out using the XM2VTS data base [16] which contains synchronized face and speech data. We will use the XM2VTS for two reasons: it has among the largest number of users, i.e., 200 clients and 95 casual impostors; and the results of many single modal experiments (in scores) are available for fusion. *These scores* are also publicly available [20], the following diagram Table 2. shows the dataset configuration.

Table 2. Dataset Configuration.

Session	Shot	Clients	Impostors	
1	1	Training	Evaluation	Test
	2	Evaluation		
2	1	Training		
	2	Evaluation		
3	1	Training		
	2	Evaluation		
4	1	Test		
	2			

We have used SVM-Light software [21] in our experiment. The sensed data (face and speech) are processed using different feature extraction algorithms [18]. We had performed extensive experiments on different combination of baseline systems available for face and speech dataset [24] using different fusion classifiers. It was observed that one can **achieve better performance** using the baseline combination (**DCTb, GMM) for face and (LFCC, GMM) for speech in conjunction with SVM classifier. Therefore, all our experiments are performed on this combination of baselines.**

For each SVM kernel function, the hyper parameters space is explored on a two dimensional grid with the following values: $= [2^{-3}, 2^{-2}, 2^{-1}, …, 2^3]$ and $C = [10^{-2}, 10^{-1}, 10^0, …, 10^3]$. For all the 42 possible combinations of C and , the best accuracy is computed and rounded up to three decimal places.
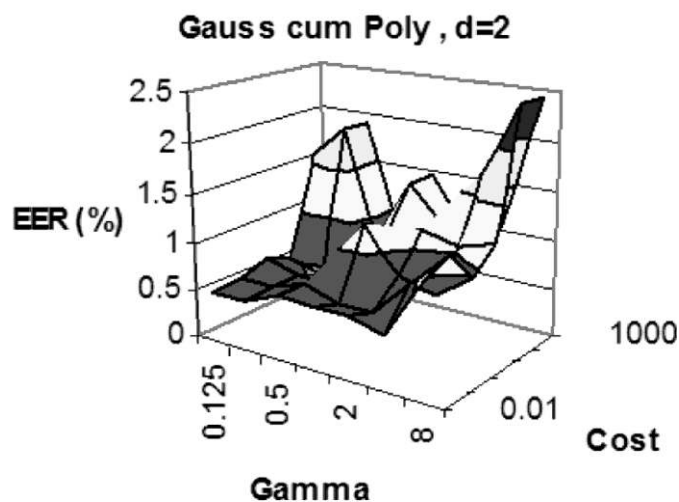
Fig. . Fusion classifier accuracy.

Fig. 1. shows the equal error rate (EER) of the SVM using Gaussian cum polynomial (*d=2*) kernel as a function of the two parameters *C* and . The figure below shows the variation in EER for different combination of *C* and . The optimal values of parameters can be chosen by visualizing the minimum value of EER attained on the grid. Similarly, the experiments were performed using different kernel functions. Similar variations are observed for other kernel functions. We observed that SVM demonstrates less error for certain combination of *C* and . The significance of choosing appropriate values of *C* and can be realized from above 3D plot. However, we have analyzed the cross sectional view of the same in 2D. Due to the scarcity of space, we are presenting only the graphs for the kernel function having wider variation in EER. The variation of EER with *C* for different values of using different kernel functions is shown in Fig. 5a, 5b.
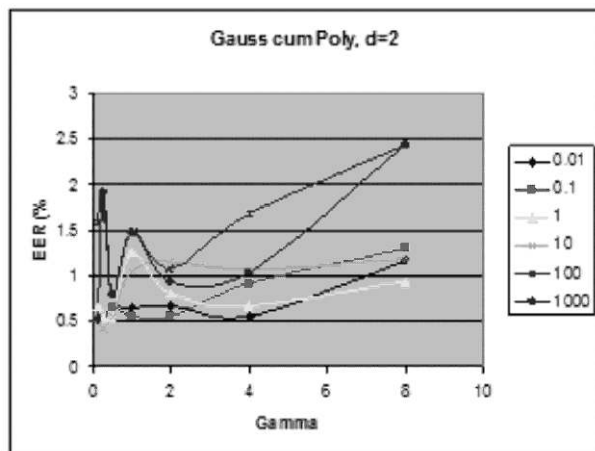

Fig. 5a. variation of EER with C
for different values of using
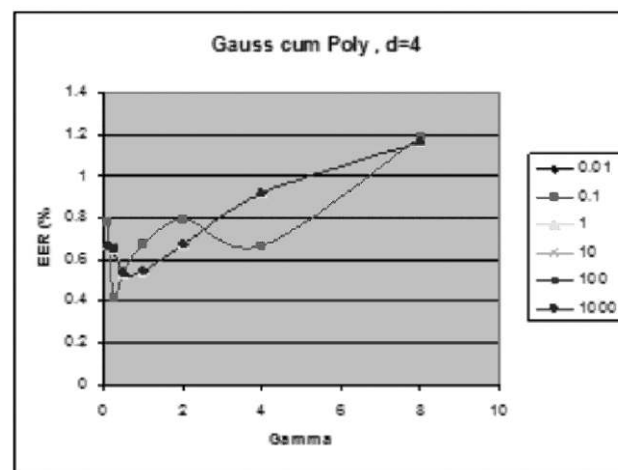Gaussian cum Poly kernel of degree 2.

Fig. 5b. variation of EER with C for
different values of using
Gaussian cum Poly kernel of degree 4.

The minimum EER are shown in Table 3. with their optimal parameter *C* and . For comparison with SVM, we have also applied decision tree construction algorithm C4.5 [13], [20] and Multilayer Perceptron [14], [15] on the same baseline systems.

Table 3. Selecting best parameters gamma, cost and kernel function to achieve best performance.

		Degree	Gamma	Cost	FRR (%)	FAR (%)	EER (%)
SVM Kernel	Linear	-	-	-	2.25	0.0	1.133
	Gaussian	-	0.125	10	0.75	0.028	0.403
	Cauchy	-	0.125	10	0.75	0.028	0.403
	polynomial	2	-	0.1	0.75	0.03	0.406
		4	-	0.01	0.75	0.038	0.412
	Gaussian cum polynomial	2	0.25	10	1.0	0.05	0.55
		4	0.25	0.1	0.75	0.04	0.418
Other Methods	C 4.5	-	-	-	1.5	0.0	-
	MLP (5 hidden units)	-	-	-	3.5	0.0	1.16

From Table 3., It can be observed that minimum EER is approximately same with different kernel function with a suitable choice of *C* and . The performance of multimodal biometric system is better with SVM classifier in comparison to decision tree c C4.5 and Multilayer Perceptron.

Thus, SVM classifier parameters reflect the effects of selecting gamma, cost and kernel on the performance of the fusion classifier.

CONCLUSION

The performance of a multimodal biometric system is measured in terms of EER. It is observed that EER depends on the choice of kernel function and parameters *C* and . Approximately same optimal value of EER is achieved with different kernel function with a suitable choice of *C* and . Also, the performance of multimodal biometric system is better with SVM fusion classifier in comparison to other commonly fusion classifiers used in

literature. New kernel functions could achieve better performance for multimodal biometric system; hence, better biometric security system could be developed.

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PRIVACY SANITIZATION IN DATA TRANSMISSION

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ABSTRACT

Voice over Internet Protocol (VoIP) is a technology that enables one to make and receive calls through the Internet instead of using the traditional analog PSTN (Public Switched Telephone Network) lines. Although, VoIP is widely used technology but VoIP calls may also bring security problems such as cyber crime issues. To solve the security problems the contents of a VoIP session should be encrypted. This paper focuses on authentication issues and user ID detection as Security is an essential part of human life depending on the voice signature of the incoming VoIP calls. Our approach defines the speech communication over the internet by detecting adversary to avoid eavesdropping. HMM)Hidden Markov Model(is used to recognize the speaker on the basis of extracted features. For this it first train the voice sample into wave file. And then, to detect the speakers of encrypted speech communications, we are proposing a new way of traffic attacks using RTP (Realtime Transport Protocol). The proposed traffic attacks are based on packet timing information only. This paper shows that the proposed traffic analysis attacks can detect speakers of encrypted speech communications with high detection rates based on speech communication traces. While transmitting voice over network naive tracing technique support for alternate network to increase sanitization.

KEYWORDS

VoIP, Speech Recognition, HMM, RTP, Silence Suppression.

INTRODUCTION

Voice over Internet Protocol)VoIP(technology is used for making phone calls over the Internet. An Internet environment can be considered hostile for a number of reasons. There have never been enough safeguards and protection in an Internet environment for it to be considered safe, and the potential immunity to danger of devices communicating on the Internet make security threats commonplace. There are two kinds of possible threats to a network— external and internal. Internal threats are attacks launched by someone who is not participating in the message flow during a call. External threats usually occur when the voice and signaling packets traverse untrustworthy boundaries, and may involve third-party networks when the call traffic is transferred from device to device, or participant to participant.

Although, VoIP is widely used technology but VoIP calls may also bring security problems such as cyber crime issues. To solve the security problems the contents of a VoIP session should be encrypted[3]]ε[]٦[. VoIP network security includes voice-packet security, which focuses on application issues, and IP security, which focuses on a network or transport problem]١٢[.

To maintain the confidentiality and integrity of voice data security mechanisms need to be deployed. This invention relates to the field of speech recognition and more particularly to a speech application that use in voip network.

This paper introduces a new architecture and encryption algorithm to overcome the known vulnerabilities and thus make communication over internet more secure than it is presently.

The rest of the paper is alienated as. Section 2 and 3 demonstrates speech recognition and silence suppression technique in speech communication. Section 4 describes the HMM. Section 5 present our new architecture for secure communication which will support end to end and hop by hop encryption and demonstrates the methodology of being using these techniques. Section 6 consists of the experimental results. Finally section 7 contains the conclusion.

SPEECH RECOGNITION

Speech recognition is an exciting technology that promises to change the way we interact with computers]٢[. Speech is a time varying signal. Rate of speech varies according to speaker, speaking style. Speech recognition is the process of converting a speech signal to a sequence of words. Speech recognition system is very useful in many applications. A speech recognizer is a complex machine developed with the purpose to understand human speech. In real life this speech recognition technology might be used to get a gain in traffic security or facilitate for people with functional disability. The technology can also be applied to many other areas. However, in real environment there exist disturbances that might influence the performance of speech recognizer. Each one of these problems affects the performance of speech recognition systems- noise, careless speech, rapid speech or simply saying something that the system is not expecting. While speech recognition systems attempt to compensate for each of these problems eventually they cause the system to function improperly. Therefore it is important to keep noise to a minimum when speaking to the system. There are a number of issues that impact the

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performance of speech recognition system:

1. Microphone signal different from telephone signal, land-line telephone signal different from cellular signal.

2. pick-up pattern, frequency response, sensitivity, noise.

3. Difference in vocal tract length, male, female, and children's speech are different. Even the same speaker may vary the rate of speech.

4. Most ASR systems require a fixed window of input speech.

5. Vocabulary must be specified in advance i.e can't recognize new words.

6. Pronunciation of each word must be specifie exactly (phonetic substitutions may degrade performance).
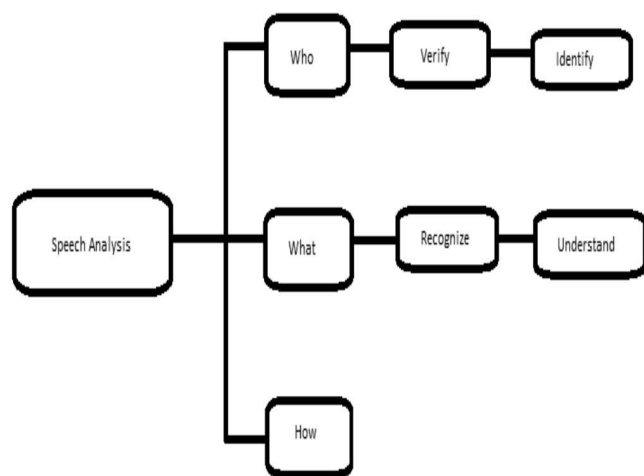
SPEECH ANALYSIS

Fig. 1. Steps of Speech Analysis

speech analysis can serve to analyze who is speaking. i.e, to recognize a speaker for her identification and verification.

Another main task of speech analysis is to analyze what has been said. i.e, to recognize and understand the speech signal itself.

Speech analysis tries to research speech patterns. i.e, how a statement was said. For eg. A spoken sentence sounds differently if a person is angry or calm.

SS TECHNOLOGY OVERVIEW

Silence Suppression (SS) technique is related to the speech communication. Silence suppression is a way to save bandwidth when conducting voice communication over the internet. i.e, silence suppression reducing the amount of bandwidth needed for voice calls by avoiding unnecessary transmission of silence packets]

It gives a clear communication between two parties. Traditional phone lines can not take advantage of any type of suppression technology. So this technology has developed along with internet voice communications.

During a telephone conservation only one side is speaking at a time therefore half of the time the other party is listening. With traditional equipment that silence was information and could not be eliminated. But using the silence suppression technique that information can eliminate by sending description of the background noise itself. However, this technology can save money and equipment in long run.

MARKOV MODEL

A stochastic process }x(t)| t belongs T{is called a markov process- if probability distribution for its future development depend only on the present state and not on how the process arrived in that state.

Consider the state of a system at a discrete set of times. The successive observations define the random variables xo, x1---- xn at time steps ٠, ١, ٢----respectively.

Let }xn{be a sequence of random variables taking values i belongs I. If we assume that I is discrete then the markov process is known as markov chain. i.e a sequence }xn{ is said to be a markov chain if for all i٠, i١------ in+١ belongs I and for all n.

P(Xn+1= in+1|X0= i0, X1= i1---- Xn= in)= P(Xn+1= in+1|Xn= in)

The above property is called markov property.

Hidden Markov Models (HMMs) are widely used in speech recognition]٢[]٥[]٩[. Speech samples are recorded using a sound recorder. The recorded signal (test data) is compared with the original signal (trained data) using Hidden Markov Model algorithms[2]. In a Hidden Markov Model, the state is not directly visible, but outputs influenced by the state are observed. Each state has a probability distribution over the possible output[1]. Therefore, the sequence of outputs generated by an HMM gives some information about the sequence of states.

In speech recognition systems each word and each phoneme will have a different output distribution while in hidden Markov model for a sequence of words or phonemes is made by concatenating the individual trained hidden Markov models for the separate words and phonemes. HMMs are simple and computationally feasible to use.

5. PROPOSED ARCHITECTURE

We present a new architecture for secure communication over internet. The new proposed architecture helps us to achieve an end to end and hop by hop encryption of data packets. This section explains the methodology step by step.
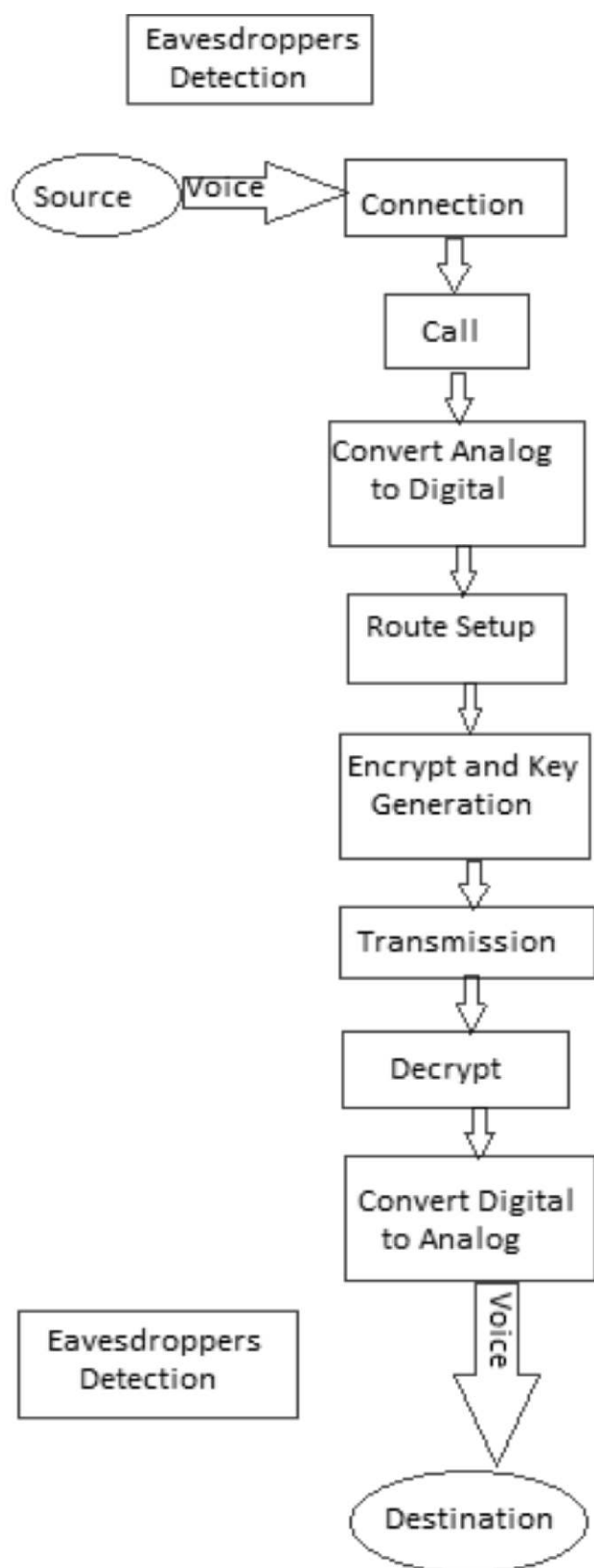
Fig. 2. Steps of the System Implementation

1. Speech Processing

A system identify and verify the person by capturing the voice from a source like microphone. In first step obtaining the sample of voice. Voice sample is taken from the microphone by the speaker. Extract application-level features of voice sample.

This extracted voice sample is then stored to a wav file that is used for leading process.

2. HMM Training

In this phase the extracted traces of Speech are trained using HMM model. HMMs are statistical models which output a sequence of symbols or quantities. In this phase the observation traces being trained in the form of HMM parameters and resulted as the log likelihood of entire voice. for real time, that log likelihood store in speaker's database for recognition.

3. Eavesdroppers Detection

This phase consists of two techniques silence suppression and HMM. Silence suppression technique is used to disable voice packet transmission when silence is detected. This algorithm is used to avoid the eavesdroppers depends on frequency. Each and every human have an individual frequency in their voice. And HMM is used to recognize the speaker on the basis of extracted features. It will allow to train the voice in wav format. This phase compare the frequency with the existing frequency which is recorded using HMM model in terms of talk pattern and silence gap to provide the authentication

6. EXPERIMENTAL RESULTS

Two phases are implemented to obtain experimental results.

- login phase
- calling phase

Our approach suggests that any caller must proves his identity by giving password to a security server before call establishment process could be completed. In first phase, traces of speech is extracted and trained and then stored to the Speaker's database. It stores the trained speech traces against the password of specified speaker with his login id. Traces that represents the pitch of human voice in the form of frequency.

In such a manner, any caller is authenticated by comparing his spoken password against the stored ones. This method enhances user ID verification by adding voice signature as a part of user identification procedure. login phase works in real time scenario to provide authentication. It results to access the user account after verifying the password as well as the log likelihood to the pre stored value against the speaker in Speaker's database. The upcoming results are test against the specifying objectives of proposed system. The sample of speech with noise is used to extract features

and then trained using HMM model.

During call establishment procedure, user can select the options of making a call, disconnecting, route module etc. This module explains the process of capturing the voice, converting it into packets then encrypting the voice and send to destination through proxy nodes to prevent eavesdropping during this phase. For each call you make SRTP creates a unique encryption key. SRTP is ideal for protecting traffic because it has a minimal effect on call quality]v[]٨[. To represent the voice signal as an analog to digital signal we have to use the method called PCM)Pulse code modulation(. The above procedure must be followed to eliminate the possibility of intrusions and attacks during this phase and to provide a private network over VoIP for secure communication.

CONCLUSION

The proposed architecture offer a security mechanisms to help build a robust and secure voice network. The proposed research uses the silence suppression technique to extract human voice without silence gap and trained and recognized using HMM methodology. It comprises two security measures, password and speech traces to give more security to the system in terms of secure transmission of voice. Our approach defines the speech communication over the internet by detecting adversary to avoid eavesdropping. This architecture makes any type of packet interception or eavesdropping impossible.

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DATAWAREHOUSING
THE VIABLE SOLUTION TO MODERN BUSINESS STRATEGIES

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ABSTRACT

Managing a business has never been easy. Trying economic conditions make it even harder. The challenge is to do more with less and to make better decisions for the growth of the modern business. Having immediate access to current, actionable information can make a huge difference. **"Business Intelligence therefore refers to a set of tools and techniques that enable a company to transform its business data into timely and accurate information for the decisional process, to be made available to the right persons in the most suitable form."** Business Intelligence systems help the users make the right decisions based on the available data.

Over the last few years the pressure has been growing to manage, integrate, analyse and act on increasing amounts of information from all kinds of data sources. Business Intelligence is not a new idea. The largest and best-managed organizations in the world have been making use of it for more than a decade. **Along the way, the giants that pioneered BI made an important discovery –the path to true business intelligence passes through a Data Warehouse.** With these modern Data Warehouse Architectures flexibility and responsiveness is greatly improved while minimising the total cost of ownership.

"A data warehouse is a subject-oriented, integrated, time variant and non-volatile collection of data in support of management decision making process." A data warehouse is a relational database that is designed for query and analysis rather than for transaction processing. Modern Businesses today are not only demanding analysis of data from its own operational systems but also the ability to consume, filter and analyse data from a broad range of external data sources. Business intelligence systems provide the ability to answer these critical questions by turning the massive amount of data from operational systems into a format that is current, actionable, and easy to understand.

THE DESIGN OF A DATA WAREHOUSE INVOLVES

1) Acquisition of data for the warehouse.

2) Ensuring that Data Storage meets the query requirements efficiently.

3) Giving full consideration to the environment in which the data warehouse resides.

Both quality and consistency of data are major concerns.

There are many different issues faced in the implementation of a Data Warehouse, its Architecture and Design.

So, this paper highlights the need of Data Warehousing in the modern business strategies, features of data warehouse, the different issues faced in the implementation of the data warehouse and different concerns of the data warehouse architecture and design. It also discusses the solution to these issues along with the research and case studies that are documented in this field.

KEYWORDS

Data Warehousing, Business Intelligence, Operational Databases, OLTP, OLAP

INTRODUCTION

Today, in the modern business world the financial crisis has increased the focus on Business Intelligence. Executives cannot afford to make decisions based on financial statements that compare last month's results to a budget created up to a year ago. They need information that helps them quickly answer the basic questions: What still works? What continues to sell? How can cash be conserved? What costs can be cut without causing long-term harm?

The Worldwide Business Intelligence revenue in 2005 was US$ 5.7 billion. It is expected to grow by 10% each year. BI provides a market where players like IBM, Microsoft, Oracle, and SAP compete and invest. BI is not only for large enterprises, small and medium-sized companies can also benefit from BI i.e. BI is not at all a new idea and the various organisations in the world have been making use of it for more than a decade.

The giants that pioneered Business Intelligence (BI) made an important discovery that the path to true business intelligence passes through a Data Warehouse."A data warehouse is a subject-oriented, integrated, time variant and non-volatile collection of data in support of management decision making process."

A data warehouse is a relational database that is designed for query and analysis rather than for transaction processing. In addition to a relational database, a data warehouse environment includes an extraction, transportation, transformation, and loading (ETL) solution, an online analytical processing (OLAP) engine, client analysis tools, and other applications that manage the process of gathering data and delivering it to business users.

CHARACTERISTICS OF DATA WAREHOUSE

❖ **Subject-Oriented**: Stored data targets specific subjects. Example: It may store data regarding total Sales, Number of Customers, etc. and not general data on everyday operations.

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❖ **Integrated**: Data may be distributed across heterogeneous sources which have to be integrated. Example: Sales data may be on RDB, Customer information on Flat files, etc.

❖ **Time Variant**: Data stored may not be current but varies with time and data have an element of time. Example: Data of sales in last 5 years, etc.

❖ <u>**Non-Volatile:**</u>It is separate from the Enterprise Operational Database and hence is not subject to frequent modification.

THE DESIGN OF A DATA WAREHOUSE INVOLVES FOLLOWING STEPS :

1) **Acquisition of data for the warehouse.**

a. The data must be extracted from multiple, heterogeneous sources.

b. Data must be formatted for consistency within the warehouse.

c. The data must be cleaned to ensure validity.

d. The data must be fitted into the data model of the warehouse.

e. The data must be loaded into the warehouse.

f. Proper design for refresh policy should be considered.

2) **Ensuring that Data Storage meets the query requirements efficiently.**

3) **Giving full consideration to the environment in which the data warehouse resides.**

Both quality and consistency of data are major concerns

THE VARIOUS ISSUES IN DATAWAREHOUSE ARE:-

1) IMPLEMENTING THE DATA WAREHOUSE

Data Acquisitionis the task of bringing data from everywhere to the data warehouse. Most businesses have several operational systems that handle the organization's day-to-day processing. These systems serve as the data source for the warehouse. The systems might reside on a mainframe, in a client/server database application, in a third-party application with a proprietary data store, within desktop applications such as spread sheets and database applications, or any combination of these. <u>The challenge is to identify the data sources and develop a solution for extracting and delivering the data to the warehouse in a timely, scheduled manner.</u>

After collecting the data, you need to perform **Data Transformation**. In an ideal organization, all systems would use the same set of codes and definitions for all data elements. In the real world, as we showed earlier, different codes and definitions exist for what appear to be the same data element. <u>Data transformation is the cleansing and validation of data for accuracy, and ensuring that all values conform to a standard definition.</u> After these data transformation tasks are complete, you can add the data to the warehouse.

Finally, you're ready for **Data Presentation**. At this point, the warehouse contains a large, normalized data store containing all (or part) of the organization's data. Great! Unfortunately, the users who need this data can't make sense of it because of its cryptic coding schemes and normalized storage. <u>Data presentation involves taking the data from the data warehouse and getting it into the hands of users in a usable, easy-to-understand format.</u>

2) REGARDING DATA WAREHOUSE ARCHITECTURE AND DESIGN

The architecture and design of an enterprise's data warehouse should reflect the performance measurement and business requirements of the enterprise.<u>Data warehouses are targeted for decision making, in contrast with Operational databases that are for On Line Transaction Processing (OLTP).</u>Historical, summarized and consolidated data is more important than detailed, individual records. Since data warehouses contain consolidated data, perhaps from several operational databases, over potentially long periods of time, they tend to be orders of magnitude larger than operational databases; enterprise data warehouses are projected to be hundreds of gigabytes to terabytes in size. The workloads are query intensive with mostly ad hoc, complex queries that can access millions of records and perform a lot of scans, joins, and aggregates. Query throughput and response times are more important than transaction throughput.

Users need the ability to perform **Multidimensional Analysis** with complex calculations, but we find that traditional tools of report writing, query products, spread sheets, and language interfaces are distressfully inadequate.

SOLUTION TO THE ABOVE GIVENISSUES IN THE DATA WAREHOUSE

❖ <u>**There are generalCritical Success Factors guidelinesfor the 1st problem that leads to system success for Data warehouse implementation.**</u>

Based on the extensive study and research, these Critical Success Factors (CSF) are categorized into five main categories to help other organizations in implementing DW efficiently and these are as follows:-

1) Organizational factors

By taking into consideration the organizational factors, many of the obstacles and barriers faced will be altered. They include:-

I. Size of the organization

Size of the organization greatly affects the adoption of data warehouse technology. Large organizations mostly have enough resources and power to overcome obstacles, such as huge setup costs and labour expenses, in data

warehouse project.

II. Existence of champions

Champions are the people from inside the organization, who appreciate and support the adoption of new technology. They play an integral role in providing necessary information, required resources, needed assistance, political support and stimulate the staffs to cope with such technology.

III. Top management sponsorship and support (executive and operating)

The commitment of top management support is very important to pass over sudden barriers and complexities in a data warehouse project. With the top management support the organization can secure required capital, human support, and availability and coordination of other related internal resources in adoption and development process.

IV. Business requirement and internal needs

The alignment of the data warehouse to business needs is a crucial step in a data warehouse adoption project, before commencing such a gigantic effort, it is important to elucidate the strategic business objectives, requirements and needs that a data warehouse would be expected to meet.

V. Organizational resistance

Employee resistance is the emotional factor exhibited as a result of organizational change. This resistance basically is driven by the fear of losing their jobs, by replacing labour-intensive production with automated production or replacing technology incompetent employees with technology savvy ones after implementing the new technology.

VI. Organizational politics

Organizational legislation and regulations are developed to govern and control processes and activities in the enterprise and achieve the long-term goals and objectives.

2) Environmental factors

The enterprise incorporates in a dynamic environment with high possibilities of sudden and uncontrolled changes. The enterprise must measure and reduce the uncertainties in the surrounding environment and create competitive advantages by adopting newer information technology. It includes:-

1. Business Competition
Enterprises often try to boost their competitive advantage by adopting new information technology. The organization is no longer to maintain the piloting edge in its industry without the adoption of a data warehouse if the competitors are adopting or have adopted this technology.

2. Selection of vendors

Selection of vendors largely affects the decision of data warehouse adoption; organizations intend to outsource their business applications. In this regard companies must be aware while selecting the vendors. Data warehouse technology itself is not only a software package.

3. Compatibility with industry standards and governmental regulations

There are regulations and industry standards, which regulate and govern the transactions, communications and processes, in the business field. These regulations and standards are established by authorized parties such as government or business standard setters.

4. Compatibility with partners

A company is no longer to be a star performer in its industry without having tight relationships with direct, upstream and downstream, partners. This tight relationship is driven by the compatibility with direct partner's systems.

3) Project-related factors

Project-related factors are related to project plan, analysis, development and control. These are:-

1. Skills of project team

The skills of project team factor have an endless impact on the success of a data warehouse project. The members must be proficient in data warehousing matters with strong background and knowledge of new technology adoption, coupled with better communication capabilities.

2. Emergence and Coordination of organizational resources

Resources comprise money, people, and time, which are necessary to successfully finish the project. Resources are so important in data warehouse projects, because data warehouses are high-priced, time-consuming and recourse-intensive initiatives. Coordination and correct allocation of resources can help project teams to meet their project milestones and overcome organizational obstacles.

3. End-user involvement and participation

End-user involvement has a direct influence on successful implementation of information technology. Better user participation increases the probability of managing user's expectations and satisfying user requirements.

4. Support from outside consultants and expertise

As known, data warehouse technology is a time-consuming and expensive project with high risk possibilities. Consultants who possess much experience positively influence the success and smooth adoption of new technology.

5. Accurate definition of project's priorities, scope and goals
Building a data warehouse symbolizes a massive investment of resources and effort. So it is necessary to define clearly the scope, goals and priorities of the overall project before any step to be undertaken.

4) Technical factors

The technical dimension was measured by discovering technical problems that appeared and technical limitations that occurred during the implementation of data warehouse technology. These include:-

1. User interface

Extra-care must be taken to select suitable tools that will be interfaced with the end-user. The project team should work hard on weighing up the friendliness and easiness of the user interface to provide the users with the greatest flexibility.

2. Technical resources availability and proper development technology

Technical resources are hardware, software, methods and programs used in carrying out a project. A good visualization of technical resources allows managers to conceptualize future states and recognize benefits more realistically.

3. Quality of data sources

Data sources and their governance policies should be identified clearly, especially in large data warehouse initiatives, where the data is extracted from many diverse and heterogeneous data sources. The quality of organization's present data is another important aspect, which affects the systems initiatives.

5) Educational factors

This dimension answers the following question: How does the organization assure a comfortable interaction between users and new technology, which concretely leads to reduce user's resistance and widen user's acceptance of new technology.

1. Training courses

The end users must be continuously informed and aware of the latest developments regarding data warehouse technologies. Increasing users' knowledge can be done by setting-up training courses and distributing related materials, such as books and research papers.

2. Certified trainers

The trainers contribute positively to increasing the success of new technology and reducing the users resistance Certified trainers are employed to blur the lines between non-technology knowledge users and technology-knowledge users.

3. Availability of best practices adaptors

Best practices adopters represent the source, where an organization can have feedback to successfully implement new information technology and overcome obstacles faced by best practices adopters.

RESEARCH AND CASE STUDIES FOR CRITICAL SUCCESS FACTORS IN IMPLEMENTING DATA WAREHOUSE

1) Exhaustive effort was devoted to explore the critical success factors in two institutions (First American Corporation (FAC) and Whirlpool An international manufacturer of appliances) to come up with a more general CSF that leaded to an efficient implementation of DW in these different organizations, and to guide other organizations in implementing DW efficiently. After an extensive study of related resources Watson J.,(2005), Chenoweth T., Corral K., Demirkan H.,(2006), http://www.tdan.com/view-articles/4853, http://www.clarium.com/index.htm, critical success factors were documented.

2) The paper introduced by Hwang M., Xu H.,(2007) , developed a research model for data warehousing success to facilitate research integration and variable selection in future research. The model is general and new factors or success variables, when identified, can be added easily.

3) An empirical study which conducted by Wixom and Watson, ,(2001), investigated the model of data warehousing success through cross-sectional mail survey to data warehousing managers and data suppliers from 111 organizations in U.S. This paper came out with many success factors namely:

Organizational factors (management support), Project factors (User participation, resources and team skills) and Technical factors (source systems and development tools)

4) A study by AbuSaleem M.,(2005), Involved data collected through the questionnaire from 18 companies in Finland and was analysed through descriptive statistics and analytical tables. The ranked list of critical success factors was presented. The results from the aforementioned list revealed that factors such as top management sponsorship, champions, skilful project team, availability and coordination of resources, business internal needs, the existence of outside consultants, end-user involvement, and selection of vendors would affect the adoption of data warehouse technology in Finnish companies. Finally, the observations of the current status related to the adoption of data warehouse technology were carried out and discussed.

5) The research Hayen R., Rutashobya C., Vetter D., (2007) used a case study to investigate a model of DW success. An IT staff at Financial Service Company (FSC) was also interviewed concerning the implementation factors and the success of the warehouse. The results from the case study and interview identified significant relationship among the system quality, data quality, perceived net benefits. The implementation's success with organizational and project issues, in turn, influences the system quality of the DW.

❖ **Data Warehouse is designed to provide statistical information and OLAP is the tool and answer to the 2nd issue discussed above.**

A truly flexible data model ensures that On Line Analytical

Processing (OLAP) systems can respond to changing business requirements as needed for effective decision making. It:-

❖ **Supports complex queries that access millions of records**

❖ **need historical data for trend analysis**

❖ **long scans would interfere with normal operations**

❖ **Synchronizing data-intensive queries among physically separated databases would be a nightmare!**

❖ **metric: query response time**

OLAP supports:-

❖   **Multidimensional views of data**

❖   **Calculation-intensive capabilities**

❖   **Time intelligence**

WHY OTHER POSSIBLE ALTERNATIVES COULD NOT REPLACE OLAP?

1) Spread sheets are an inadequate tool for managing and storing multidimensional data because they tie data storage too tightly to the presentation—they do not separate the structural information from the desired views of the information. Thus, adding a third dimension such as time or grouping the data into higher-level product types requires a considerably more complex setup. The obvious solution is to use a separate spread sheet for each dimension, but this will work only to a limited extent because analysing the additional values of the extra dimension quickly becomes unwieldy.

2) Using a Structured Query Language database management system offers considerable ?exibility in structuring data. However, formulating many desirable computations such as cumulative aggregates (sales in year to date), combining totals and subtotals, or determining rankings such as the top 10 selling products is dif?cult if not impossible in standard SQL. Also, transposing rows and columns requires manually specifying and combining multiple views.

Spread sheets and relational databases provide adequate support for a small volume of data that has only a few non-hierarchical dimensions, but they do not fully support the requirements for advanced data analysis. The only robust solution is to use database technology that offers inherent support for the full range of multidimensional data modelling.

Hence OLAP is the optimal solution in which Multidimensional databases view data as Cubes that generalize spread sheets to any number of dimensions. In addition, cubes support hierarchies in dimensions and formulas without duplicating their de?nitions. The arrangement of data into cubes overcomes a limitation of relational databases. It consists of numeric facts called

measures which are categorized by dimensions.

Dimension is organized into a containment-like hierarchy composed of numerous levels, each representing a level of detail required by the desired analyses.

Facts represent the subject—the interesting pattern or event in the enterprise that must be analysed to understand its behaviour.

The well-known schemas defined for OLAP are:

1. **Star Schema: Single Fact table with n – Dimension tables linked to it.**

2. **Snowflake Schema: Single Fact table with n-Dimension tables organized as a hierarchy.**

3. **Fact Constellation Schema: Multiple Facts table sharing dimension tables.**

RESEARCH AND CASE STUDIES FOR IMPLEMENTING OLAP IN DATA WAREHOUSE

1. E.F. Codd, S.B. Codd, and C.T. Salley, "Providing OLAP (On-Line Analytical Processing) to User-Analysts: An IT Mandate," http://www.hyperion.com/solutions/ whitepapers.cfm (current Nov. 2001).It describes an enabling architecture for OLAP, and identifies the fundamental components and criteria for evaluating a given product's efficacy in its support of the OLAP category at http://www.uniriotec.br/~tanaka/SAIN/providing _olap_to_user_analysts.pdf

2. SAP® In-Memory Computing technology enables real-time computing by bringing together online transaction processing (OLT P) applications and online analytical processing (OLA P) applications at a low total cost. Combining the advances in hardware technology with SAP In-Memory Computing empowers the entire business – from shop floor to boardroom – by giving real-time business processes instantaneous access to data. The alliance of these two technologies can eliminate today's information lag for your business. http://www.idgconnect.com/view_abstract/7169/sap-in-memory-computing-technology?region=asia& source=connect

3. An empirical study conducted by Exclusive Ore, Data Warehousing and OLAP for the Fast Food Industry. Exclusive Ore designed and implemented a data warehouse and reporting structure to address this requirement for Summerwood Corporation, a fast food franchisee operating approximately 80 Taco Bell and Kentucky Fried Chicken restaurants in and around Philadelphia. The Summerwood Data Warehouse now provides strategic and tactical decision support to all levels of management within Summerwood. This is documented in http://www.xore.com/casestudies/ case_study_fastfood.pdf

4. Healthcare Organizations are faced with a rising number of ?nancial pressures. Both administrators and physicians need help analysing large numbers of clinical and ?nancial

data when making decisions. To assist them, Rush-Presbyterian–St. Luke's Medical Centre and Hitachi America, Ltd. (HAL), Inc., have partnered to build an enterprise data warehouse and perform a series of case study analyses. Their research focuses on one analysis, which was performed by a team of physicians and computer science researchers, using a commercially available on-line analytical processing (OLAP) tool in conjunction with proprietary data mining techniques developed by HAL researchers. The research results are documented at http://www.himss.org/content/files/jhim/15-2/him15208.pdf by Michael Silver, MD, FACP, FCCP, FCCM; Taiki Sakata; Hua-Ching Su, MS; Charles Herman; Steven B. Dolins, PhD; Michael J. O'Shea

5. The White Paper published by IBM on The Strategic Importance of OLAP and Multidimensional Analysissummarizes corporate information from volumes of heterogeneous data and presenting this data to users in a meaningful business context, multidimensional analysis offers great potential for improving and coordinating decision-making across the enterprise. The details can be referred at http://whatis.bitpipe.com/detail/RES/1344869670_73.html

CONCLUSION

These factors provide success over organizational, project, and technical issues that arise during the lifetime of the DW project. Those successes influence the data quality and system quality, which guide the system success culminating in the perceived success of the overall DW implementation. Also special concerns must be taken to data warehouse architecture and design to implement OLAP for better information quality and better decision making solutions.

Modern Businesses today are not only demanding analysis of data from its own operational systems but also the ability to consume, filter and analyse data from a broad range of external data sources. Major advances in hardware and software have opened up opportunities to build new types of analytic applications and to better solve existing business problems that address these business needs. Hence, if we deal with the issues of the Data Warehouse efficiently then we can say that indeed Data Warehouse is the viable solution for the modern business strategies.

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SOCIAL MEDIA IS THE FIFTH PILLAR OF OUR SOCIETY

*Gopal Thakur

ABSTRACT

Social media create a virtual word. It means Media is an instrument on communication, like a newspaper, TV or a radio, so social media would be a social instrument of communication. Really social media play a very crucial role in social media world. We see variety of people on new media world. We have freedom to categories them, freedom to pick up and choose them as our friend, as we do in our real life. But there is a big difference; we do not actually meet them. Nevertheless, these virtual people provide us with the platform where we can, without any hesitation, share our feelings, which otherwise we would not have discussed face to face. Social media is a 5th pillar, a potent one, which through the help of technology helps in the creation and dissemination of information. More ever, in today's fast new media world, we have paucity of time; these social media communication tools furnish us with flexibility of time. It describes websites that allow users to share content, media, etc. The social media study comprised a sample of 250 respondents from Delhi-NCR (including 130 from the NCR region of Delhi), Based upon the opinions and beliefs of the public, as revealed by the study. The methodology used in the research work is convenience sampling. The data has been collected personally with the help of a well structured and non-disguised questionnaire. Common examples are the popular social networking sites like Friendster, Facebook, MySpace, Digg, Twitter, YouTube, photo-bucket, flicker and Wikipedia etc. But these communication tools have profoundly changed our lives and how we interact with one another and the world around us.

KEYWORDS

Social networking sites, brand, communication, strategy, social media.

INTRODUCTION

Internet is the emerging information technology with the credibility of immediacy and fastness, thus, it brings globalization in every aspects of communication. History has been witness to various types of revolution such as printing revolution during 15th century, industrial revolution during the 18th century and nuclear revolution in 80s of the last century. Later the post globalised area of 90s however heralded entirely a new phase in the annals of human civilization with new media getting a huge impetus as a consequence of social media taking rapid, brisk and phenomenal strides, changing in the process the communication scenario the world over. The study of social media offers wide variety of choices. In fact, just recently, there were new additions in the current line up of the new social media forms. Social media in itself is such dynamic and humongous concept that one can never precise. However, no matter how big or voluminous social media may be, the need to understand and decipher it remains fundamentally essential as it is deemed vital to the growth of the Internet world. The internet is one of the most powerful tools used to socialize and get the chance to meet other people. It is the perfect avenue for people who would like to exchange concepts and ideas with people who share the same interest. There were scientific studies that showed internet as one of the fundamental tools that can initiate social interaction with other group because of the media that it employ –private and confidential. A study of new media world I have seen a lot of times how the internet, especially the social media sites are able to create a life changing situation for people. The people who are introverted and who never socialized with the peer have to found comfort with other people on the social media site because there of the feature of this social media tool to contain privacy and confidentiality. These people have learned and solace from the non-judgment factors. Social media sites are a better way to improve social life because rejection from people who are superficial- based, these site were formed and built to create a means for other people to improve their social being and in the end create a new environment that is socially interactive. Prior to the existence of the social media on the web, people are accustomed to getting and acquiring the information they need through other forms such as newspapers, manual books, researchers, and other forms of literatures that were manually bound and published. These materials are often called as the traditional forms of media. Social media is the interaction that happens and transpires between ad among people that result into essential tidbits of information employee the internet technology as the main channel of communication. In a study, I found there are so many social media elements, social media systems; social media relations, social media communications tools & technology, bringing cultural change in new society.

OBJECTIVES

The study aimed to fulfill following objective:

1. To explore the social media communications tools and technology - 5th pillar of our society.

2. Impact of social media elements and relations.

PARTICIPANTS AND PROCEDURE OF SOCIAL MEDIA SYSTEMS

The social media world for the study comprised the general students from DELHI and NCR. A sample of 130 respondents comprising 130 from DELHI and NCR was selected on the basis of convenience sampling. The data has been collected personally at Kasturi Ram College Workshop with the help of well structured and non-disguised questionnaire. The perception of the respondents regarding 130 belief statements concerning

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using of Social media and visual culture aspects in everyday life has been measured.

The people for the study itself are not a difficult thing to understand. However when it requires understanding the social media in a deeper perspective, things becomes definitely different in social media systems. We try to discuss further the anatomy of the whole social media systems. a) When u have enough background in the usage of the internet and all the devices and software that made up the whole internet, things shall be pretty for you to understand. b) When u have the inclination to wok with the social media sites yourself the whole process learning the social media systems may be acquired instantly with ease. c) When u have the interest to understand the whole social media systems then it shall come very easy for you.

These attributes shall make the social media systems a lot more bearable and uncomplicated. These shall be helpful, too, in digesting way the social media concept. Really this all procedure makes our social life successful.

ANALYSIS AND DISCUSSION ABOUT SOCIAL MEDIA LIFE

This section provides the detailed analysis of social media communication tools and technology as well as the elements.

Social media communication tools and technology: The use of social media in the lives of people is potentially huge. With the social media fifth pillar of society at hand, there is an easy communication between and among people; relationship are built because of social networking sites, tools and technology. a) Forum site: It allows you to basically discuss things that u want to other people. Each morning before checking Yahoo! or Google News site like Times of India or any news sites, you first look at the stories your friends and people that you follow are sharing via Twitter or Facebook. Friends on social media are increasingly becoming people's trusted sources of information, even more than search engines. It is very easy to start and launch a business today, in great time, thanks to social media. We can not only locate potential collaborators and employees through interest-focused Facebook, Friendster groups, Twitter searches, and niche social networks, but perhaps more importantly, social media gives people who have time, but little money for advertising, the chance to engage with others and promote their business. People certainly still meet others at social venues like clubs and parties, but it is easier than ever to discover people who share our interests through social media, whether that means via groups on Facebook or following people on Twitter. Most of the things that you to see on forum sites these days are things about how well an instrument or tool for social media has been creating waves on the internet. b) Weblog sites: people are currently hooked up with web logging either for freedom of expression or they want to earn out of web logging. Weblogs are like electronic dairies that allow you to scribble all your thoughts electronically which prompt you

for it to be privately or publicly open. The introductions are initially made through social networks, and then people develop the relationship using phone calls and in-person meetings. Social media is helping to create greater personal transparency. On Twitter, some individuals now have a billion or more followers, Facebook Pages can also have hundreds of thousands of fans, and YouTube videos can get millions of views when they go viral. Most of this content is coming from regular people, rather than big, corporate-owned media organizations. Even if we have few followers on Twitter or friends on Facebook or subscribers to our blog, the average person's influence is increasing as communication channels become more open and fluid. c) Wiki sites: Entertainment, Education, Food and Drink, Game, Health, Political, Product and Shopping, References, Religious, Sports, Travel and Geography, Wiki Farms and Foundation etc. These wiki sites are primarily intended for sharing textual concepts and ideas on a more comprehensive manner. The more common and most popular among the wiki family is the Wikipedia. d) IPod-casting or the podcast: Music is an evolving platform of the new social media generation, as the generation of today becomes musically attached; the need for a social media platform to respond to this demand came into existence. Here are most popular social networking sites (Latest update March, 2012):

1. Facebook 2. Twitter 3.Frinedster 4.Linkedin 5. Myspace 6. Google Plus+ 7. DeviantArt 8. LiveJournal 9. Tagged 10. Orkut 11. CafeMom 12. Ning 13. Meetup 14. myLife 15. myYearbook 16. Badoo

IMPACT OF SOCIAL MEDIA ELEMENT AND RELATIONS

People from the internet industry are very well aware of the need for strong and robust social media relations. A social media relation is such a diverse and at times very intricate branch of internet marketing. Social media is a composition of three very fundamental and basics things ---1. The marketing strategy 2. The internet as a technology, 3. And how people view the internet as a tool. These three things are essential to the success of social media relations. A study of social media would lead different types of activity, element and applications such as: Publish Share, Discuss/Allocate, Social Networking, Microblog, Lifestream, Livecast, Virtual Worlds, Social Gamming, and MMO.

Publish Share: You can create content and make it accessible to the global audience. Software applications are Blogger, wikia, dig etc.

Allocate: You can share photos, videos with the intended audience. Examples are flickr, Youtube, Picasa, Slideshare etc.

IM (Instant Messaging): Review products, opine on movies, and interact with other people. Web applications are Skype, Yahoo Messenger, Meebo etc.

Social Networking Websites: Which help you create your

profile and then connect with other users. Examples Facebook, ,MySpace, Friendster etc.

Microblog: Which help individuals to keep posting statements on anything like Twitter would be the perfect example.

Lifestream: It is a set of documents that are chronologically ordered and stored online. For example RSS, Chi.mp Lifestreaming and personal domain service, FriendFeed Lifestreaming service, Google Buzz Lifestreaming service embedded in Gmail.

Livecast: It shares live content with an audience in real time i.e. Yahoo Live, Justin.tv, stickam etc.

Social Gaming: pogo, doof, Farmville etc

MMO (Massively Multiplayer Online Game): These are multiplayer games, where hundreds of players can be supported simultaneously. Examples: Toontown Online, Cartoon Network Universe: FusionFall , Freaky Creatures, Infantry Online, SubSpace etc.

Social networking is means to connect with other people either to build relationship with other people – personally or professionally. It can take many different forms, including Internet forums, weblogs, wikis, podcast pictures, and video. Technologies include: blogs picture-sharing, wall posting, e-mail, IM, Music sharing, crowdsourcing, and voice over. It shows how organizations are communicating directly with important constitutions. Every step of daily life we touch with social media.

Impact of social media: With the fast evolution of social media, the Internet and its users both the potential clients and the business people, are seeing the server effects that it has brought. The sudden rise of the social media on the net brought another avenue for people to explore the capabilities and features of the Internet. The social media gave rise to more opportunity for business entrepreneurs to explore their choices in terms of building business in virtual world. There may have been positive impacts that people are able to experience about the rise of social media but along with the positive impact are also the negative things. But it has made it the prime source of information.

Political Impact: People all over the world have a platform where they can voice their opinions on every political incident that takes place. Political campaigns, live interviews of political leaders, information on political mandates, everything information is a click away.

Economic Impact from the Marketer's Perspective: Due to its reach a marketer has access to a larger set of audience. Viral marketing is one more great positive impact of Social Media from a marketer's perspective. This makes much more important for the consumer to interact with other consumers. Social Media becomes the ideal platform for such interactions. The consumer not only reviews a product or service but also gives feedback on how to make it better.

Social Impact: Internet communities, blogs networking sites have become an important part of life today; we can say it's the new face of youth. Right from researching about a new product in market to getting reviews of a movie to letting everybody know about what is happening in your life.

Technological Impact: Social Media has been a great platform for techies to share their ideas, brainstorm and create open source applications.

The impact of Social Media is all pervasive and fifth pillar of new society. You can create, collaborate, entertain, get entertained, review a product, discuss a movie, gossip with friends, find your life partner, the possibilities are endless.CONCLUSION

The world is getting closer everyday and everyone wants to be connected. World is moving more towards "information streams". The information comes to users rather than users have to make effort to get the information. The social networks can be extended to other media, for example Television now integrates Twitter feeds. In terms of personal relationships too the social networking is connecting people. Social media tools, element, relations sites have become very popular to find anything and to be connected with each other. Social networking can also be very crucial in medical help. Illness support communities can be created from which people can get information about common diseases and also first aid tips. In every era, cultures go through numerous changes, and in recent years ours has been more impacted than anything else by social media. Large media companies are not likely to go away overnight, nor will the need to communicate by phone or meet people in person, but social media is providing yet one more means of engaging with people on this vast planet of ours, and if used effectively can give all of us greater choice in how we live and what happens in our new media world. Really social media is the fifth pillar of new society.

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MEDIA REVOLUTION THROUGH NEW MEDIA

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Networks have become the most basic elements of human civilization, since everyday life would be unimaginable without communication networks. Although the scientific investigation of social networks has been going on for some decades it has only recently become such a popular area of research. New media creates a virtual world and it is playing a very crucial role in our networking society. Millions of people use the network of the Internet on a daily basis, which is why it has been found to have a fundamental effect on the social system of relationships. In the network society, communications channels are digitalized and interactive. Accordingly, the developed societies of the world are increasingly turning away from the mass media and orientating themselves towards personalized, tailor-made media contents. This article will tell you that how new media has changed into information age.

INTRODUCTION

We all live in a world that is surrounded with high speed Wi-Fi, our hands constantly touch the data hungry Androids, we scroll our tablets to be updated on all information and finally believing in e-expressing of anything and everything. Welcome to the world of New Media, a term which has been deeply absorbed by us all in our daily lives!

The beginning of the 20th century has brought in a strong revolution in our daily lives. There is a strong merger of traditional media such as film, images, music, spoken and written word, with an interactive and interesting power of Information Communications Technology (ICT) and perhaps most importantly the internet. As people are becoming more and more computer friendly the usage of digital content is increasing. One can now immediately adopt innovations in technology by providing its users with latest improvements in electronic and audio books, e-encyclopaedia and blogs.

The traditional country database is now smart compressed into digital e-books and websites, which have more potential to store much more information, simply because digital information requires very little physical space to contain it. Digital content has no physical boundaries as all one needs is an internet connection. So, no more time is wasted in meeting the concerned authorities or people from all over the world can gain access to information, all you need is a user name and a password. One can now get any information round the clock, access to the information at any time, night or day. The digital content, be it an e-book or information on a website provides a very structured approach. This provides a richer content in a more structured manner, thus browsing through a catalogue, book or a module becomes easy.

Retrieving information on any search term, subject etc has also become very easy. One no longer has referred 'n' number of books for research. Another important feature of digital content is that one can preserve it, conserve it and copy it. These are just a few that will help bring seniors into the twenty-first century technologically.

The contribution of New Media has been a huge benefit to the entire mankind community. It is the most powerful medium towards improvements in the field of education, technology and other e-processes. A Country's social, political and economic composition today most definitely correlates closely with its E-Governance Programmes as the profound impact of the New Media finds its way deeper into the realms of good governance. India's efforts in this field, along with its proven prowess in the Information Technology arena have been well recognised over the past few years.

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These New Technologies are making world so well connected that the world is turning into Global Village. The following Chart represents some New Media Technologies:
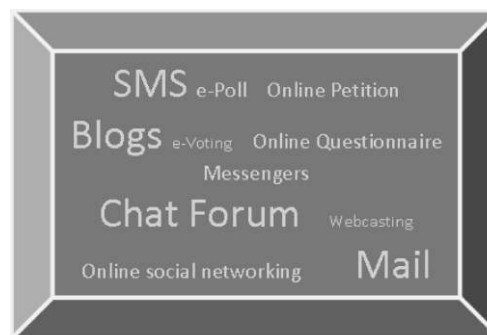
Thanks to the New Media initiatives undertaken in the various core sectors, the expectations of a common citizen for transparency, efficiency and integrity in his/her dealings with the government are being met to an appreciable extent. However, to maximise e-governance's effectiveness and realise its vast potential for bridging the so called 'digital divide', it is imperative that best practices and well established Information Systems, Projects, Knowledge Frameworks and Models developed by various Countries be brought together on a common platform to enable all to leverage on existing resources.

New media holds out a flexibility and latitude of on-demand entrée to content anytime, anywhere, on any digital device, as well as interactive user reaction, imaginative participation and community formation around the media content. Another important assurance of New Media is the democratisation of the creation, publishing, distribution and consumption of media content. What distinguishes new media from traditional media is the digitising of

content into bits.

THE BUSINESS

The new media industry has its segments in areas including virtual world games, designing, television, and radio. The entire movie, advertising and marketing industry has taken a big stride and these industries are making big through the Internet. The advertising industry has capitalised on the propagation of new media with large agencies running multi-million dollar interactive advertising subsidiaries. Interactional websites and informative kiosks have become well-liked. Advertising agencies and Public relations firms too have set-up new sections which carry on studies on new media on a regular basis.

SHRINKING WORLD AND NEW MEDIA

Globalisation is one of the biggest results of New Media and there has been an increased communication between people all over the world and the Internet. It has granted people to express themselves through web logs, social network sites, websites, pictures, and other user-generated media. This globalisation has not only shortened the distance between people all over the world by the electronic communication, but has also broken down the connection between physical place and social place, making physical location much less significant for our social relationships.

The New Media has successfully generated the very concept of public sphere, which enables public to communicate, express and speak out. This trend has been a very significant factor in changing and improving relationships between the public and the media and to some extent the country as well. Virtual communities are being established online and go beyond geographical limits, eradicating social limitations. New media has the capability to unite like-minded. Computers have almost become a soul server where in people join communities and group and exchange jests, have online chats, arguments, intellectual discourses, conduct online trading etc.

E-voting is a term encompassing several different types of voting, embracing both electronic means of casting a vote and electronic means of counting votes.

Electronic voting technology can include punched cards, optical scan voting systems and specialized voting kiosks (including self-contained direct-recording electronic voting systems, or DRE). It can also involve transmission of ballots and votes via telephones, private computer networks, or the Internet.

Electronic voting technology can speed the counting of ballots and can provide improved accessibility for disabled voters.

E-Poll - The goal is to bridge the gap between the availability of leading edge technologies and the existing issues related to their application to the voting process (e.g., legislation, confidentiality, security and reliability, roles in the election process, costs). One of the main obstacles to the introduction of electronic vote is the lack of clear guidelines about how to implement an electronic voting system; lack of standards has led to lack of interoperability between the developed solutions and to reduced confidence on the part of voters and legislators. The E-POLL project will address these difficulties by defining an abstract framework, defining the components of the electronic vote process (voting lists, virtual polling stations, vote collection systems, voter's identification devices, etc.) and the information flow between actors involved. This framework will address the vote preparation, the voter identification/anonymity, the voter authorisation, and the vote transmission/security/count

Blog originally was a personal website meant to be like a diary or journal. The word blog is the shortened version of the word weblog. A person would usually create a blog as a hobby to share their information and experience on a particular subject. The blogs are designed to be very easy to add new entries to, so the information on blogs is updated much more frequently than a traditional site. As the blogger adds entries to the blog, the viewers can add comments to the entries, so the blog becomes an interactive site. If the blogger is interesting it does not take long for that blog to create quite a following.

Vlog is a video blog post. The term can also refer to a blog made up entirely of video blog post. Vlog posts are created by creating a video of yourself or an event, uploading it to the Internet and publishing it within a post on your blog. in. the early days of blogging, vlogs were called podcasts, a term that was used to refer to both audio and video blog posts. Today the two have adopted their own distinct nomenclature.

Webcasting is a broadcast that is transmitted over the Internet and available by computer or through PDAs (personal digital assistance) or cell phones, either for immediate viewing or for delayed use. The webcasts, sometimes called streaming media, may be audio, video, or programming that integrates both. The programs are designed so that the viewer has an uninterrupted experience. Webcasts are used by commercial, non-profit and educational groups to inform, train or persuade.

Social networking is the act of interacting and networking with people in a social online environment by means of a website; these websites are appropriately known as "social networking websites". Social Networking is a popular online medium among folks of all ages. It encourages active participation, consideration, and keen interest must haves for any company!

BENEFITS VIA NEW MEDIA

The expanding digital universe and the amplifying Web has made lot of changes in our daily lives. The World Wide Web is providing unparalleled access to information and interaction for people all of all ages, profile and even to those who are specially-abled. The World Bank reports

that India has a population of around 80 million which is disabled and social problems like illiteracy, unemployment and poverty among the disabled is very high. The New Media cares for the specially-abled too to make them aware of all what is happening around the globe and not allow their impaired-ness from debarring from enjoying the splendour of all what it serves.

INSTRUMENT FOR SOCIAL ALTERATION

The New Media has been used pan-optically by social movements to civilise, unionise, share cultural products of movements, communicate, and more. Researches have shown that people have been devoting for blogging and especially for social causes. From Aircel's Save the Tigers mission to Bellbajao.org, New Media has proven results in terms of shouldering social responsibilities.

NGOs too have found success using blogging and social networking to increase their role in policy debates, get their message in front of key audiences and connect with supporters.

The use of new media technologies to encourage social change is very much a work in evolution mode. Organisations have a high awareness in using new media tools but are still hesitant about which can work the best for them, how much time they want to invest in this effort and how best to use the embryonic technology. But this much is certain: The importance new media plays in will only increase in coming years and organisations that intend to thrive in that environs have to make an intensive endeavour now to stay ahead of the curve.

CONCLUSION

On the whole new media has turned information age into interactive age and has given birth to networked society. This Global village allow us to do things openly and now we are operating these technologies in our hands via Mobile phones too. It is interesting to note that the technologies for new media have been in existence for decades however it was only in recent years that these technologies have grown enough for common people than technical experts to use. Its improved usability coupled with innovative uses of new media has resulted its popularity today.

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