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THE ACCEPTANCE OF THE E-FILING SYSTEM BY INDIAN TAXPAYERS: A CONCEPTUAL STUDY.

Sukhjeet Kaur Matharu*

Tax e-filing is one of the e-government services that have been adopted by many developed countries, where the public has to emancipate their responsibility to the government through online tax filing. Indian economy is at a developing stage and there is still more to come in every stage of its development. The income tax department of India launched the electronic tax filing system of Income Tax Returns in year 2017. Despite the rapid adoption of e- tax filing in many countries, researchers have argued that due to its high perceived risk by public, there is a need to establish an integrated system that is reliable, especially in developing countries like India. The present study focuses on understanding the various aspects of e-taxation in India in the recent past, the present position and the future prospects. The study also tries to explore the factors within the technology acceptance model (TAM) that effects the adoption of e-taxation. The study will serve as a useful guideline for development of strategies in promoting the tax e-filing service in India.

Keywords – e-taxation, Income Tax Return, Perceived risk, Internet.

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INTRODUCTION

The use of internet has been widespread and has been more diversified. The value-added services of internet will relatively be increased which also benefits the users (Pavlou et al., 2007; Barako et al., 2008). As a result, there are more and more corporations or organizations wish to transmit information or trade via internet (Chi et al., 2007; Haque et al., 2009). e-service refers to the provision of customer services via the internet (Prins and Verhoef, 2007) which is valued by government in every country (Efebera et al., 2004; Briggs, 2008). In this digital era, governments of many countries are using the internet to provide public services to its citizens, known as e-Government. e-government is becoming increasingly more important in today's world due to its effectiveness and applicability in various areas. e-government is a relatively new area of study in the Information Systems (IS) field that is concerned with use of ICT by the government agencies to electronically deliver its services (The World Bank Definition). Yildiz (2007) mentions that e-government refers to the use of ICTs by public administration to create a networked structure for; interconnectivity, service delivery, efficiency, effectiveness, transparency, and accountability. One prominent type of e-government is the introduction of the e-filing system for income tax. Through this system, taxpayers are able to submit their tax returns electronically to the tax authorities. However, this system is slow in gaining acceptance by taxpayers.

In 2007, the income tax department of India started the facility to e-file income tax return (ITR) online for individual taxpayers, under its agenda of e-governance. The overall aim of e-taxation is to replace cumbersome manual, bureaucratic service systems with collaborative, efficient, process-driven and secure online delivery. Cutting edge technologies have made solutions more user-friendly in terms of ease-of-use. Appealing user interface and smooth navigation make the experience easier than ever. Despite the rapid adoption of tax e-filing in many countries, researchers have argued that it is yet to establish an integrated system that is reliable, especially in developing countries.

Definition

Electronic taxation is a new form of tax payment that does not require going to tax authorities and tax payment through information and communication. It is a new electronic government application and a new perspective for public service. System is composed of turning in tax declaration forms that defines tax owed to tax authorities in an electronic format and pay taxes via electronic environments based on internet through interactive bank accounts or by ATM bank machines. Electronic taxation differs among countries hence the name of the system also differs from country to country. Electronic declaration is named electronic tax filling (Gellis, 1991) in International literature. E-tax payment is also called online taxation payment (UN, 2007) or e-tax lodgement (Turner and Apelt, 2004).

Electronic tax payment first coined and implemented in US (Turner and Apelt, 2004). Today, electronic taxation has been extended to many countries. The major countries having the applications of e-taxation are as follow: Australia, United States, Canada, United Kingdom, Ireland, Germany, France, Italy, Netherlands, Finland, Sweden, Switzerland, Norway, Singapore, Brazil, Mexico, Chile, India, China, Thailand, Taiwan, Malaysia and Turkey.

REVIEW OF LITERATURE

At present, there is very limited literature that focuses on the adoption of e-filing systems. Most of the literature related to e-filing adoption applies and extends the well known technology acceptance model (TAM) by Davis (1989) (Wang, 2002; Chang et al., 2005; Gallant et al., (2009), theory of planned behaviour (TPB) by Fishbein and Ajzen (1975) (Hsu and Chiu, 2004; Hung et al., (2006) and a unified model of both theories (Fu et al., 2006) to assess the adoption intention of the e-filing system. Other literature such as Carter et al. (2008) used the Unified Theory of Acceptance and use of Technology (UTAT), while Wang et al. (2007) used the Innovation Diffusion Theory to observe e-filing adoption among taxpayers. Lofstedt (2005) concluded from her research article that only a 'few studies have explored the core factors that influence citizens adoption of e-services'. Dimitris Gousco (2001), has discussed about the concept of e-government, strategic objectives for electronic

services, business planning for electronic services, technologies for delivering electronic services and evaluating the performance of electronic services: penetration and performance.

Bhatnagar S.(2006) discussed about the different perceptions and delivery models of e-government and also about the cases resulting in multiple benefits: improved service delivery, reduced corruption, increased transparency, increased revenue, cost reduction; and empowerment. Chaudary.S.K. (2008) in his article discussed about the advantages of e-Taxation and provided clarity and certainty on various tax related issues to assesses. Livingston.M.A (2006) in this article titled “Progressive Taxation in Developing Economies: The Experience of China and India” has discussed about the progress of taxation in developing economies especially of India and China. Most of them has discussed about the service of e-taxation, its advantages, process and the technology advancement. (Bhatnagar 2002). Despite India’s economic prosperity and emerging influence in the development of Information Technology (IT) sector in south-east Asia (Bajwa, 2003), there are limited studies that have addressed adoption of e-government services in India.

RATIONALE

In India, e-government research is in its early stages (Gupta and Jana 2003) and a country with huge population can hardly afford to be left behind in harnessing the benefits of implementing e-government. e-filing may be useful but many people may not want to use it because they perceive it to be complex or not easy to use in the initial stage of introduction. This is the reason why the present study delves into understanding the determinants of perceived ease of use. In addition, information systems that users perceive easier to use and less complex will increase the likelihood of its adoption and usage (Teo et al.,1999).

OBJECTIVES OF THE STUDY

- To explore the various aspects of e-taxation in India in the recent past, the present position and the ways to improve the usage of e-taxation.
- To explore the factors within the technology acceptance model (TAM) that effects the adoption of e-taxation in India.

RESEARCH FRAMEWORK

This conceptual paper discuss about the e-filing adoption model, which is derived from the theoretical foundation of previous research in the theories of perceived risk as well as the technology acceptance model (TAM) by Davis (1989). TAM is constructed on the foundations of perceived usefulness and perceived ease of use. Perceived usefulness refers individual believe improve the degree of job performance through using particular new technology and information system. Perceived ease of use indicates the ease that the individual learn to operate or use new technology or information system (Davis et al., 1989). TAM is widely applied on the researches of information technology. Liu and Arnett (2000) examine the significant variables to build a successful website based on TAM theory. Gefen et al. (2003) combine TAM and trust to propose an integrate model for explaining online consumer behavior. Pavlou (2003) proposes e-commerce acceptance model of online consumers by applying experiment designs and survey

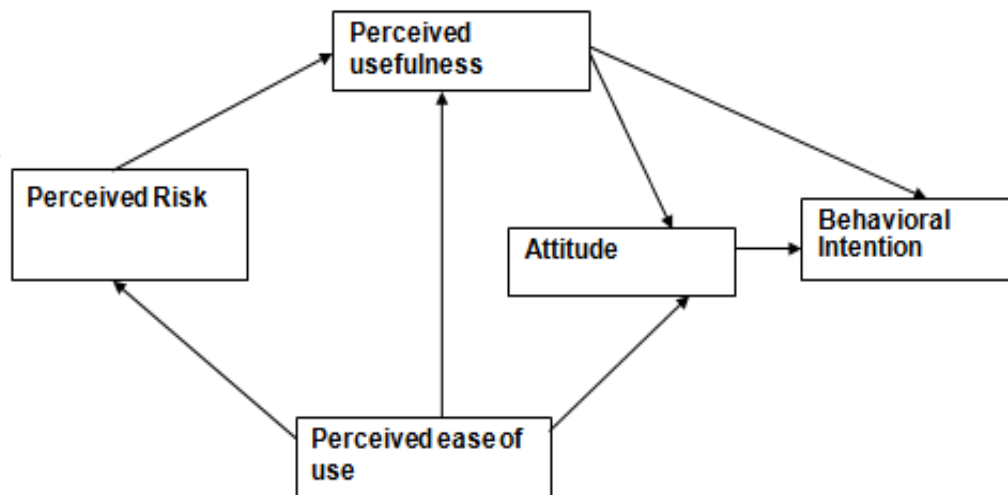


Figure 1. Technology acceptance model.

Source: Davis F.D., Bagozzi R.P., and Warshaw P.R. (1989).

Perceived usefulness, perceived ease of use and perceived risk were shown to be important factors to influence taxpayer's perceptions on the electronic tax-filing system. The model

suggests that a system that is useful and easy to use is important for taxpayers to voluntarily e-file their tax returns. Third factor i.e the perceived risk was found to have a negative influence on behavioral intention. Seven different facets of perceived risk are performance risk, financial risk, time risk, psychological risk, privacy risk, social risk and overall risk also influence an individual to adopt or reject the e-filing system (Featherman and Pavlou, 2003). Performance risk means the risk that users are exposed to if the e-filing system malfunctions. This can happen during the last minute rush to meet the deadline of tax return submission. Financial risk measures monetary loss due keying-in incorrect information in tax returns that may lead to the wrong calculation of tax payable. Time risk measures the amount of time lost trying to learn to operate the e-filing system. Psychological risk means the feelings of frustration or anxiety in using this system by IT illiterate. Social risk means the negative perception that adopters of e-filing may face such as the loss of status in society. Privacy risk occurs when private information such as monthly income, personal addresses, and bank account numbers is transmitted of information through the internet in an e-filing system. e-filing involves the transmission of through the Internet.(Anna A. et al.,2010)

Attitude is classified into two factors namely attitude toward the object and attitude toward the behavior. The latter refers to a person's evaluation of a specified behavior. This evaluation of a specified behavior leads to certain behavioral intention that further results in certain behavioral action. Here the behavioural intention means the adoption of e-taxation.

RECOMMENDATIONS

India is at a developing stage and there is still more to come. Moreover, India's population is still residing in villages but the serious action taken at the grass-root level in terms of e-taxation system ensures the fact that e-Taxation is definitely going a way ahead for its progress. Whatever is the percentage of progress but there is an improvement year-by-year which convincingly shows the positive sign in the development of e-taxation system in India. The government should increase its efforts to promote the usefulness and user-friendliness of the e-filing system (Fu J.R., Farn C.K., and Chao W.P. ,2006).

To increase the perceived usefulness of the system, the government should invest in more advertising campaign that create awareness about the usefulness of e-filing. This campaign should be strategically administered during the tax filing months. The system's ease of use

should also be stressed in the advertisement campaign (Anna, Che Azmi and Yusniza, 2010). The user-friendliness of the system can be improved by creating web-based tutorials or videos that guide the taxpayers on how to use the e-filing system. 24 hours online services should be provided during the tax filing months so that the taxpayers could choose to e-file their returns at odd hours also.

Risk reducing strategies could be formulated to encourage e-filing adoption such as improved security features for the user interface. Government could employ multiple firewalls such as, use the latest anti-virus and worm detection software, and all internet transmissions should use SSL (Secure Sockets Layer) encrypted security measures. The embedded security features in the e-filing system need to be communicated to taxpayers so that they become aware that the e-filing system is secure. To raise the trust of taxpayers which will help taxpayers to understand the advantages and outweigh the disadvantages of on-line taxation. The tax authorities could develop several methods of helping tax payers e-file such as a web-based tutorial or a video that guides the taxpayers throughout the e-filing process that can reduce psychological risk (Belanger and Carter, 2008). Frequent malfunctions and complex process will discourage any taxpayers who will e-file. Government has to improve the performance of the e-filing system. Usually, tax payers' e-file near the tax deadline which creates a high volume of traffic, authorities has to ensure that the system could cope with the traffic demand. Rebates in taxes can be offered to the taxpayers that e-file their returns early. Outsourcing the e-filing service to private companies could be the alternative.

CONCLUSION

Today governments around the world are increasing the use of information and communication technologies to improve the delivery of public services and the dissemination of public administration information to the public. In India, e-filing of income tax returns is among the most popular facilities introduced by the government. The important aspects of the e-filing system is that it would enhance taxpayers' perceived ease of use, usefulness and reduce the riskiness of the system are essential to increase adoption of the e-filing system. In the Financial Year 2011-12, more than 16 million returns were filed online. However, the adoption of this facility is still to reach its optimum penetration once people realize how secure and easy online tax filing is. e-taxation is like a dark horse in all its respect which has

definitely shown some progressive outcome and it's surely going to make its full time place in the Indian Tax System. This research paper was an attempt to explore the four factors of TAM model that are crucial for the adoption of e-government services (Carter, 2008). Accordingly, effective evaluation of the performance of e- taxation services, policy makers can improve strategic planning for e-taxation service investments through monitoring these four factors as intention indicators.

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A CONCEPTUAL OVERVIEW OF ROBOTICS AND ITS APPLICATION IN DIFFERENT INDUSTRIES

Dr Bharti Malukani*

The world is witnessing the emergence of Robotic and its application in our daily life. The modern meaning of the word 'robot' has its origins in a 1920 play by Czech writer Karel Čapek. The word robot comes from the Slavic word robota, which is used to refer forced labor. Robotics brings together different engineering areas and skills. Today, robotics is a rapidly growing field, as we continue to research, design, and build new robots that serve various practical purposes, whether domestically, commercially, or militarily. A mechanical device able to perform some preset motions but with no ability to adapt is considered a robot. Many robots do jobs that are hazardous to people such as defusing bombs, exploring shipwrecks, and mines. This research paper is an attempt to understand the concept of robotics and its applications in different industries.

Keywords: Robotics, Robots, Application, Artificial Intelligence etc.

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INTRODUCTION

A robot is a programmable mechanical device that can perform tasks and interact with its environment, without the aid of human interaction. Robotics is the branch of technology that deals with the design, construction, operation, structural disposition, manufacture and application of robots. These technologies deal with automated machines that can take the place of humans, in hazardous or manufacturing processes, or simply just resemble humans. It has recently receives extensive attention from robotics community. The focus on the robotics industry has contributed positively in economic growth and the improvement of the strategic needs. Early graphics programming was done by turning pixels on and off; just as early robot programming was done by turning motors on and off. But graphics has developed into a wonderfully rich field that includes specialties such as Web design, game design, and scientific visualization. The applications of computer graphics have outgrown the confines of a single discipline. Better algorithms for perception and manipulation, and high-level frameworks for robot instruction will enable robotics application development by a diverse population of users and innovators.

A robot is a mechanical or virtual intelligent agent that can perform tasks automatically or with guidance, typically by remote control. Robots can be autonomous, semi-autonomous or remotely controlled. Robots are extensively used in many diverse industries ranging from semiconductor manufacturing to electroplating (Dawande et al. 2005). A robot has following characteristics: It is an electric machine which has some ability to interact with physical objects; it is reprogrammable (J.M.Selig, 1992) and it have some ability to perceive and absorb data on physical objects, or to process data, or to respond to various stimuli. A recent example of human replacement involves Taiwanese technology company Foxconn who, in July 2011, announced a three year plan to replace workers with more robots. At present the company uses ten-thousand robots but will increase them to a million robots over a three year period.

Different things which help robot for its efficient working include: sensors and effectors. Sensors are the parts that act like senses and can detect objects or things like heat and light and convert the object information into symbols or in analog or digital form so that computers understand and then robots react according to information provided by the sensory

system Sensors tell the robot position / change of joints odometers, speedometers etc; Effectors converts software commands into physical motion. There are two types of effectors manipulation and locomotion. Feedback Controls: These are provided by cameras, pressure sensors, temperature sensors, limit switches, optical sensors.

According to Issac Asimov (1941), there are three laws of Robotics : Law 1: A robot may not injure a human being or through inaction, allow a human being to come to harm. Law 2: A robot must obey orders given to it by human beings, except where such orders would conflict with a higher order law. Law 3: A robot must protect its own existence as long as such protection does not conflict with a higher order law.

LITERATURE REVIEW

Fong et al. (2003) stated that robot can express and observe feelings, is able to communicate via a high-level dialogue, has the ability to learn social skills, the ability to maintain social relationships, the ability to provide natural cues such as looks and gestures, and has (or simulates) a certain personality and character. Dawande et al. (2005) showed an extensive literature on robotic cell scheduling problems. Crama et al. (2000) surveyed cyclic scheduling problems in robotic flowshops, whereas Galante and Passannanti (2006) studied the use of dual gripper robots in a robotic flowshop, where each part must go through all of the machines in the same sequence.

Advances in robotics are reported weekly at technology news sites such as Robots.net, while the popular magazines *Robot* and *Servo* are energizing the robotics hobbyist community the way *Byte* and *Dr. Dobbs' Journal* once nurtured amateur computing enthusiasts. Advances in sensing, actuator, and power technologies are fueling an explosion in robotics comparable to what microprocessors did for computing three decades ago (David,2010). Bill Gates (2007) drew a parallel between today's robotics industry and the computing industry at the start of the PC revolution. In a flexible manufacturing cell, the processing times can be altered or controlled (albeit at higher cost) by changing machining conditions such as cutting speed and feed rate. A summary of processing time is a linear function of the amount of resource allocated to the processing of the job presented in the recent survey of Shabtay and Steiner (2007).

APPLICATIONS OF ROBOT INDUSTRY

Mobile Robot: Mobile robots have the capability to move around in their environment and are not fixed to one physical location. The simplest case of mobile robots is wheeled robots. Wheeled robots comprise one or more driven wheels and have optional passive or caster wheels and possibly steered wheels. Most designs require two motors for driving and steering a mobile robot (Thomas Branul, 2006).

Industrial Robots: Robots are being used more and more in industry as a substitute for the human work force. It is an automatically controlled, reprogrammable, multipurpose, manipulator programmable in three or more axes, which may be either fixed in place or mobile for use in industrial automation applications. The precision and productivity aspect of robots are the major reasons manufacturing has gone through huge technological achievements in such a short time (S. Shafiei-Monfared et al., 2009). Robots are primarily used as material handling instruments. A robotic cell is defined as a manufacturing cell composed of a number of machines and a material handling robot (Serdar Yildiz et al., 2011). Robots cut and shape fabricated parts, assemble machinery and inspect manufactured parts.

Pick and Place Robots: Mass-produced printed circuit boards (PCBs) are almost exclusively manufactured by pick-and-place robots which remove tiny electronic components from strips or trays, and place them on to PCBs with great accuracy. Such robots can place hundreds of thousands of components per hour, far out-performing a human in speed, accuracy, and reliability.

Telerobots : They are used when a human cannot be present on site to perform a job because it is dangerous, far away, or inaccessible. They can also be used to avoid exposing workers to the hazardous and tight spaces such as in duct cleaning. When disabling a bomb, the operator sends a small robot to disable it.

Mining Robots: These are designed to help counteract a number of challenges currently facing the mining industry, including skills shortages, improving productivity from declining ore grades, and achieving environmental targets.

Traffic signal Robots: A traffic signal robots can be used to manage and control traffic.

Service Robot: A service robot is a robot which operates semi- or fully autonomously to perform services useful to the well-being of humans and equipment, excluding manufacturing operations. Like in post office robots can be used in stamping and related things. It is useful for banks and back office work.

Modular Robot: Modular robot is a new breed of robots that is designed to increase the utilization of the robots by modularizing the robots.

Sports Robots: Sports and recreation is the main area of robotics industry. Examples of those are toys used for kids and soccer fields' robots, where teams used to play real matches using just robots.

Space Robots: Applications outside the Earth's atmosphere are clearly a good fit for robots. It is dangerous for humans to get to space, to be in space and to return from space. It is easy for manipulator to restore parts, to fix the space ship, and to direct the whole space shuttle. Wettergreen D.(2004) has thrown light on Field-deployable mobile, robots System synthesis, Software architecture and engineering; Sensor-based guidance, Adaptive control and learning; Mobility; Exploration and autonomy.

Underwater Robots: Robotic underwater rovers are used explore and gather information about many facets of our marine environment. One example of underwater exploration is to use robots for underwater cable inspection, and for telecommunications. Robot made by Sydney University where the robot is send by itself with a mapping system and all the work is done autonomously.

Security Robots: Some robots are used to investigate hazardous and dangerous environments. In these environments, robots are used for firefighting, for entering into dangerous areas and for removing of injured persons in natural disasters. Another important applications of robots in security is for inspection and search for dangerous materials.

Military robots: The US Navy has funded a report which indicates that, as military robots become more complex, there should be greater attention to implications of their ability to make autonomous decisions. Robots are used during war for mine removal and entering into dangerous areas where robots will use guns as their manipulators. Meanwhile, more than 40 nations now have military robotics programs (Levinson , 2010)

Farms robots:– Programmed robots are used by harvesters to cut and collect crops. Robotic milk farms are existing permitting workers to nourish and milk their cattle distantly.

Medical Robots: Robots are able to perform major operations while only making small incisions, patients receive many benefits. Robots are used to perform heart surgery without opening patients chests, provide assistance to people with severe restrictions on movement, can provide exercise platforms to help restore limb function and can monitor the condition of patients. They reduce post-operative discomfort, reduce costs and provide improved access to quality medical care (Howie Choset).

FUTURE OF ROBOTS

Robonaut is a humanoid robot being designed at NASA Johnson Space Center in cooperation with DARPA. It consists of two arms, two hands, a head and a waist. It is currently teleoperated with a small amount of autonomy. They are going to be more robust to send specialized machine per task. Due to their multifunctional ability, they are highly cost saving and their capability is high. They are applicable in space station repair, Mars exploration, Moon station etc.(self replication). Besides, in construction industry, since both effectors (Locomotion with manipulation) are possible, robots may also be used in mine sensor support w/shoring, building construction and architecture. Robots can also be used for search and rescue operations. They can also be used in undersea mining and planetary mining. Although most robots in use today are designed for specific tasks, the goal is to make universal robots, robots flexible enough to do just about anything a human can do. Thus Robotics is a wide field and its revolutionary innovation makes our life simple.

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E-BANKING: REVIEW OF LITERATURE

Anukool Manish Hyde*

A feature of the banking industry across the globe has been that it is increasingly becoming turbulent and competitive, characterized by an increasing trend towards internationalization, mergers, takeovers and consolidation of the banking industry. Moreover a number of non-banking companies are entering the banking industry by offering financial products and services (e.g., Toyota's credit card, GM's auto financing, Merrill Lynch investments). This has given a myriad of options to customers in choosing banking services. Internet banking has attracted the attention of banks, securities trading firms, brokerage houses, insurance companies, regulators and lawmakers in developing nations since the late 1990s. With the rapid and significant growth in electronic commerce, it is obvious that electronic (Internet) banking and payments are likely to advance. This study attempts to explore literature review on e-banking and gives conclusion on the basis of past studies.

Key Words: e-banking, Information technology, Internet.

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INTRODUCTION

Today's world is one with increasing online access to services. One part of this which is growing rapidly is online banking. Combined with online retailers there is a lot of money changing hands, directed only by communication over the internet. This is very convenient and the ready access to the internet in all first-world countries, coupled with the cost savings from closing bank branches, is driving the deployment and adoption of these services. Purely online transactions, however, lead to increased risk. None of the normal safeguards of real-world transactions are present. Conversely, risk to the criminals is a lot lower (the attacker can be in a completely separate jurisdiction from all the other parties in the transaction) and the retailer sees nothing but a faceless, nameless connection providing card details. Banks have traditionally been in the forefront of harnessing technology to improve their products, services and efficiency. They have, over a long time, been using electronic and telecommunication networks for delivering a wide range of value added products and services. Penalty due to non-payment of bill is not new to anyone of us. And quite obviously, who likes the long procedure of writing a cheque, standing in a long queue and then ensuring that the particular amount is available in your bank account? Indian banks are trying to make our life easier. Not just bill payment, we can make investments, shop or buy tickets and plan a holiday at your fingertips. Services are as under:

➤ Bill Payment Service

Almost all banks have tie-ups with various utility companies, service providers and insurance companies, across the country. One can facilitate payment of electricity and telephone bills, mobile phone, credit card and insurance premium bills. To pay bills, all we need to do is complete a simple one-time registration for each biller. We can also set up standing instructions online to pay your recurring bills, automatically. One-time standing instruction will ensure that we don't miss out on our bill payments due to lack of time. Most interestingly, the bank does not charge customers for online bill payment.

➤ Fund Transfer

One can transfer any amount from one account to another of the same or any another bank. Customers can send money anywhere in India .Once we login to our account, we need to

mention the payees' account number, his bank and the branch. The transfer will take place in a day or so, whereas in a traditional method, it takes about three working days.

➤ **Credit Card Customers**

Credit card users have a lot in store. With Internet banking, customers can not only pay their credit card bills online but also get a loan on their cards. Not just this, they can also apply for an additional card, request a credit line increase and we can forbid if we lose our credit card, we can report lost card online.

➤ **Railway pass**

This is something that would interest all the *aam janta*. Indian Railways has tied up with ICICI bank and we can now make our railway pass for local trains online. The pass will be delivered to us at our doorstep. But the facility is limited to Mumbai, Thane, Nashik, Surat and Pune. The bank charge quite nominal service tax for these services.

➤ **Investing through Internet Banking**

Opening a fixed deposit account cannot get easier than this. One can now open an FD online through funds transfer. Online banking can also be a great friend for lazy investors. Now investors with interlinked demat account and bank account can easily trade in the stock market and the amount will be automatically debited from their respective bank accounts and the shares will be credited in their demat account. Moreover, some banks even give the facility to purchase mutual funds directly from the online banking system.

So one need not worry about filling those big forms for mutual funds, they will now be just a few clicks away. Nowadays, most leading banks offer both online banking and demat account. However if you have your demat account with independent share brokers, then you need to sign a special form, which will link your two accounts.

➤ **Recharging your Prepaid Phone**

Now there is no need to rush to the vendor to recharge prepaid phone, every time when talk time runs out. We just need to top-up our prepaid mobile cards by logging in to Internet banking. By just selecting our operator's name, entering our mobile number and the amount for recharge, our phone is again back in action within few minutes.

➤ **Shopping at your fingertips**

Leading banks have tie ups with various shopping websites. With a range of all kind of products, we can shop online and the payment is also made conveniently through our account. We can also buy railway and air tickets through Internet banking.

LITERATURE REVIEW

E-banking is an innovation when new information technologies merge into traditional banking services. Operating costs minimization and revenue maximization are the major drivers that boost e-banking services (Sannes, 2001; Reibstein, 2002). E-banking service is basically a self-service by customers, so for banks, it requires less resources and lower transaction and production costs (Southard and Siau, 2004; Witman and Poust, 2008). A study about the e-banking over 1999–2006 shows that the application of e-banking can improve banks' performance in terms of the growth in assets, reduction in operating expenses and portfolio enhancement (Dandapani et al., 2008). Even in 1990s, Sraeel (1996) emphasises that creating virtual banking will not only create a new service delivery channel, but also lead to value creation to both banks and customers (Hwang et al., 2007; Murphy, 2007). Amato-McCoy (2005) further argues that customers will be attracted to e-banking when the advanced e-banking services like e-transfer and e-bill options are available. Through interviewing banks in a small island and examining their e-banking websites from 2004 to 2006, Jenkins (2007) indicates that those banks were using e-banking as an assurance to their customers to maintain a competitive quality of service. To continually improve the performance of e-banking services, several core-capacities are critical:

- Planning new IT infrastructure
- Enhancing transaction security
- Providing value-added content
- Delivering differentiated services
- Managing customer relationships
- The retention and expansion of relationships with relative older and lower IT awareness customers (Wu et al., 2006).

Consumers today are much selective in choosing banking services in terms of their demands and preferences. To be competitive, banks must develop services to satisfy customers as well as delight them at the same time. Liao and Cheung (2002) indicate that the most important quality attributes underlying perceived usefulness of e-banking are expectations of accuracy, security, network speed, user-friendliness, user involvement and convenience. A basic Electronic Service Quality standard is developed with four dimensions: efficiency, fulfilment, system availability and privacy (Parasuraman et al., 2005; Ibrahim et al., 2006). Herington and Weaven (2007) indicate that online service quality has no direct impact on customer delight, e-trust or the development of stronger relationships with customers, but it does have a relationship to e-loyalty. Their research also indirectly explains the change of households of using online banking service. For example, in 2003, 91% of US households held bank accounts and 93% of those used at least one electronic transfer of funds option with their account (Kolodinsky and Hogarth, 2004). However, Fest (2007) points out that only 40% of US households took advantage of e-banking service, whereas over 50% of households that had not been attracted yet to e-banking because those customers might have had a bad experience on a self-service site (Swann, 2008). The winners in e-banking industry are those banks that are able to successfully enhance their offerings while simultaneously enhancing security measures and getting customers to believe in them (Rombel, 2006). In addition, for all e-banking customers, customer satisfaction is affected not only by banks' service quality, but also by their cultural features (Levesque and McDougall, 1996).

E-banking in developing countries grows rapidly in the past decade (Akinici et al., 2004). Their research indicates that for consumers' attitudes and adoption towards e-banking, there were significant differences between the two groups, e-banking users and non-e-banking users, with respect to demographic profiles, attitudinal properties and preferences for service delivery channels. For instance, in China, there were only 6000 computers connected to the internet with 40,000 internet users in 1995, but there were 10.2 million internet-connected computers and 26.5 million internet users nationwide by the end of June 2001 (Zhao, 2002). Lu et al. (2005) reveal that one of the key strategic responses of banks in China before joining WTO was to develop e-banking to a more competitive environment, even under the current condition of lack of practical customer credit system. In another research, Laforet and Li (2005) examine the extent of e-banking and m-banking in China by investigating its market status, identifying the target customers, the demographic characteristics of users and non-

users, and comparing their attitudes towards e-banking adoption. They conclude that there was a low awareness of such services in China, owing to security concerns, perceived risks, low computer skills and a Chinese tradition of cash-carry banking.

The rise of Internet Banking is also due to its number of benefits for both the provider and the customer as well. From the bank's perspective these are mainly related to cost savings (Sathye, 1999; Robinson, 2000) and internet banking remain one of the cheapest and more efficient delivery channels (see Pikkarainen et al, 2004). Other rationales for the adoption of such services are also related to competition as internet banking strategy has been an interesting way to retain existing customers and attract new ones (Robinson, 2000) and to the numerous advantages to banks for instance, mass customization, more effective marketing and communication at lower costs amongst others (Tuchila, 2000). Benefits for the end users are numerous as well and include mainly convenience of the service (time saved and globally accessible service), lower cost of transaction and more frequent monitoring of accounts among others (Pikkarainen et al, 2004). However, it should also be noted that there are still customers who fear to make use of Internet banking, as they are concerned with security aspects of such a system.

Centeno (2004) argues that speed, the convenience of remote access, 24/7 availability and price incentives are the main motivation factors for the consumers to use internet banking. Durkin et al. (2008) notes that the simplicity of the products offered via internet banking facilitates the adoption of internet banking by consumers. Calisir and Gumussoy (2008) compare the consumer perception of internet banking and other banking channels and report that internet banking, ATM and phone banking substitute each other. Maenpaa et.al. (2008) examine the consumer perceptions of internet banking in Finland and their findings indicate that familiarity has a moderating role in the perception. Guerrero et al. (2007) examine the usage of internet banking by Europeans and their results indicate that ownership of diverse financial products and services, attitude towards finances and trust in the internet as a banking channel influence clients' usage of internet banking. Confirming other papers, Sohail and Shanmugham (2003) document accessibility of internet, awareness of e-banking and resistance to change are found to be influencing Malaysians use of internet banking. Another factor that promotes clients usage of internet banking is seller support (Nilsson, 2007).

The rapid expansion of internet banking is most noticeable in the developed countries such as the USA where the availability of computers and easy access to the internet has made it easier for banks to adopt internet banking. Adoption of internet banking services in developing countries appears to be taking place at a slower pace. In recent years however, banks in developing countries are increasingly offering internet banking services despite the limitations they face. Polatoglu and Ekin (2001) reported that, since 1997 several leading Turkish banks have offered online banking services successfully. According to the Turkey banks association, 27 out of a total of 47 banks, in other words 58% of all banks in Turkey were offering internet banking services in 2006 (Banks Association of Turkey, 2006).

Joseph and Stone (2003) investigated the customer perception of the impact of technology on service delivery in the banking sector. According to the findings of this research, high scores on the ability to deliver service via technology appear to be correlated with high satisfaction with services deemed most important to customers. Hence, availability of internet banking services appears to be very important for banks for customer satisfaction and retention. However, availability of internet banking services itself is not a sufficient factor to increase customer satisfaction. User friendliness of the internet banking services appears to be an important factor for customers to use these services. In a similar study, Lang and Colgate (2003) found that customers who do not have IT gap, find it easier to use internet banking services therefore they have higher satisfaction levels than the ones who do not have IT skills. The empirical study by Broderick and Vachirapornpuk (2002) also show that the level and nature of customer participation in using internet banking services has the greatest impact on the perception of service quality.

CONCLUSION

Studies show that the mostly used e-banking services are inter account transfer, payment to other personal account, transfer to credit card account, recharge mobile phones, standing order transactions, savings, current and fixed deposit account application and debit/ credit card. No doubt studies reveal that e-banking reduces time in transactions as well as crowd in the banks. One can easily sit at home or at cyber to have transfer of money, recharge of vouchers, making FD's, etc. Few banks have offered full-service online banking successfully. Banks have not only provided e-banking facility to the customers but also increased the

satisfaction level of customers. In India, people are still not fully aware of advantages of e-banking but those who are tech savvy are using e-banking successfully. There was a time when customers used to go the bank, Insurance companies, and railway station for various purposes and used to stand in long queue for hours and hours but now many people prefer e-banking to save time, energy, fuel, money etc. Important thing is that people need to be technically sound so that they can use e-banking facility properly. Banks should also generate trust in the minds of customers that e-banking is safe.

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FLUCTUATING EXCHANGE RATES AND BALANCE OF TRADE IN INDIA: AN EMPIRICAL STUDY

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Amber Tiwari**

Exchange rate—the price of a currency in terms of another currency— is arguably the single most important variable in determining the economic environment for trade sectors. Appreciation or depreciation of currency affects the economic performance of a country. Any government at any point in time seek the stability of the exchange rate because it provides economic agents to plan ahead of varying costs and prices of goods and services. An exchange rate depreciation can make a country's exports cheaper and imports more expensive. Exchange rates in India are prone to high fluctuations, which are pegged against a strong currency, usually the U.S. dollar. This study examines the impact of fluctuations of Indian currency on foreign trading in India. Monthly data for the period of April 1997 – December 2012 will be used to estimate the dollar rate fluctuation in accordance with foreign trading with the help of regression model. Model testing procedure will include augmented dickey fuller test and Ordinary least square method.

Keywords: Exchange rate, trade, BOT, trade deficit.

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INTRODUCTION

The effect of exchange rate fluctuations on real activity has been subject to an extensive debate. The experimental investigations indicate that exchange rate fluctuations show asymmetric effects. It means that depreciation of exchange rate effects on macroeconomic variables, such as GDP, are different from appreciation exchange rate effects. With the depreciation of a currency, products in the developing countries whose currencies are pegged to the dollar will become more competitive against third country products. This can increase their exports, reduce imports and improve their trade balances with countries other than the US. The opposite is likely to be true when there is appreciation of a currency in developing countries with floating exchange rates. Currency depreciation has negative effects on economic performance in developing countries. According to Guitian (1976) and Dornbusch (1988) exchange rate depreciation diverts spending from foreign goods to domestic goods.

Exchange rate changes affect firms within a given country differently. Firms face a number of risks when engaging in international trade, in particular economic and commercial risks that are determined by macroeconomic conditions over which they have little control, such as exchange rates and their volatility. Since the beginning of floating exchange rate regimes in 1973, many papers, both theoretical and empirical, have analysed the effects of exchange rates and exchange rate volatility on trade. No consensus has been reached regarding the effect of exchange rate volatility on trade in the large body of literature. As regards the level of the exchange rate, empirical studies find somewhat differing results as to their impacts on trade although there is a common understanding as to the direction of the impact of the exchange rate on exports and imports. To date, therefore, relevant research does not suggest a clear-cut relationship. Despite this lack of consensus, the present economic situation seems to justify revisiting the question of the impacts of exchange rates and their volatility on trade flows. While it is generally accepted that change in the real value of the dollar is an important determinant of exports, this paper is an attempt to clarify the role of exchange rate in international trade i.e. to what extent do the fluctuation in Indian currency with respect to US dollar impacts trade flow in India.

REVIEW OF LITERATURE

Most research has presumed a negative relationship between exchange rate volatility and international trade and empirical studies have tried to estimate the size of this drag effect on trade. However, neither theory nor empirical evidence has been able to establish a clear link in this regard. McKenzie (1999) and Cote (1994) provide surveys of the relationship between exchange rate volatility and trade that try to explain this apparent paradox. Early models deriving this relationship include Ethier (1973) and Clark (1973). Even at this early stage an important distinction is made between uncertainty about the exchange rate and uncertainty about profitability. Ethier's model includes hedging in the forward exchange market and uncertainty about the exchange rate determines the demand for forward cover but does not necessarily affect the level of trade. The level of imports is affected negatively only if it is assumed that the firm is unable to determine its profitability at different exchange rates. Hooper and Kohlhagen (1978) also develop a model in which a portion of trade is hedged in the forward exchange market such that volatility in the exchange rate only affects the portion of trade that is unhedged. Their model implies the standard negative relationship between exchange rate risk and the volume of trade.

De Grauwe (1988) shows that the assumption of risk aversion is not sufficient to establish the negative relationship between changes in the exchange rate and trade. He demonstrates that the results obtained by Hooper and Kohlhagen (1978) depend on the assumption of constant absolute risk aversion. De Grauwe constructs a utility function which depends on the degree of risk aversion by exporters. Mildly risk-averse traders reduce their supply of exports as exchange rate risk increases, as in the standard models. However, very risk-averse firms want to avoid a collapse in revenues from the worst possible exchange rate outcome and thus their desired supply of exports increases as exchange rate risk increases. In other words, changes in exchange rate risk have both a substitution and an income effect on the volume of trade. The net result depends on the degree of risk aversion of the traders populating the utility function. Other papers showing how the effect of exchange rate variability on trade depends on the risk aversion properties of the traders in the model include Dellas and Zilberfarb (1993) and Giovannini (1988). Various researchers have pointed out that exchange rate volatility presents the opportunity to make profits as well as the risk of losses. This is the case if one relaxes the

standard model assumptions of disallowing production and exports to vary in response to changes in the exchange rate.

Cushman (1983) used a model similar to that of Hooper and Kohlhagen (1978) but extended the sample size and used real as opposed to nominal exchange rates. Of fourteen sets of bilateral trade flows between industrial countries, he found a negative and significant effect of volatility for six cases. Finally, the IMF (1984) used a simplified version of Cushman's model to estimate bilateral exports between the G-7 countries from the first quarter of 1969 to the fourth quarter of 1982, with real GNP, the real bilateral exchange rate, relative capacity utilization, and variability measured as the standard deviation of the percentage changes in the exchange rate over the preceding five quarters. In only two cases did variability have a significantly negative coefficient, while positive coefficients were significant in several cases. A number of recent studies (De Grauwe (1987), Rose (2000), Dell'Araccia (1999), Andersen, Torben., et al., (2001), Arize (1998) and Fountas and Aristotelous (1999)) which find a negative link, but these effects are not very large: complete elimination of volatility would raise trade by a maximum of 15 percent, compared to the consensus estimate of the effect as typically less than ten percent.

OBJECTIVE

To establish the relationship between exchange rate fluctuations and balance of trade of India

RESEARCH METHODOLOGY

Using the time period, April 1997 to December 2012 for India, this study aims to examine impact of Currency fluctuation on foreign trading in India. Secondary data was used for the analysis and sources from which these are collected are mainly Handbook of Statistics on Indian Economy (several issues) available at www.rbi.org.in, Import Export data bank (www.commerce.nic.in)

TOOLS OF DATA ANALYSIS

The following test were applied using econometric views (e-views 5) and statistical package for the social sciences(spss 16).

1.The Stationarity Test (Unit Root Test):

It is suggested that when dealing with time series data, a number of econometric issues can influence the estimation of parameters using OLS. Regressing a time series variable on another time series variable using the Ordinary Least Squares (OLS) estimation can obtain a very high R^2 , although there is no meaningful relationship between the variables. Therefore, prior to testing Cointegration and regression econometric methodology needs to examine the stationarity. Most macro economic data are non stationary, i.e. they tend to exhibit a deterministic and/or stochastic trend. Therefore, it is recommended that a stationarity (unit root) test be carried out to test for the order of integration. A series is said to be stationary if the mean and variance are time-invariant. Data said to be stationary simply implies that the mean $[E(Y_t)]$ and the variance $[Var(Y_t)]$ of Y remain constant over time for all t , and the covariance $[covar(Y_t, Y_s)]$ and hence the correlation between any two values of Y taken from different time periods depends on the difference apart in time between the two values for all $t \neq s$. Since standard regression analysis requires that data series be stationary, we use the Augmented Dickey Fuller (ADF) test which is mostly used to test for unit root. If the ADF test-statistic (t-statistic) is less (in the absolute value) than the Mackinnon critical t-values, the null hypothesis of a unit root can not be rejected for the time series and hence, one can conclude that the series is non-stationary at their levels.

Ordinary Least Square Technique

After the data is stationary we used ordinary least square regression model.

The Regression model of the study is of form :

$$BOT = \alpha + \beta ER + \varepsilon$$

α and $\beta > 0$ where,

BOT: Balance of Trade

ER: Effective exchange Rate

HYPOTHSES

H01:Balance of trade has unit root.

H02:Exchange rate has a unit root.

RESULT ANALYSIS

Results of ADF Test:

Table 1 highlighted the finding of ADF (Augmented Dickey Fuller) test / unit root test. The null hypothesis H01 and H02 were accepted which indicates that given variables were found to be non stationary at level. Consequently at first difference ,ADF test shows that given variables are stationary. The value in parenthesis shows the lag length of different variables. All the given variables are integrated at order one i.e. I (1).

Ordinary Least Square Technique:

Analysis of the regression results indicates that the slope parameter is significantly different from zero ($p=.002$) at the 0.01% level. It indicates that there is a significant relationship between balance of trade and exchange rate fluctuations in India. But intercept is not significantly different from zero. Table 4 presents the results of our regression analysis. From table 4 the regression equation is as follows:

$$dBOT(-) = -307.790 + (-2127.589) dER \quad \dots\dots\dots(1)$$

The β is negative, showing that currency depreciation (increase in the exchange rate) worsens the trade balance for India .Frankel and Wei (1993), Wei (1999), Dell' Ariccia (1999), Rose (2000), and Tenreyro(2003) also worked on this topic employing the gravity model and found some significant evidence of a negative relationship between exchange rate variability and trade

The regression equation indicates that if rupee value raise by 1 with respect to dollar the trade of balance decreases by Rs 2127. R^2 , the **coefficient of determination**, gives the greatest indication of the strength of the relationship. Here, $R^2=0.254$, means that 25.4% of the variation in response variable can be explained a linear relationship with the predictor. .

CONCLUSION

The unit root test clarified that all variables under our study are non-stationary at the level but found stationary at the first differences. The variables of our consideration- Exchange rate and balance of trade found to be integrated of order one i.e I(1)one using the ADF tests for unit root. It was found that exchange rate fluctuations have significant negative impact on balance of trade. In this paper we particularly studied the relation between Ruppee fluctuation vis-a-vis US dollar and International trade. Here, we see that an appreciation of the domestic currency makes domestic exports dearer to foreigners but foreign imports cheaper to us. This causes the exports to fall and imports to rise. The opposite is true for depreciation. Therefore, theory suggests that currency appreciation causes a fall in the trade balance (a lessening of the current account surplus or a deepening of the deficit) and vice versa.

TABLE NO-1: Augmented Dickey Fuller

Augmented Dickey Fuller test results		
	t-value	p-VALUE
EXPORT	1.011652	0.99661
D(EXPORT)	-6.934	0
IMPORT	0.331813	0.9793
D(IMPORT)	-14.9108	0
EX-RATE	-1.96839	0.3006
D(ex-rate)	-10.996	0
BOT	-1.97073	0.2995
D(BOT)	-13.9999	0
t- CRITICAL VALUES	1% -3.474874	
	5% -2.880987	
	10% -2.577219	

Table 2: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.254 ^a	.064	.058	12004.167	2.305
a. Predictors: (Constant), level diff.exchange					
b. Dependent Variable: d(export-import)					

Table3: ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.477E9	1	1.477E9	10.251	.002 ^a
	Residual	2.147E10	149	1.441E8		
	Total	2.295E10	150			

a. Predictors: (Constant), level diff.exchange

b. Dependent Variable: d(export-import)

Table 4: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-307.790	977.770		-.315	.753
	level diff.exchange	-2127.589	664.522	-.254	-3.202	.002

a. Dependent Variable: d(export-import)

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EFFECT OF VIRAL MARKETING COMMUNICATION ON EDUCATIONAL QUALIFICATION OF CONSUMERS

Neelam Purey*

Advancements in communication technology have given rise to the evolution of a new electronic form of word-of-mouth i.e. Viral marketing communication. Internet has extraordinarily changed the marketing gimmick. Viral marketing has been used by various organizations using platforms like blogs, company website, social networking sites, etc. . It is helping organizations to grow their business by adopting strategies to reach out to their customers. The purpose of the study is to explore the viral marketing as a phenomenon and thereby observing the consumer behavior towards e-mails sent by their friends, relatives, marketers and videos recommended or shared on youtube and social networking sites .The study was done on primary data collected through self structured questionnaire based on five point Likert Scale. Non probability convenience sampling was used. The purpose of the study is to find the effect of education qualification on consumer behaviour on opening, reading and forwarding of e-mails and sharing or recommending of videos of social networking sites. Viral marketing is a very effective tool available to the marketers today.

KEYWORDS: Consumer behaviour, e-mail marketing, Internet marketing, Viral marketing.

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INTRODUCTION

The Wikipedia defines viral marketing as “marketing techniques that seek to exploit pre-existing social networks to produce exponential increases in brand awareness, through viral processes similar to the spread of an epidemic. It is word-of-mouth delivered and enhanced online; it harnesses the network effect of the Internet and can be very useful in reaching a large number of people rapidly.” “Viral marketing” was first coined by venture capitalist Steve Jurvetson in 1997. The marketing of a product, services or an idea on internet, is basically known as viral marketing. The marketing communication is the range of tools marketers using in order to attract the attention of the consumer. Due to the extensive use of internet in sharing information among young adults, marketers should focus on viral marketing as one of the new sources of marketing. The growth in number of internet users has been dramatic ever since it came to existence. According to Ridings, Gefe and Arinze,(2002); Bruyn and Lilien, (2008) in the small world concept, the demand for information, the good intention to share the experience or ideas about the products and services, the capability of the customer-to-customer (C2C) communications as the electronic peer-to-peer referrals on Internet and the potential for getting recommendations from mutual acquaintances have raised a considerable potential for Viral Marketing (VM) which is the effective mixture of the traditional idea called Word of Mouth(WOM) .

.According to Vilpponen et al (2006), some of the terms use to describe electronic WoM include “interactive marketing” (Blattberg and Deighton, 1991), “Internet word-of-mouth” and “word-of-mouse” (Goldenburg et al, 2001), “stealth marketing” (Kaikati and Kaikati, 2004) and “referral marketing” (De Bruyn and Lilien, 2004). Thomas (2004) attempted to unify these ideas in the term called “buzz marketing”. The study focused on five different platforms on which viral marketing can take place on the internet, namely 1) E-mail, 2) Video, 3) Blog, 4) Social networks and 5) Forums.

A blog (a contraction of the words web log) is a discussion or informational site published on the World Wide Web and consisting of discrete entries ("posts") typically displayed in reverse chronological order (the most recent post appears first) A majority are interactive, allowing visitors to leave comments and even message each other via GUI widgets on the blogs, and it is this interactivity that distinguishes them from other static websites. Many blogs provide commentary on a particular subject; others function as more personal online

diaries; others function more as online brand advertising of a particular individual or company(www.wikipedia.org).An Internet forum, or message board, is an online discussion site where people can hold conversations in the form of posted messages. They differ from chat rooms in that messages are at least temporarily archived. Also, depending on the access level of a user or the forum set-up, a posted message might need to be approved by a moderator before it becomes visible. Forums have a specific set of jargon associated with them; e.g. a single conversation is called a "thread". The aim of our study is to explore viral marketing communication from a consumer's point of view and provide insights into how internet users view, perceive and react towards the notion of viral marketing communication. The effectiveness of viral marketing as a promotional relies on the types of social interactions and the identity of the most active members in viral marketing campaigns. Considering the importance of family influence and viral marketing, the main purpose of this study is to analyze the Impact of educational qualification on the consumer perception towards viral marketing.

REVIEW OF LITERATURE

Knight (1999) says that viral marketing is similar to a "digitalized sneeze", one characterized by the release of "millions of tiny particles that can infect others who come into contact with them". Welker (2002) emphasizes on the contagious power of a virus and suggests that a "virus replicates with geometrically increasing power, doubling with each interaction". Viral marketing communication is seen as a vital electronic extension of word-of-mouth (WoM) communication, which involves the principle of passing on or referring news, information or entertainment to another person. Where WoM has occurred, it simply implies that informal, ad hoc communication between individuals concerning products and services has taken place (Bayus, 1985). WoM communication is widely perceived as a dominant force in the marketplace where information is filtered out and passed on by friends or family who are seen as free, unbiased sources of advice (Cruz and Fill, 2008; Carl, 2008).). In viral marketing, the communication style used for transmission is usually informal. Messages are spread through different channels including e-mail, chat rooms and discussion forums. They may encompass various types of content ranging from text and images, to Microsoft PowerPoint files, Adobe's Flash animations, YouTube's video clips and so on (Woerndl et

al, 2008). Viral marketing is seen as a far more effective, penetrating and faster medium compared to the traditional WoM communication (Helm, 2000).

Spero et al (2004) state, it is estimated that in the UK twelve to sixteen year olds spend on average of £3 Billion a year on products and services. More traditional advertising like television ads no longer satisfies the youth sectors, who increasingly desire more information about products and brands before they decide to make a purchase. More importantly however, it seems the “consumer generated media” as described by Frost (2007) is being used by over 50% of the population to make their purchasing decisions. It has been suggested that 82% of the fastest growing private companies use word-of-mouth techniques, which is why viral marketing is becoming more popular (Frost, 2007).

Steve Jurvetson (1997) also argued that viral marketing makes use of the recommendations by friends and has a snowball effect. It is more powerful than other means of advertising because it conveys an implied endorsement from a known person. For this reason, companies should personalize their referral e-mail so that it clearly shows that it is coming from a friend. Currently, VIRAL MARKETING COMMUNICATION is still considered to be at a premature phase of development, therefore information about its behavior and magnitude has yet to be clearly set upon and determined. In addition, limited research has been done on consumer perception and demographic effect to such marketing techniques. The Internet allows significantly more interaction, targeted communication, increased reach and better results evaluation, all at a low cost (Derbaix and Vanhamme 2003, Kozinets et al. 2010). While WOM occurs naturally between consumers, researchers note that there are marketing activities implemented in order to intentionally influence the per-to-peer communications (Kozinets et al., 2010). At the same time, as we will see in the following, word-of-mouth is an important aspect in the modern communication media, such as e-mail, blogs and social media (Steyer, Garcia-Bardidia and Quester, 2007; Smith et al., 2007).

OBJECTIVE

- To study the consumer behavior towards viral marketing communication.
- To empirically analyze the effect of education qualification on the consumer behavior towards viral marketing communication.

HYPOTHESES

H01: There is no significant effect of educational qualification on the behavior of consumer towards viral marketing communication.

RESEARCH METHODOLOGY

The Study: The study is exploratory in nature and undertaken to provide insight into, and an understanding of, the behavior of people on viral marketing over the internet. The study is mainly based upon primary data and is used to determine the influence of demographics on the consumer perception towards viral marketing communication.

The Sample: The sample of the study was constituted of 200 respondents from Indore city. These respondents were at the level of graduate and Post-Graduate. Non Probability Convenience sampling method was used to select the respondents.

The Tools for Data Collection: Primary data of the study was collected through a self-structured questionnaire. The questionnaire was designed following a wide review on the viral marketing communication. It was divided into three parts. The first part was based on personal profile of the respondent. The second part was based on the general awareness about the viral marketing techniques. The third part consisted of 33 close ended items based on five point Likert scale (Strongly Agree – 5 to Strongly Disagree – 1). Cronbach's alpha is a coefficient of reliability, which is commonly used as a measure of the internal consistency. The reliability estimate i.e. Cronbach's Alpha is 0.744(see annexure 1) which indicates acceptable reliability of data. This means that questionnaire was reliable enough for the study. The answered questionnaire was collected from the respondents after conveying the purpose of the study. 27 responses out of 200 rejected as they were not completely filled.

The Tools for Data Analysis: The analysis of collected data was done by Statistical Package for Social Science (SPSS 16.0) and MS excel. Percentage analysis and Analysis of variance (ANOVA) was used.

RESULT AND DISCUSSION

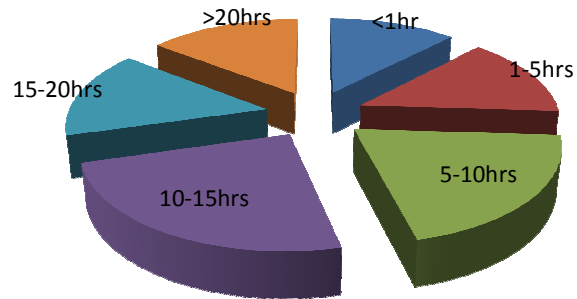
For a viral campaign the profile of the customer can help the marketers in segmenting and targeting with an appropriate message. The questionnaire included a section on consumer profile. The people who use Internet and access accounts on Social Networking Sites were targeted. The demographic profile included respondent's age, gender, education qualification and income. Table 1 presents a demographic profile of the respondents.

Table 1. Demographic Profile

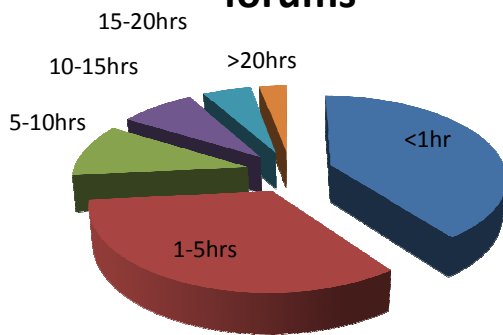
Profile	Percentage	Profile	Percentage
Gender		Age	
Male	52	Below 20	19.1
Female	48	20-30	37.6
		30-40	28.9
		40 above	14.5
Educational qualification		Profession	
Graduate	51.4	Student	43.7
Post graduate	48.6	Business	23.1
		Service	20.1
		Others	13.1

It can be seen from Table 1, the majority of respondents were of age 20-30 years (37.6%), followed by 30-40 years (28.9%), below 20 years (19.1%) and above 40 years (14.5%). Gender profile reveals 52% respondents were male while 48% were Females. Profession profile reveals that a large number of respondents were students (43.7%), followed by business class people (23.1%). The sample had a representation of 20.1% people who are self employed and 13.1% were of some other profession. The Education level profile depicts that 48.6% of respondents were Post Graduate while 51.4% were Graduate. The study focused on five different platforms on which viral marketing can take place on the internet, namely 1) E-mail, 2) Video, 3) Blog, 4) Social networks and 5) Forums. Given below are the pie charts.

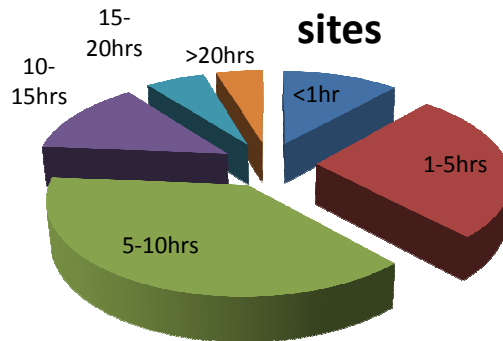
videos



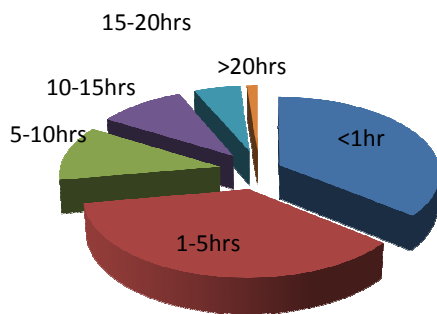
forums



Social Networking sites



blogs



emails

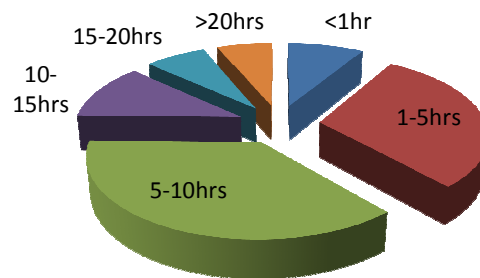


CHART 1. Average time spent per week by the respondents on the five platforms.

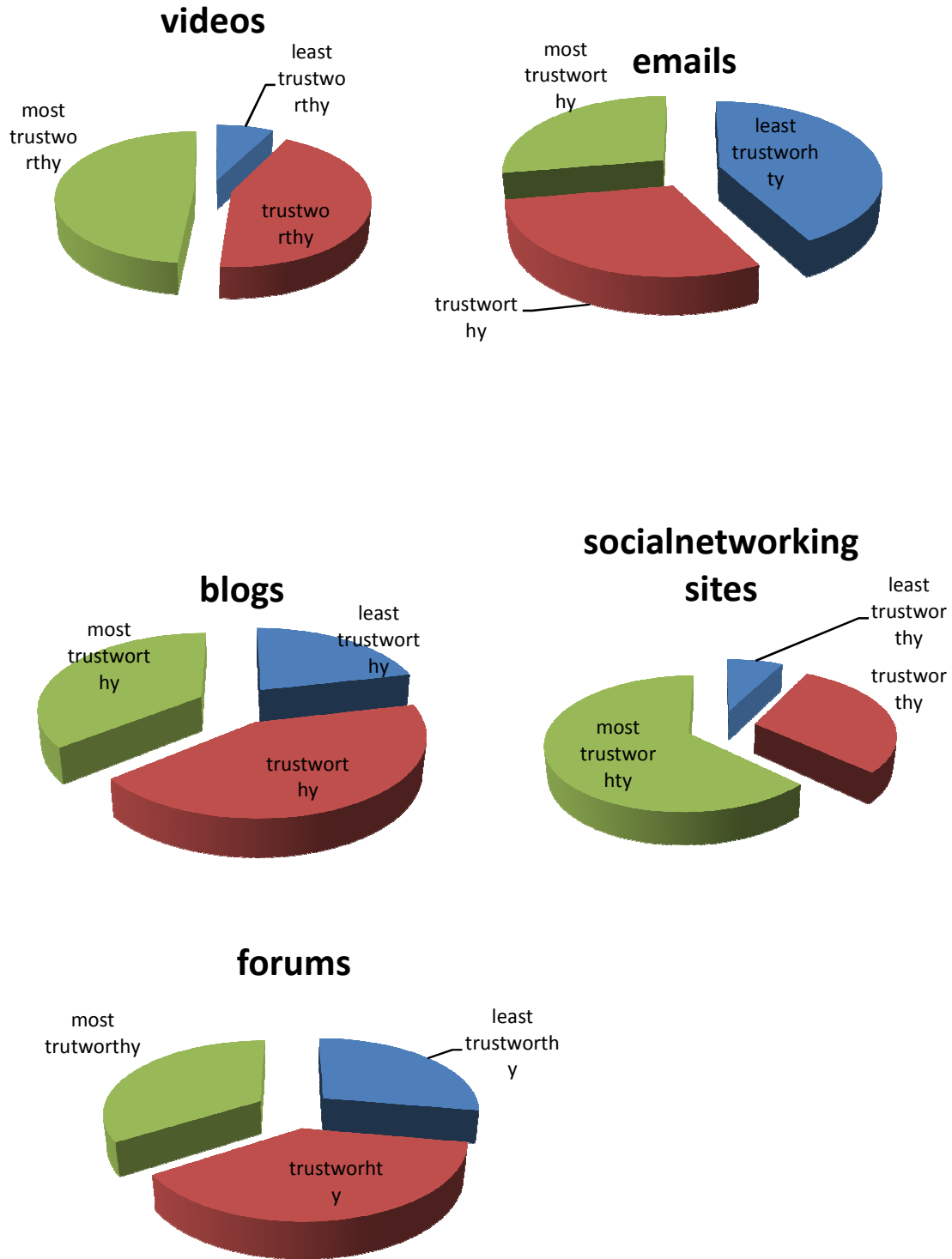


CHART 2. Trustworthiness on viral marketing communication of the respondents on the five platforms.

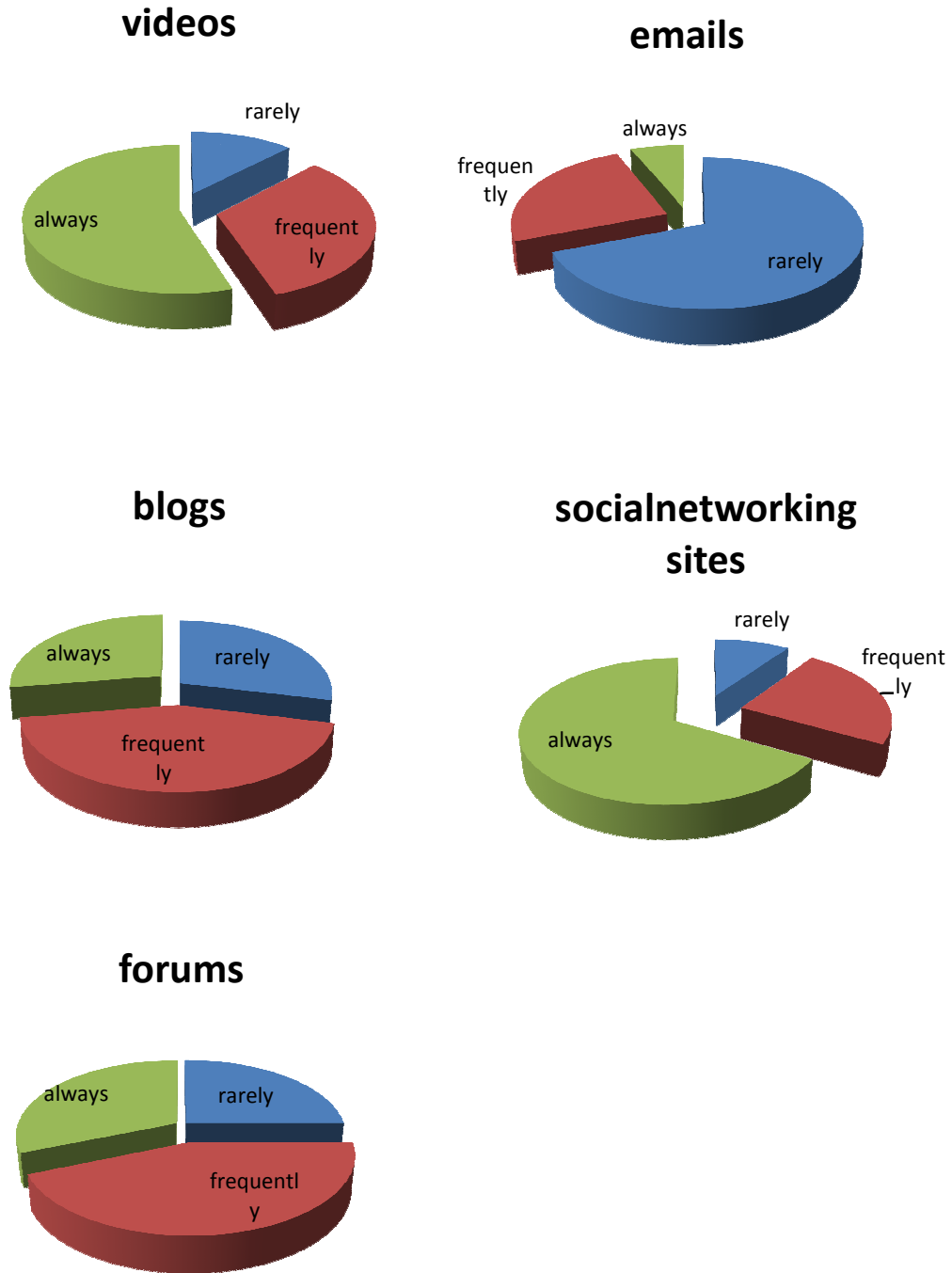


CHART3. Frequency of respondents recommends or buy product/service as a result of viral marketing communication on the five platforms.

As per the study we found that generally people spend most time on social networking sites and emails (39% spend 5-10 hours per week on social networking and 37% spend 5-10 hours per week on videos)and least time is spent on blogs and forums i.e 36% spent 1-5 hours a week on forums and 34% spent 1-5 hours a week on blogs respectively(see chart 1).A study conducted by Fisher (2009) also concluded that of the 70 percent of consumers who had visited a social media site to get information; 49 percent of these customers made a purchase decision with this information they found and 60 percent of the respondents in the study said they are likely to pass on information they find online.This means that social networking sites ,emails and videos are frequently used by the people as compared to blogs and forums.

Chart 2 revealed that most of the people think that videos and social networking sites are most trustworthy and blogs , forums and e-mails were found to be least trustworthy.58% of the respondents ranked social networking sites as most trustworthy , 45% of the respondents ranked videos as most trustworthy . 37% of them ranked emails as least trustworthy. The study also found confirms that people usually prefer to buy or recommend a product or service when they get details about it through social networking sites and videos (61% and 55% respectively)on internet. It is also found that respondents rarely buy a product or service as a result of the viral marketing communication through e-mails (68% of the respondents ranked it rarely) (see chart 3). Thus it can be concluded from the study that people are reluctant to use emails,blogs and forums while buying or recommending product or service .They feel that these mediums are not trustworthy enough for any sort of business. Scoble and Israel's (2006) in their study also confirms that blogging can fool .They compared it with "echo chamber" were you may think you are conversing with the world, when it's just a few people talking frequently, back and forth to each other, creating the illusion of amplification. The echo chamber can deceive a business into thinking it is either more widely successful or further off the mark than it is in reality, because a few people are making a lot of noise. While facebook Beacon provides a channel to virally distribute information about user brand-related activity (Barefoot and Szabo 2010; Tuten 2008). Since it includes networks of friends, Facebook presents a huge potential to increase the distribution of a message.

To find the impact of educational qualification on the behavior of consumer towards viral marketing communication analysis of variances (ANOVA) was applied. The p-value was found to be 0.225 which was greater than .05 and therefore we fail to reject the hypothesis H01 at 5 % level of significance (see annexure 1). It means that there is no significant difference in the consumer behavior towards viral networking communication on the basis of education qualification.

To study in depth we applied ANOVA on each statement. The results are tabulated in annexure 3. At 5% level of significance it was found that statement 7 and statement 10 shown significant difference in the behavior of respondents on the basis of educational qualification. The p-value of statement 7 was .019 signifies that there is difference in the frequency of receiving e-mails from friends containing links to recommend the product or service on the basis of educational qualification. Similarly statement 10 indicates that educational qualification plays a role in habit of forwarding e-mails to people whom they feel will be interested in the contents. This indicates that people believe in their friends and their verdicts. Graduate students are more inclined to forward or share the messages to their friends. Bernardo A. Huberman et al (2006) too opined that it is human nature that they are more interested in what a friend buys than what a stranger buys. An individual is more likely to trust the opinion of friends and get influenced by their actions. They found that 68% of individuals consulted friends and relatives before buying consumer electronics. This figure was more than half of those who used internet to get product information. Steve Jurvetson (1997) also argued that viral marketing makes use of the recommendations by friends and has a snowball effect. It is more powerful than other means of advertising because it conveys an implied endorsement from a known person. For this reason, companies should personalize their content so that it clearly shows that it is coming from a friend. Therefore the marketing content must be customized and sent only after demographic and psychographic segmentation.

CONCLUSION

The study was undertaken to analyze the behavior of the customer towards the internet induced market also called viral marketing phenomenon. A study by Zimmerman (2001)

found that 81% of recipients will forward a message to at least one other person and 49% will send it to two or more others. When considering those percentages, it becomes clear how quickly these viral messages spread, and therefore why businesses need to harness them to aid their marketing objectives. When executed effectively, viral marketing campaigns can create an instantaneous buzz (Dobele et al,2007) and help to boost the promotion of brands, products and services. We also found that there was difference in the behavior of internet user in forwarding ,reading ,recommending and buying as a result of this technique over the five platforms which are emails, socialnetworking sites, blogs, videos and forums. This study was undertaken to find the effect of education qualification on behavior of consumer towards the viral marketing communication.

The results confirms that there is no effect of educational qualification on behavior of consumer towards the viral marketing communication. The proliferation of marketing and advertising, coupled with the onslaught of millions of media channels in today's world, has given cause for consumers to tune out and effectively avoid a great deal of traditional supplier driven messaging Television ads, radio spots, online ads and even emails are facing increasing competition for effectively capturing the viewer's attention and provide positive responses for the marketer. Advertisers can post to YouTube and advertise their information, can let the consumers do the viral job by transmitting the information forward, or can even let posts occur organically, through fans that capture video and post it the site (Riegner 2007; Tuten 2008). This competition, coupled with the rising cost of media buys, has caused marketers to search for an alternative means to reach the customer. Viral marketing is an attractive solution because it utilizes the free endorsement of the individual rather than purchase of mass media to spread the word. Because the distribution model is free, viral can potentially be lower cost and more effective than traditional media. Marketers should utilize viral marketing when the messaging can coincide and support a measurable business goal. The e-mail content must be customized and sent only after demographic and psychographic segmentation. The risk associated with viral marketing is that once the formulated promotional message is released it can neither be controlled nor its direction can be influence.

LIMITATIONS

The study has some limitations. The sample used for the study is relatively small and was limited to a specific geographic region. The study was done by taking the views of the 173 respondents. Self structured questionnaire was designed for the purpose. Respondents for the survey were taken from the Indore city. The study could have more reliable and would have yield different results if the target demographic was broader than now. Like every study involving human feedback, there is always a big room for bias. Respondents could have provided with false information due to the thought that it might reflect their personality. However, increasing sample size and respondent from varying demographics will remove this limitation.

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ANNEXURE 1
ANOVA TABLE

demographics	N	MEAN	f-value	p-value
EDUCATIONAL QUALIFICATION				
Graduate	104	67.33	1.483	.225
Post-graduate	69	69.59		
Total	173	68.23		

ANNEXURE 2

QUESTIONWISE ANOVA			
S.No	ITEM	Edu.qua	
		F2	P
1.	I am more inclined to purchase products/services when the messages were passed by the people I know.	.788	.376
2.	I am more affected by negative comments about products as compared to positive comments.	.120	.729
3.	It makes me feel good to be able to spread messages about products/services to my friends on the internet.	.012	.911
4.	The internet word of mouth helps to strengthen my belief and commitments towards a brand of products/services.	.021	.885
5.	I trust in what people are saying about product/services.	2.815	.095
6.	I frequently use email a friend option to recommend a product/services.	.186	.667
7.	I frequently receive e-mails from friends containing links to recommend a product/service.	5.591	.019
8.	I frequently buy a product/service as result of these e-mails.	1.695	.195
9.	I views e-mails from unknown parties as spam.	2.475	.118
10	I have the habit of forwarding e-mails to people I know whom I feel will be interested in the contents.	5.941	.016
11	I usually forward e-mails with financial benefits described in the mails.	.067	.797
12	I am aware of marketing/advertising message present in viral videos.	.050	.823
13	Funny videos help me to remember a brand better.	3.891	.050
14	I usually spread videos links to my friends/relatives.	.259	.611
15	I frequently watch online promos of films before it is released.	.154	.695

16	I go and watch the film as a result of these promos.	.215	.644
17	I like to stay in touch with friends on social network sites (e.g. facebook, friendster, multiply)	.156	.694
18	I usually pay attention to the advertisement which appear on the sites.	1.674	.197
19	I usually view messages/videos links sent, posted or recommended from my friends and relatives.	.634	.427
20	I usually post messages/videos links to friends and relatives.	.625	.430

FEATURES AND APPLICATION OF MOBILE PHONES: A CONSUMER AWARENESS STUDY IN THE PARADIGM SHIFT OF THE UTILITY

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After Roti, Kapda and Makan; Connectivity is the basic necessity of a human being and mobile phones has revolutionized the telecommunication. No other invention has created an impact as this device. In India, fishermen call ahead to ports to see where they will get the best deal on their catch. Farmers check crop prices on a mobile service. Cell phones serve as a virtual office for carpenters, painters and other labours who post their numbers on handwritten signs advertising their skills. Indeed, mobile phones are now the primary form of telecommunication in developing countries and they play the same role fixed-line phone networks did in facilitating growth in the 20th century. In developing countries a generation of people have grown up without computers and their creative energies have instead been focused on using mobile phones for communications, information and, more recently, access to a range of services from m-Banking to m-Education and m-Governance. The transformation of society by mobile telephony, and especially mobile applications, is perhaps most profound. With the advent of technology, the mobile phones are becoming a rage among the common people and a necessity in everyday life of even disabled people. With the dynamics in the environment and to face the competition the mobiles are rigorously updated with the applications and features. This research study shows the various features, facilities and applications which are existing and upcoming in the mobile phones and its awareness among the consumers.

Key Words: Mobiles, Features, Applications, Consumer, Awareness.

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INTRODUCTION

Our communication has come a long way from the very humble “Namaste” to the very modern “Hello”. The history of communication dates back to prehistory. Communication can range from very subtle processes of exchange, to full conversations and mass communication. Human communication was revolutionized with speech perhaps 200,000 years ago. Symbols were developed about 30,000 years ago, and writing about 7,000. On a much shorter scale, there have been major developments in the field of telecommunication in the past few centuries. The Telecommunications (hereafter Telecoms) Industry changed since the mid- 1980s when liberalization began in Japan, the UK and the US. In the days of the old telecoms industry, the conventional wisdom was that telecoms was an example of ‘natural monopoly’, that is due to increasing returns to scale telecoms services could only be provided efficiently by a monopoly provider.

The beginning of cell phones can be traced to the innovation in taxi cabs, police cars and other service vehicles where two way radios were used to communicate with one another or with a central base. Early cell phone communication technology could be even traced back to individuals with special radios that can patch into a phone line via live operator to make a phone call. The first official mobile phone was used in Sweden by the Swedish police in 1946. The technology was connected to the telephone network and was distinctive of two way radio technology. The phone was not very practical; it was only able to make 6 phone calls before the car's battery was drained. The technology of modern cell phones started with the creation of hexagonal cells for mobile phones by D.H. Ring from Bell Labs in 1947, later on another engineer from Bell Labs conceived of cell towers that would transmit and receive signals in three directions instead of normal bi directional antennas. However, although some technologies have been developed, electronics and other technologies would take decades to mature and to be developed. For instance, the electronics that were used in the first cell phones were first developed in the 1960's.

By 1967, mobile phone technology was available; however, the user had to stay within one cell area. In 1970, Amos Edward Joel, who also was an engineer at Bell Labs, developed the

Call handoff system. This technology facilitated continuity of a phone call from one area to another without dropping the phone call. Now, the mobile phones are no longer used just to make phone calls. Mobiles serve as watches and alarm clocks. Even with the limited free games that come with basic phones, they are already good for "time-pass". They can also function as calculators. In unfamiliar neighborhoods, they tell us where we are. The address book and contacts list on phones is our social interface. The calendar function on the mobile phones can help us track our lives. Phones can also function as radios. For some, the mobile phone also becomes a notepad send an SMS to oneself and make it a reminder service. Owners also have tended to customize phones, with their own ringtones, themes and wallpapers. This is just for starters the more advanced mobile phones are also having Digital camera, Audio recorder, Video recorder, Multimedia messaging, Email client, Web client, Gaming platform, Documents viewer, Computer adjunct, Music player, TV, Wallet, Bar-code readers, etc (for details see Table 1.1, 1.2 1.3) and the list is inexhaustible, and by the time we are busy in researching the consumer awareness of the existing and upcoming features and applications many new of them have been invented in due time.

LITERATURE REVIEW

The researchers have found following literature on related topics:

- Rajnish Tiwari, Stephan Buse and Cornelius Herstatt, in a research paper “**From electronic to mobile commerce Opportunities through technology convergence for business services**” have probed that the need for mobility is the basic reason behind mobile banking, mobile entertainment and mobile marketing, and is supported by increasing convergence of computers and mobile telecommunication devices. Which helps to increase the utility for both consumers and service-providers
- Marc Bourreau, Marianne Verdier, in a research paper “**Cooperation for Innovation in Payment Systems: The Case of Mobile Payments**” have studied the development of the Mobile payment feature in the developing countries, They have also introduce five cooperation models which has emerged or is emerging and could be use for payment methods.
- Gewei Ye, Johns Hopkins University, in a research paper “**Mobile Marketing Systems: Framework and Technology Enabler**” has traced the possibilities of

reverse marketing with the help of hybrid network and an m-Commerce computer application to display interactive messages on computer-mediated billboards.

- Åke Grönlund, Annika Andersson, Mathias Hatakka, , in their research paper “**Mobile technologies for development – a comparative study on challenges**” research compares and analyzes the effective use of mobile technology by the developing countries in the field of education, medical and agriculture.

OBJECTIVE OF THE STUDY

The objective of the study is to explore consumer awareness of the existing and the emerging application and features of Mobile phones.

HYPOTHESIS

Customers are excessively aware of the application and features of the mobile phones.

RESEARCH METHODOLOGY

The research was an explanatory one. In this research paper, the researchers attempted to probe the consumer awareness of the various application and features of the mobile phones. An attempt is then made to propose a thorough study combining almost all the existing and upcoming applications and features of the mobile phones and trace their awareness among consumers.

The methodology which was used in order to carry out the present study is as under

Sample: - The sample comprised of the Mobile user of Indore city, the respondents were the mobile users of different ages. The random sampling technique was used for selecting the respondents. The sample size was 100.

Data collection and data analysis:- The data of the research was:

- a) Primary data, collected via structured questionnaires with mobile user.
- b) Archival and online data such as research papers, articles and a host of other sources.

After collection of the data it was analyzed by computing mean with respect to the responses for each existing and upcoming application of the mobile phone considered in the questioner.

We also did a comparative analysis of each and every application and feature of mobile phone in terms of utility.

Table 1.1: Existing M-commerce services and applications

M-commerce applications	Application Examples of services offered	Consumer Awareness Analysis on the basis of Graph 1.
Mobile banking	Mobile accounting, Mobile brokerage, Mobile financial information etc	The usage is very low.
Mobile entertainment	Mobile gaming	The mobile phones are rigorously used for the purpose of entertainment and Mobile phone companies and allied companies providing mobile entertainment solution has ample opportunity for generating lucrative profits.
	Download of music and ring tones	
	Download of videos and digital images	
	Location-based entertainment services	
Mobile information services	Current affairs (financial, sport and other news)	Conventional source for these sort of information are still in progress and it is unexplored market which has recently not hit the impulse of the customer
	Travel information	
	Tracking services (persons and objects)	
	Mobile search engines and directories.	
Mobile marketing	Mobile couponing	Still the Bulk SMS are highly used for the M-Marketing and communication purpose. The market is still unexplored and needs to be utilized to the
	Direct (context-sensitive) marketing	
	Organization of mobile events	
	Mobile newsletters	

	Bulk SMS	optimum level to generate unexpected results.
Mobile shopping	Mobile purchasing of goods and services	It is emerging but with a slow pace due to lack of credibility
Mobile ticketing	Public transport	With the increase of sports, cultural and other social events, increase in the commutation due to various reasons may be health, education, business etc. the use of mobile ticketing in this section has to be harnessed well in future for the sustainability of environment and optimization of profit.
	Sports and cultural events	
	Air and rail traffic	
Telematics services	Remote diagnosis and maintenance of vehicles	Except emergency services all the other areas are yet to be unexplored due to lack of the knowledge and credibility of services.
	Navigation services	
	Vehicle tracking and theft protection	
	Emergency services	
Stock Market Trading	Purchasing and selling of stocks through mobile phones	It is an emerging area and it will take a substantial amount of time for shifting from internet trading to mobile trading

Graph 1: Usage of Existing M Commerce Services and Applications of Mobile Phones

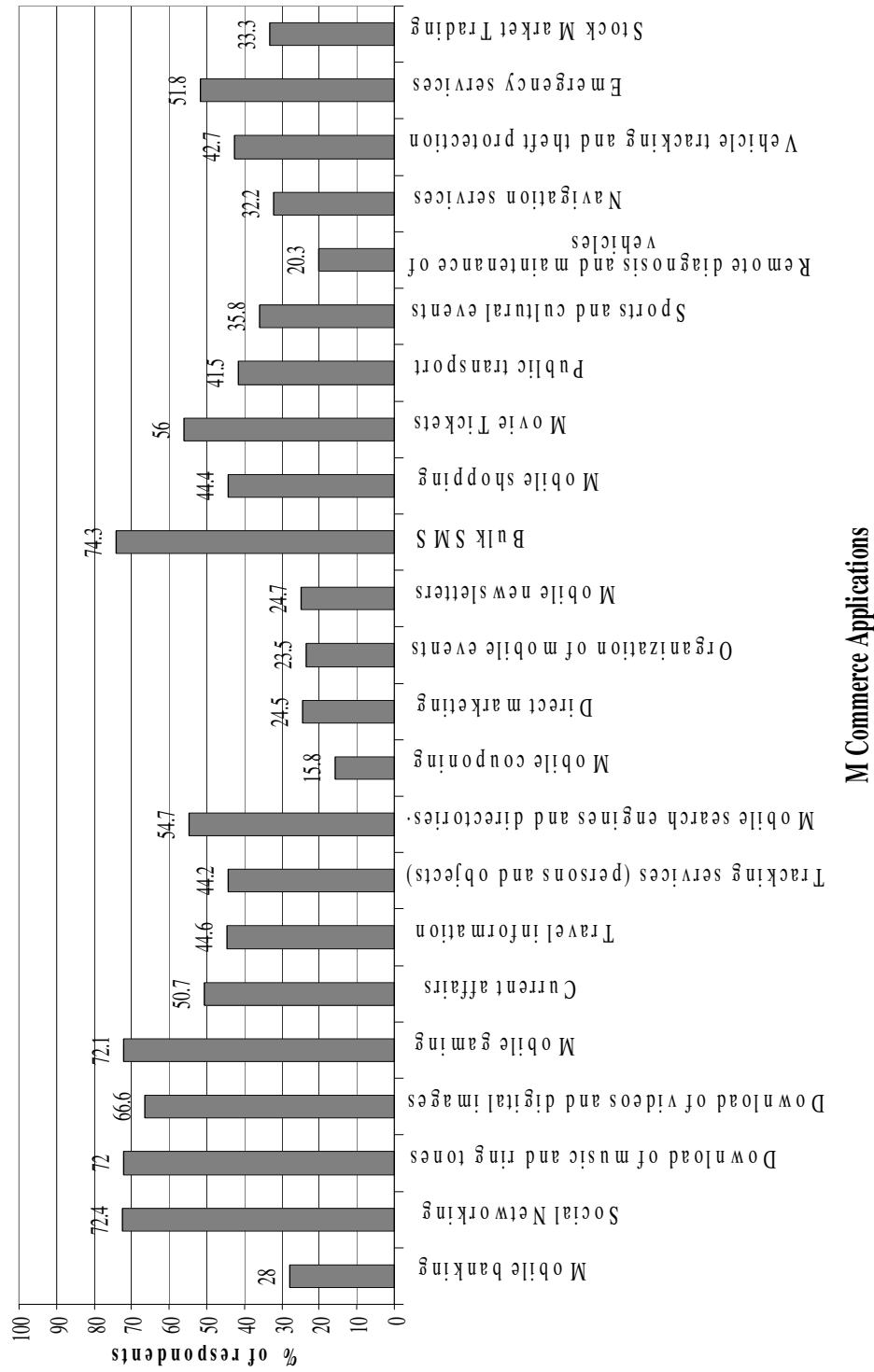


Table 2: Existing inbuilt Features used in Mobile

Inbuilt Features	Utility	Consumer Awareness Analysis on the basis of Graph 2
3G	3G is the third generation of wireless technologies. Its major features are high speed mobile internet, advanced multimedia features etc. 3G in Mobile phones in India is mainly used to connect the phone to the Internet or other IP networks in order to make voice and video calls, to download and upload data and to surf the net.	<p>The usage of the various features depends on the</p> <ol style="list-style-type: none"> 1. Frequency of the necessity 2. The knowledge of a particular feature. 3. Availability of the free time 4. Urgency of the work <p>To lure the customer for excessive use of the features customer need to be trained and educated for the excessive use.</p>
Edge	Enhanced Data rates for GSM Evolution (EDGE) an advancement of GSM networks provides up to three times the data capacity of GPRS	
Bluetooth	Bluetooth technology provides wireless communication between various devices connected in a short range.	
Play 3D games	It is possible now to play 3D Games using your mobile phones with platform like Maui You just need GPRS/WAP enabled on your phone to get started.	
Mobile Phone TV	Now, one can watch the latest TV news directly from the GPRS based mobile phone.	

GPS Locations	GPS Mobile Phones offers excellent tools and softwares to track the current locations. The latest services includes, maps offered upto street levels and clear screen quality with location names.	
Streaming TV Content	Many telecom companies even provide streaming television, a feature like watching TV shows without a TV.	
Mobile Money Transfer	Telecom providers are offering services through which one can transfer money using mobile phones.. You just need a credit/debit card to get started with the whole list of M-Commerce solutions such as Mobile Money Transfer (MMT).	
Reading Mobile Newspapers	You don't need to carry a bulky newspaper while travelling to your office because you can now just do the same using your mobile phone by subscribing so the best newspaper website feed's for free of cost and getting access to the latest news 24/7. Another advantage is that you can access to any localized language version of any newspaper absolutely free of cost.	
Audio Recorders	The sound waves can be recorded through mobiles and can be saved	

	for future references	
Digital Camera	The best use of camera mobile phones is that one can point and click and instant capture photos which later can be saved shared and directly printed using phone. The latest mobile phones are featured with high end cameras of upto 8.1 Mp which can offer professional photography options.	
Document. Viewer	One can use mobile phone to view different documents in pdf or any word document format because latest mobile phones support different file formats.	
Scanning Documents	One can use mobile phones camera to take a scan of any important document or photo.	
FM Radio	One of the most common utility of mobile phone .Now no need to carry a different FM Radio device or any other product. Just connect to your mobile phone and get started listening to streaming radio with numerous channels.	
Shutdown PC with.SMS	Its possible to remote shutdown your computer running on Windows XP operating system with the help of just a text message. The process is very simple by creating a shutdown batch file and linking it to your outlook, when you send a	

	SMS from your cell phone to your email address, outlook searches for the specified query and runs the dos batch file which in turn shutdowns your computer	
Video Recording	The inbuilt camera can records video in a digital format to a SD memory card	
Internet Modem	Mobile phone as a modem connects PC to the internet. For getting this done one must need a internet service activated on mobile phone and a bluetooth feature to transmit all the data to your laptop. Bluetooth enabled mobile phones are the best ones for getting this connection activated and both devices should have bluetooth and pairing should be done to get started	
MMS	Multimedia Messaging Service, a system that enables cellular phones to send and receive pictures and sound clips as well as text message	

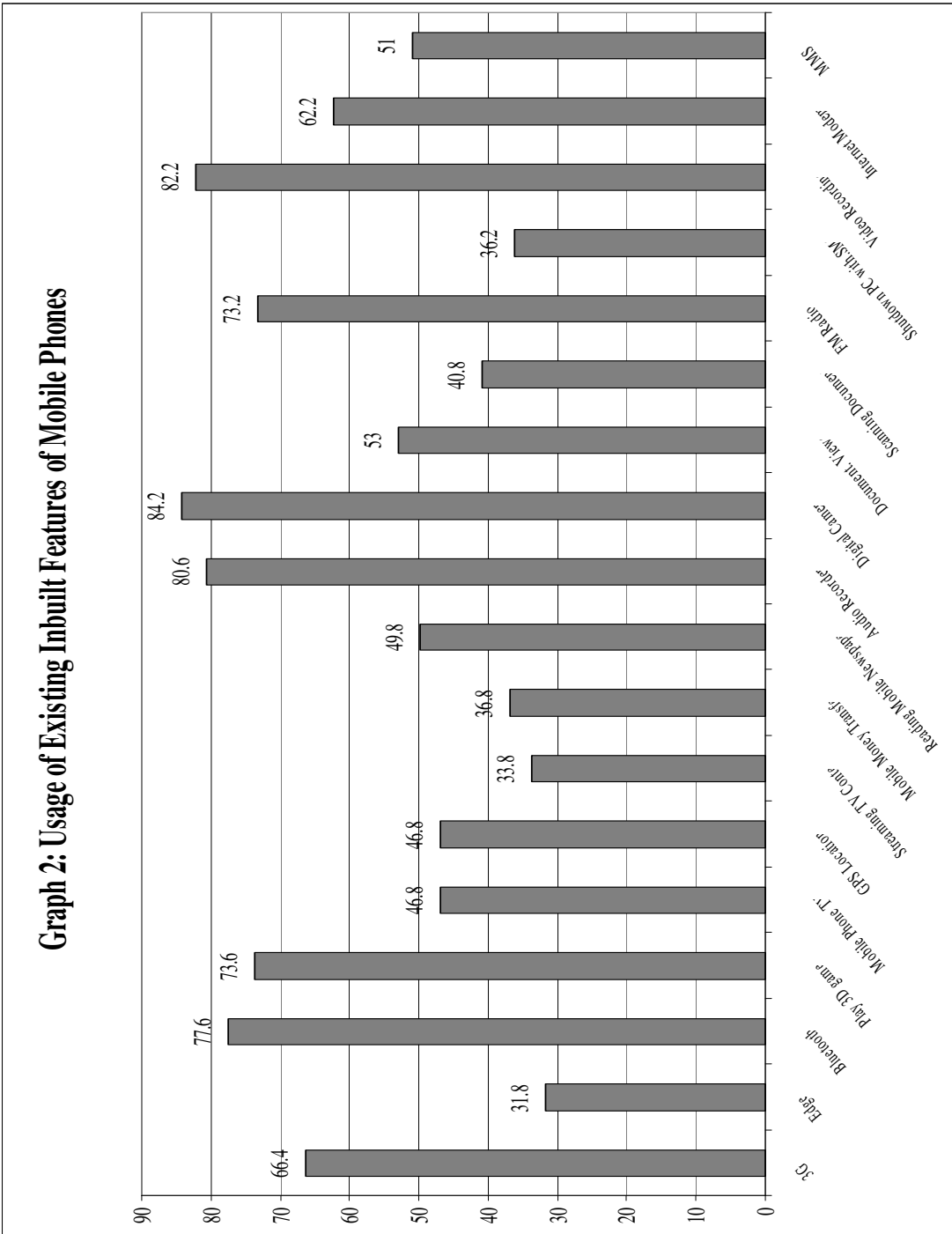


Table 3: Upcoming Mobile services and applications

Inbuilt Features	Utility	Consumer Awareness Analysis on the basis of Graph 3
Bluetooth 3 and 4	By 2011, two new versions of Bluetooth will emerge. Bluetooth 3 will introduce 802.11 for faster data transmission, and Bluetooth 4 will introduce a low-energy mode that will enable communication with peripherals and sensors and makes it a fit for industries such as health care.	Cellular Broadband and The Mobile Web are among those upcoming features and applications to which customer are highly aware with. Such sort of consumer awareness for the future features and applications could be considered when comparing with the existing one. With the advent of knowledge and wisdom the awareness could be amplified with due course of time.
The Mobile Web	By 2011, more than 85 percent of the handsets shipped globally are expected to include a browser. In mature markets, the mobile Web and Web adaptation tools will encourage the use of business-to-consumer (B2C) mobile apps, should be part of every enterprise's B2C portfolio by 2012.	
Mobile Widgets	Widgets, installable Web applications that can run on a device's home screen, are simple to use, convenient and can offer a business a good, inexpensive first step toward assessing demand for an application. This Verizon Wireless widget shows	

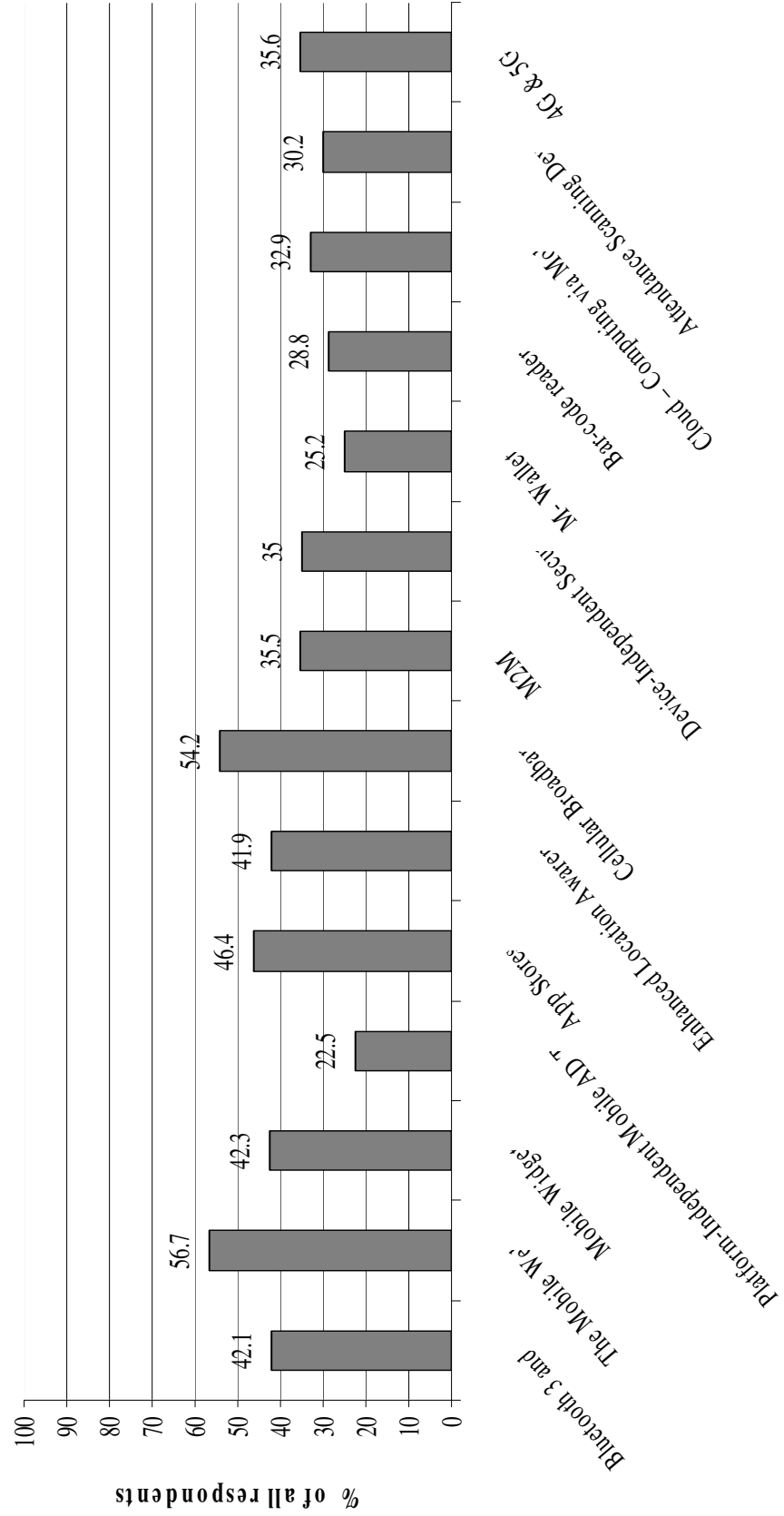
	the real-time view from a New York City traffic camera.	
Platform-Independent Mobile AD Tools	Web technologies will be "insufficiently mature" through 2012, making tools that can "reduce the burden of delivering installable applications to several platforms" more attractive. Such tools include Flash, Silverlight and AIR, as well as multiplatform development tools such as Qt, Appcelerator and Java Micro Edition.	
App Stores	Application stores will become part of a broader ecosystem that includes services in the cloud and technical partnerships offering functionalities such as navigation, mapping, search and social networking.. It also expects app stores to take on the past tasks of mobile device management tools. Pictured here is Nokia's Ovi app store.	
Enhanced Location Awareness	By the end of 2011, it is expected more than 75 percent of the devices shipped to mature markets to include GPS. Enterprises, using services such	

	<p>as Twitter, are expected to take advantage of consumer-aware apps. In January, Nokia began offering its Ovi Maps, which offers walking and driving directions, as well as landmark callouts, as a free download.</p>	
<p>Celluar Broadband</p>	<p>Multimegabit wireless broadband will grow through 2011, with 3.5G technologies increasing and leading the way to 4G LTE deployments. On March 25, Lenovo introduced the ThinkPad Edge 14 and 15 laptops with the option of a Qualcomm Gobi modem to access Sprint's 4G network.</p>	
<p>M2M</p>	<p>The increasing quality of cellular broadband is expected to accelerate the use of M2M (machine-to-machine) applications such as for video surveillance, meter reading, vending and point-of-sale solutions. In 2009, Motorola introduced the H24 wireless modem, for 3.5G connectivity, to its M2M solutions portfolio.</p>	
<p>Device- Independent Security</p>	<p>CIOs are being pressured to support new devices and form factors, particularly tablets, such as the Apple iPad, pictured here,</p>	

	and e-readers. Consequently, device-independent security solutions will help to deliver applications that run on a range of devices, while reducing security risks.	
Wallet	The phone can also be used to pay for purchases like a credit or debit card. There is already a billing relationship that exists between the subscriber and the operator, and that can be used to make payments to merchants.	
Bar-code readers	Phones will also be able to read bar codes and that can have very interesting applications in commerce.	
Cloud Computing via Mobile –	Mobile cloud computing can give mobile device users a number of advantages. Company users are able to share resources and applications without a high level of capital expenditure on hardware and software resources. Due to the nature of cloud applications, users do not need to have highly technical hardware to use applications as complex computing operations are run within the cloud. This lessens the cost of mobile	

	<p>computing to the client. End users will see a plethora of unique features enhancing their phones because of mobile cloud computing.</p>	
<p>Attendance Scanning Device</p>	<p>Upcoming mobile phones come with inbuilt attendance scanning device which help in tracking attendance of a person.</p>	
<p>4G and 5G</p>	<p>Subsequent generations of wireless technology. 4G is an evolution not only to move beyond the limitations and problems of 3G, but also to enhance the quality of services, to increase the bandwidth and to reduce the cost of the resource and 5G can be understood as completed wireless communication with almost no limitation; somehow people called it REAL wireless world.</p>	

Graph 3: Customer Awareness for Upcoming Mobile services and applications



Upcoming services and applications

CONCLUSION

The consumer awareness ratios of the mobile phone features are higher when compared with the applications. This is because the of the following reasons

1. The features are easy to understand and are most of them are user friendly which is not the same with the applications.
2. The knowledge of the features are high because of frequency of the use.
3. The frequency of the usage is widely affected by cost of a particular application.
4. Consumer take interest in learning new application as it is making their work very easy.
5. Peer pressure aides in the interest to learn new application.

SUGGESTIONS

1. If mobile service provider and companies want to lure their profits with a phenomenal rate they can develop more user friendly and cost effective applications and features.
2. Educating and Training consumers through various means could increase the proper awareness among the desired consumers, which can serve as powerful tool to boast up the sales and provide a competitive advantage.

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