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The Present Issues and Challenges of E-Commerce in Rural India

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ABSTRACT

In the modern times E-commerce isgiving a tough competition to the traditional trade and business. Due to the advancement of technology the world has became a global village. E-commerce has reached most of the consumers in the urban sector but the challenge lies in front of the companies so that it reaches the rural sector also. The rural population of India has to go at distant places or nearby cities to purchase luxury products. Here E-commerce can come to their help by widening its area of operations.

A profound understanding of people, their behavior and their community is critical within the digital marketplace. If you can't connect to your customers' wants and needs, you're going nowhere fast – and so is your investment. That's why every great piece of digital starts with a deep understanding of who you're trying to reach.

E-bay Census reveals E-commerce trends across all 28 States & 7 Union Territories. Consumers & Entrepreneurs from Rural India are increasingly plugged into E-commerce. This is supported by the fact that over 1,267 Rural Hubs are transacting online with 1 out of every 10 purchases from Rural India as well as 1 out of every 20 sales from Rural India. Metros (India) have a dominant share of purchases, with Tier 2 3 cities catching up fast: Metros (India) contributes 51% of all e-commerce Transactions while Tier 2 & 3 Cities contribute about 40% of transactions & Rural India contributing to 9% of transactions.

To get a deep insight into the problem the researchers conducted a survey in the rural sector by the opinion poll method and found out that yet much has to be done by the dot-com companies to take advantage of these untapped opportunities by reaching the villages of India.

INTRODUCTION

To many, Commerce is defined as the exchange or buying and selling of commodities on a large scale involving transportation from place to place. When all this is done electronically, it is known as "e-commerce".

E-Commerce means electronic commerce. E-commerce is an emerging concept that describes the process of buying, selling and exchanging of goods or products, services, and information via computer networks including the internet. E-commerce is part of e-business. It involves the use of Information and Communication Technology (ICT) and Electronic Funds Transfer (EFT) in making commerce between consumers and organizations, organization and organization or consumer and consumer. With the huge success of commerce on the Internet, e-commerce usually refers to shopping at online stores on the World Wide Web, also known as e-commerce Web sites.

Airline and travel tickets, banking services, books, clothing, computer hardware, software, and other electronics, flowers and gifts are some popular products and services that can be purchased online. Several successful e-businesses have established their business models around selling these products and services. E-commerce has the potential to generate revenue and reduce costs for businesses and entities. Marketing, retailers, banks, insurance, government, training, online publishing, travel industries are some of the main recipients of e-commerce. For instance, banks use the Web for diverse business practices and customer service.

E-Commerce Actually began in the 1980s. It became a global phenomenon in the mid 1990s when companies saw this as a way to significantly cut costs and increase profit margins.

REVIEW OF LITERATURE
An attempt has been made to put forward a brief review of literature based on few of the related studies undertaken worldwide in the area of e-commerce as follows.

E. Goldsmith et. Al. (2000) analyzed the impact of e-commerce on consumers, public policy, business and education. A discussion of public policy initiatives, research questions and ideas for future research are given.

J. Bette Ann Stead (2001) reviewed the incredible growth of electronic commerce (e-commerce) and presented ethical issues that have emerged. Security concerns, spamming, Web sites that do not carry an "advertising" label, cyber squatters, online marketing to children, conflicts of interest, manufacturers competing with intermediaries online, and "dinosaurs" were discussed.

P. Dasgupta et. Al. (2002) examined the future and prospects of e-commerce in Indian Insurance Industry.

Y. J. Choi1 et. Al. (2005) examined the impact of the death of geographical distance brought about by e-marketplaces on market equilibrium and social welfare.

Goodman (2007) examines how college students engage withtechnology principally that involved in Social Networking Sites. He explores how students use Social Networking Sites,

which Social Networking Sites and programmes they find more appealing than others and also tries to understand the major reasons for the increasing usage of Social Networking Sites among college students. Further he rightly pointed out "Social Networking Sites are not part of students' lives these days, actually they are their lives". Youths are not only the early adopters of most of the new technologies but they are also among the most sophisticated users as well.

Coyle et. Al. (2008) in their study examined the literatureon Social Networking Sites and conducted a survey on how college students are engaged in social networking. They found that the main purpose of using Social Networking Sites is to keep in touch with friends. They also indicate that these are used for merely trivial communication with friends. These sites are simply new form of communication that is evolving over time with the aid of technology.

W. Kim et. Al. (2009) rightly pointed out that today the college students use numerous Social Networking Sites, to stay connected with their friends, discover new "friends" and to share users – created contents, such as photos, videos, blogs and etc. In order to explore factors affecting college students' motive for using Social Networking Sites.

Bicen et. Al. (2010) evaluated the usage of SocialNetworking Sites among students in the department of computer education instructional technology and found which social networking sites are the most preferred by students. The study revealed that use and sharing of knowledge on Internet is made an integral part of college students' lives. Results show that Live Spaces and Facebook are the commonly used sites by the students.

Folorunso (2010) conducted a survey among students of theUniversity of Agriculture, Abeokuta in Nigeria and tested the attributes of Diffusion of Innovations (DOI) theory towards usage pattern of Social Networking Sites. Demographic data of the study revealed that majority of users were college students. The five constructs i.e. Relative Advantage, Complexity, Compatibility, Observability and Reliability were used to test the impact on the attitude and trust regarding Social Networking Sites and to determine how attitude would impact on the intention to use it. The study revealed the constructs: relative advantage, complexity, and observability of Social Networking Sites do not positively affect the attitude towards using the technology while the compatibility and trial ability of Social Networking Sites does positively affect the attitude towards using the technology. The study (2010) concluded that the attitude of university students towards Social Networking Sites does positively affect the intention to use the technology.

Keol Lim and Ellen B Meier (2012) in their study clearlyhighlighted how and why Korean students use Social Networking Sites and what are the advantages they find by using Social Networking Sites. The study as such begins with the explanation of how the number of international students getting admission in U S universities has increased. It also refers to psychological experiences of international students such as disorientation, nostalgic depressive reactions, and feelings of isolation, alienation and powerlessness. However, international

students may have limited ways to cope with stress, which could lead to stress-related illnesses such as anxiety or depression. Hence these limitations make it hard for international students to acclimatize themselves new circumstances.

F. Keol et. Al. (2012) mainly constrained themselves for only two research questions: How do these international students use Social Networking Sites? And how do these international students perceive the impact of Social Networking Sites on their affective and academic adaptation? This research was conducted in the United States with Asian international students, all from Korea, who were not raised in a western culture. Respondents in the study used Social Networking Sites in various ways and the tools played an important role in their adaptation to a new life in the United States. Findings of the study clearly showed that the respondents benefitted from their use of social networking sites and that the interactions helped to decrease their anxiety in the new culture by providing them with a means of connecting to their parents and friends in Korea. At the end it also stressed on the need of more research to identify the potential of Social Networking Sites in contributing to the affective and cognitive adaptation for international students including the connection between Internet use and academic achievement.

Raghunath et. Al. (2013) present a comprehensive analysis of various nuances of e-commerce while accentuating that, in present time every business activity, be it advertising, ordering, payment etc, can be performed in the digital ecosystem.

Gupta (2014) in her paper **"E-Commerce: Role of e-commerce in today's business"**, presents acomprehensive definition of e-commerce while isolating it from e-business. The paper enlists the different e-commerce models i.e. B2B, B2C, B2G and C2C, narratively analyzing the nitty gritties of each.

Mishra et al. (2015) trace the timeline and development of B2C e-commerce in **"A Study on Current Status of E-Commerce in India: A Comparative Analysis of Flipkart and Amazon"**with its inception in themid 1990s through the advent of matrimonial and job portals. However, due to limited internet accessibility, weak online payment systems and lack of awareness, the progress was very slow.

Rina(2016)also elaborates the different applications of e-commerce in **"Challenges and Future Scope of E-commerce in India"**, at the same time**,** defining the degree to which they are operational in the country.

NEED OF THE STUDY
The area of research emphasize on rural sector of India. It includes Villages of different District's. The researchers were keen to know whether E-commerce has reached the rural sector. This study also focuses on the experience of using E-commerce and the problems faced in the rural area.

PROBLEM STATEMENTS

In rural sector of India the following problems in E-commerce:

ELECTRONIC PAYMENT SYSTEM

Issues of trust and acceptance play a more significant role in the e-commerce world than in traditional businesses as far as payment systems are concerned. Traditionally, a customer sees a product, examines it, and then pays for it by cash, check, or credit card. In the e-commerce world, in most cases the customer does not actually see the concrete product at the time of transaction, and the method of payment is performed electronically.EPSs enable a customer to pay for the goods and services online by using integrated hardware and software systems. The main objectives of EPS are to increase efficiency, improve security, and enhance customer convenience and ease of use. Although these systems are in their immaturity, some significant development has been made. There are several methods and tools that can be used to enable EPS implementation.

While customers pay for goods/services by cash, check, or credit cards in conventional businesses, online buyers may use one of the following EPSs to pay for products/services purchased online:

Electronic funds transfer (EFT): EFT involves electronic transfer of money by financial institutions.

Payment cards: They contain stored financial value that can be transferred from the customer's computer to the businessman's computer.

Credit cards: They are the most popular method used in EPSs and are used by charging against the customer credit.

Smart cards: They include stored financial value and other important personal and financial information used for online payments.

Electronic money (e-money/e-cash): This is standard money converted into an electronic format to pay for online purchases.

Online payment: This can be used for monthly payment for Internet, phone bills, etc.

Electronic wallets (e-wallets): They are similar to smart cards as they include stored financial value for online payments.

Micro-payment systems: They are similar to e-wallets in that they include stored financial value for online payments; on the other hand, they are used for small payments, such as kurus in Turkey.

Electronic gifts: They are one way of sending electronic currency or gift certificates from one individual to another. The receiver can spend these gifts in their favorite online stores provided they accept this type of currency.

Although these groups appear to be separate, there is some overlap among them. When the industry matures, this duplication in naming and function ought to be renamed. For example, *e-wallets* can be classified as *payment cards* when they are used to store credit card information or as *e-money* when they store electronic currency.

SECURITY THREATS IN E-COMMERCE

Although the craze for e-Commerce occurred during the Internet Boom, as we can see from the definition, the core concept of dealing and paying over the Internet still exists today, and will for a long time to come. Electronic commerce servers have a significant presence in today's Internet. Corporations want to maintain high availability, sufficient capacity, and satisfactory performance for their e-Commerce Web systems, and want to provide satisfactory services to customers. Information security is the protection against security threats that are defined as a circumstance, condition, or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure, and modification of data, denial of service, fraud, waste, and or abuse. Security has become one of the most important issues that must be resolved first to ensure success of e-Commerce. E-Commerce environments encompass front-end web pages, back-end databases, web servers, and internal network infrastructure. The first step toward reducing the risk of e-Commerce security threats is to identify the vulnerable areas where security threats can happen.

COMMON SECURITY THREATS:

The tremendous increase in online transactions has been accompanied by an equal rise in the number and type of attacks against the security of online payment systems. Some of these attacks have utilized vulnerabilities that have been published in reusable third-party components utilized by websites, such as shopping cart software. The different types of vulnerabilities discussed here are SQL injection, cross-site scripting, information disclosure, path disclosure, price manipulation, and buffer overflows. Successful exploitation of these vulnerabilities can lead to a wide range of results.

## THE DISTRIBUTED DENIAL OF SERVICE (DDOS):

A common component of such an attack is to execute a denial-of-service (DoS) attack against one end-point to stop it from responding. This attack can be either against the machine to force it to crash, or against the network connection to force heavy packet loss.

However, in practice, the root name server infrastructure is highly resilient and distributed, using both the inherent features of DNS, a combination of any cast and load balancer techniques used to implement most of the thirteen nominal individual root servers as globally distributed clusters of servers in multiple data centres.
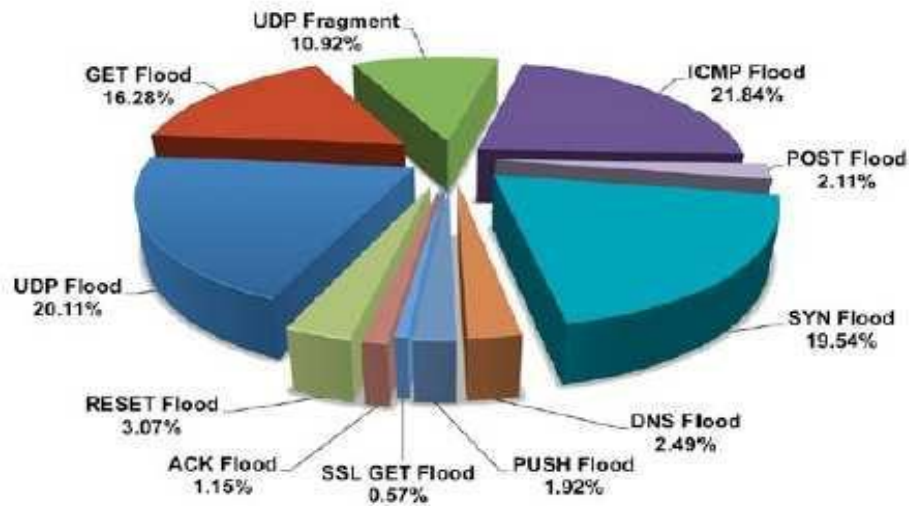
Total DDoS attack types in percentage

The denial of service attack is one of the best examples of impacting site availability. It involves getting the server to perform a large number of mundane tasks, exceeding the capacity of the server to cope with any other task. For example, if everyone in a large meeting asks you your name all at once, and every time you answer, they ask you again. You have experienced a personal denial of service attack. To ask a computer its name, you use ping. You can use ping to build an effective DoS attack. The smart hacker gets the server to use more computational resources in processing the request than the adversary does in generating the request.
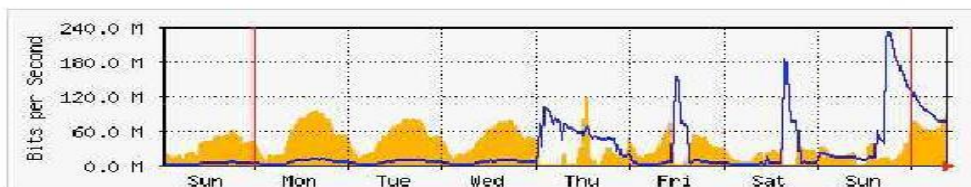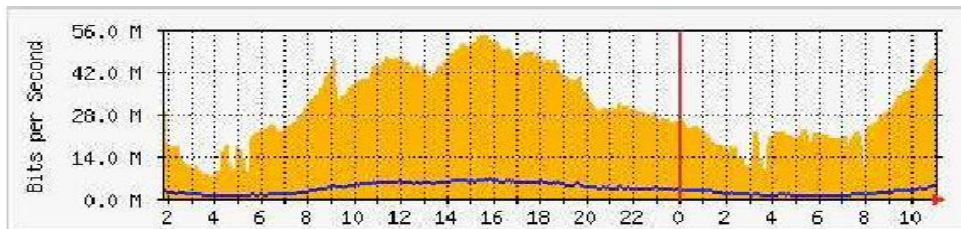

DoS attack scripts are the most common, effective and easiest to implement attacks available on

the WEB. No actual damage is done to the victim site. The access paths to it are simply overwhelmed with incoming packets. It would be every businessman's dream to be in this situation if the incoming packets were legitimate customer orders. The Distributed Denial of Service (DDOS) attacks are the latest evolution of DoS attacks and their success depends on the inability of intermediate sites to detect, contain and eradicate the penetration of their network. This attack not only causes the target site to experience problems, but also the entire Internet as the number of packets is routed via many different paths to the target.

DDOS took the original attack one step further. Entire networks were compromised and slave daemons were installed on the individual machines. These slave daemons can launch an ICMP, SYN, UDP or surfs flood attack but do so only at the command of master systems that were also compromised. The hacker sends the attack command to the masters, each of which relays the command to the slave daemons. It is quite possible to have tens of thousands of machines launching the attack against a single site.

The success of a DDOS depends on the failure of the compromised networks to detect and eradicate the master and slave programs. This failure could be caused by a number of reasons: lack of system administrator experience, lack of base security standards for each machine, lack of intrusion detection software to notify the admin or a management decision to not get involved. The DDOS programs are called TFN, Trinoo, and Win-trinoo among others. The most dangerous of these is the Windows 9x variant called win-trinoo because there are millions more Windows systems than servers.
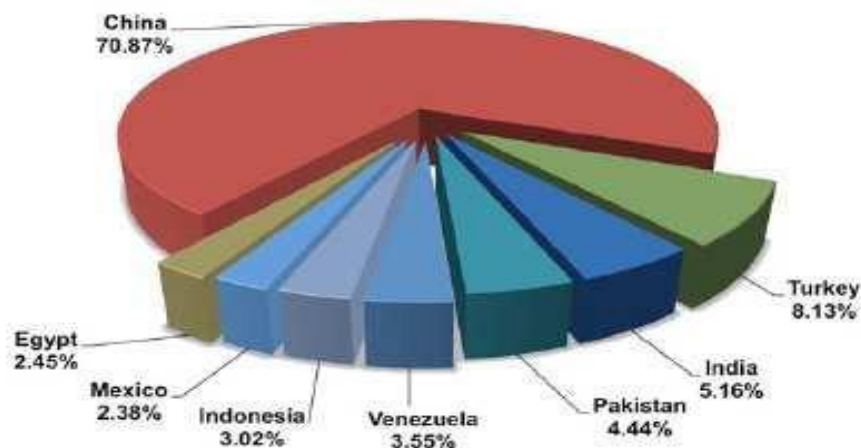
The financial impact of a DDoS attack can be devastating. Estimates from Forrester, IDC, and the Yankee Group predict the cost of a 24-hour outage for a large e-Commerce company would approach $30 million USD. In the earlier of last decade, DDoS attacks against Amazon, Yahoo, eBay, and other major sites caused an estimated cumulative loss of $1.2 billion USD, according

to the Yankee Group.

OTHER SECURITY THREATS:

Over the years, the methods used by ecommerce sites to process and store credit card information has become much more sophisticated than the early days of online shopping. This progress has helped online shopping overcome one of its greatest obstacles, consumer trust. As evidenced by the amount of money spent online each year, people feel much more secure in shopping online than they ever have. Unfortunately for businesses, the methods used by cyber criminals trying to steal their customer's information have made it easier than ever for them to compromise a web application.

Viruses: Have ability to replicate and spread to other files; most also deliver a "payload" of some sort include macro viruses, file-infecting viruses, and script viruses
Worms: Designed to spread from computer to computer.
Trojan horse: Appears to be benign, but then does something other than expected
Bots: Can be covertly installed on computer; responds to external commands sent by the attacker. EXE file: sometimes webmaster or system admin may forget to delete shopping cart exe file which may detect by the attackers and if they are able to run exe file the entire file would deleted from e-Commerce system.
Browser parasites: Can monitor and change settings of a user's browser: Adware- Calls for unwanted pop-up ads and Spyware- Can be use to obtain information, such as a user's keystrokes, e-mail, IMs, etc.
Poorly designed server and client software: Increase in complexity of software programs has contributed to increase is vulnerabilities that hackers can exploit.

LEGAL AND CONTRACTUAL ASPECTS
The legal and regulatory framework for international e-commerce is an area of wide debate and covers wide areas such as taxation, consumer protection and jurisdiction.The legislative and regulatory regime is undergoing rapid change in response to the development of e-commerce. However, some countries react more quickly and thus incompatibilities arise, particularly affecting cross-border e-commerce. Organizations should monitor this area carefully to enable them to adapt their e-commerce strategies appropriately.

INDIAN IT ACT 2000
The Indian (Duggal 2000; website 4) was enacted on 7th June 2000 and was notified in the official gazette on 17th October 2000. It aims to provide a legal and regulatory framework for promotion of e-commerce and e-governance. It is applicable to the whole of India. Some of the major provisions contained in the IT Act 2000 are as follows:

Electronic contracts will be legally valid

Legal recognition of digital signatures

Security procedure for electronic records and digital signature

Appointment of certifying authorities and controller of certifying authorities, including recognition of foreign certifying authorities

Various types of computer crimes defined and stringent penalties provided under the Act

Establishment of Cyber Appellate Tribunal under the Act

Act to apply for offences or contraventions committed outside India

Power of police officers and other officers to enter into any public place and search and arrest without warrant

Constitution of Cyber Regulations Advisory Committee who will advise the Central Government and Controller

However, there are a few more areas which should be taken care of in the subsequent amendments to the IT Act. These are as follows:

Electronic fund transfer – Electronic payment system

Digital copyright

Taxation – Income tax, sales tax

Consumer protection

Sale or the conveyance of immovable property

OBJECTIVES OF THE STUDY

To study the various trends in e-commerce.

To analyze the present issues and challenges of e-commerce in Rural India.

To bring out security and threat in e-commerce.

To design a framework to minimize the issues and challenges of e-commerce.

RESEARCH METHODOLOGY

Basic research method will be followed along with historical method. As secondary data journals, publications articles, books and websites will also aid the research. These tools will help to design a framework to minimize the issues and challenges of e-commerce in rural sector of Haryana. Whenever if becomes necessary, primary data will also be used with proper references.

TENTATIVE CHAPTER SCHEME

Chapter-1 Begins with the introduction to the subject, which contains an overview of e-commerce, gives a detailed discussion on conceptualization of issues and challenge of e-commerce, Review of literature: deals with views of the available literature relevant to the present study, justification of the study, contribution to the study etc.

Chapter-II Deals with the review literature used in this study

Chapter-III Deals with the design of the study; it contains research design, sampling procedure, methodology used in this study.

Chapter-IV Contains conceptual framework relating to the subject such as meaning and definition of e-commerce practices, general meaning of e-commerce, issues, challenges, concept of the real existence of e-commerce in rural sector, clarity between the facts of the work and services.

Chapter-V Present an analysis of e-commerce issues and challenges in rural sector practices it covers education mix of e-commerce, promotion, physical evidence, people and process. At the end, this chapter discusses the implication of e-commerce practices.

Chapter – VI Contains summary of the major findings and suggests for effective e-commerce practices.

CONCLUSION

E-commerce is a gradual process in our day to day life. According to the research topic there are many issues of the people of rural Haryana. As far as marketing is concerned there is a threat of cyber crime in their mind set. However we are trying to make our country digital but we leg behind in cyber security law, which becomes on obstacle. Here the challenge is to give a legal framework for e-commerce to allow the expansion of domestic and International trade. The future of E-commerce in rural sector would be bright in the upcoming years if all people wish.

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