

A Study on the Perception of Customers towards E-Commerce and E-Payments in Local Survey

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ABSTRACT: Electronic commerce or e-commerce refers to a wide range of online business activities for products and services or the transmission of funds or data over an electronic network. A variety of applications are used in conducting the e-commerce such as online shopping, carts and catalogs, electronic data interchange. The trust in E-commerce mainly depends upon the online payment system which allows a customer to make payment to the online merchant or service provider. Consumers are becoming more and more comfortable in making online transactions and are concerned about conducting electronic business transactions and the risks involved that have a vital impact on the transition of electronic business. Increasingly more consumers are migrating to Electronic-commerce to make electronic bill payments, to pay for information online, to purchase products, services. This paper deals mainly with consumers' willingness to conduct Electronic-commerce and their knowledge of the security measures used in online transactions. This study reveals the customer's perception towards e-commerce and e-payments. The study is conducted among 100 respondents and a description of the research process is provided. The major factors and interpretations are then discussed, providing a clear picture of the findings, after which the conclusion of the study is drawn.

KEYWORDS: e-commerce, customer's perception, purchase behaviour, online payments

I. INTRODUCTION

Online Payments by card, inter-bank facilities is not new in our society today. The ease of purchasing and selling products over the Internet has helped the growth of e-commerce, and e-payments services are a convenient and efficient way to do financial transactions. Electronic commerce involves the exchange of some form of money for goods and services over the internet but Internet is an insecure and unreliable media. We focus on the following e-commerce scenario: a customer wishes to purchase goods online; **Electronic Payment Methods–Electronic Fund Transfer(EFT), Financial EDI, Credit\Debit Cards , Electronic Cash, Online Stored Value Systems , & Smart Cards.**

Here we talk about the only E-payment made by any means, and the goods need to be shipped physically. A considerable need for secure and efficient payment systems that can operate over Internet has been created. Many people have purchased something online, as per survey. Purchasing online, whether services or products, requires that a customer has a valid credit\debit card or finance account such as 'PayPal'. Due to the increasing crime on the Internet, people are having alternate thoughts of giving their account info. Due to the nature of Internet-security & authentication of payments, users cannot be guaranteed with technologies that are not specifically designed for e-payments. We need an e-payment system, that would not only provide secure payments but should also have properties like online customer & merchant authentication with privacy of customer. To some it provides uncertainty and risks while E-purchasing.

E-payment technology has developed certain softwares known as the 'Secure Payment System' & 'Payment

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Surveillance Software'. It's a mode of operation where financial transactions done online is ensured to be safe & confidential. A type of e-payment technology is the Secure Electronic Transaction [SET]. The SET uses a unique process of encrypting the information between the customers & online store.

Hackers listening to the network traffic could gain access to informations, like card details & its holder's. Credit card such as a Visa or MasterCard, has spending limit based on user's credit limit. Debit Card removes the amount of the charge from the holder's account. In electronic fund transfer, server stores records of every transaction. When an E-payment is done the server uploads these records for auditing purposes. Secure electronic payment system uses different cryptographic algorithms and techniques for privacy, integrity, authentication and non-repudiation. We explain Comparison with our survey & conclusion of our paper.

II. RELATED WORK & SURVEY METHODOLOGY

With the increasing impact of intangible E-trading worldwide, and their immediate delivery at small cost, traditional payment systems become more costly than the modern methods. Online processing can be worth of value smaller than the smallest value of money in the manual world. There are two methods of running e-payment systems.

1. Online payment: in which vendor checks the payment sent by purchaser with a bank before serving the purchaser.

2. Offline payment: in which over spending must be detected, and consequently, no online link to the bank is needed. The e-payment schemes can be sub - divided into two groups.

A. By transaction method: in which single payment does not need previous arrangements between purchaser & vendor.

B. By account method: in which purchaser and vendor should have system account with bank and certain type of agreement between both before carrying out the real payment.

The payment by transaction can further be divided into two sub-groups.

I. The credit card payment transaction: is tailored for large charge payment of some hundreds or even thousands of rupees. In contrast, net money transaction is usually low value payment with difficult transaction cost and online features, similar to the thought of the e-payment transaction. The drawback of credit card payment transaction is the fee of transactions, particularly from the perspective of the vendor that have to pay some invoices to the clearing house according to the contract agreement with them. This certainly will have straight impact on the cost policy and the interest between the possible users.

II. The e -payment by non-card: This is acquiring certain interest from the area of research. A number of important services of e-payment are e-publishing and multimedia service. In these services, due to the small transaction amount, the merchant acquires relatively shopping mall revenue from every transaction.

Therefore, expensive calculations such as digital signature should be limited in order to reduce the investments in software applications. Recently, e-payments are offering a relatively key improvement in the online revenue malls. The foundation of e-payments is to take benefit of the high level of viewers by present content for a low price. Other alternative is to rating fractions of cents for equally fractional contents sums. The main features of e-payment protocol are less charges of payment and high occurrence of transactions on the e-trading system.

III. TYPES OF ATTACK ON INSECURE SYSTEM

Network Attacks

These simple services can be used to stop a wide variety of network attacks, including:

1. Snooping (passive eavesdropping)

A hacker watches network traffic as it passes and records payment data, such as credit\debit card information.

2. Tampering

A hacker monitors network traffic and simultaneously changes data in transit (for example, a hacker may modify the

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contents of an email).

3. Spoofing

A hacker forgoes network data, appearing to come from a different network address than he actually comes from. This sort of attack can be used to thwart systems that authenticate based on host information (e.g, an IP address).

4. Hijacking

Once a legitimate user authenticates, a spoofing hack can be used to "hijack" the connection.

5. Capture-replay

A hacker can record and replay network transactions to dormant effect.

For eg, selling a single share of stock while the price is high. If the network protocol is not properly designed and secured, a hacker could record that transaction, then replay it later when the stock price has dropped, and do so until all your stock is gone.

6. PIN-guessing attack

A hacker can fake the digits and use the user authentication code (UAC) to launch a PIN-guessing takeover

IV. E-PAYMENT PROTOCOL

An E-payment process is a sequence of actions that involves a business task. There are mainly two kinds of payment transactions: 1.) Atomic payment transaction and 2.) Composite payment transaction. Usually, a Composite payment transaction involves multiple atomic transactions. Each atomic transaction supports the traditional ACID (Anti Copying in Design) properties & must either fully commit or fully roll back. The classical ACID properties do not hold when a single payment transaction involves multiple atomic payments, especially when a failure occurs in any atomic payment transaction. Since atomic transactions use a two-phase commit protocol, a coordinating process is required to manage & synchronize the E-payment services within a given payment transaction. For eg, consider a composite payment transaction. An organization has to pay American Dollar \$10000 for electricity board, \$20000 for telephone exchange, Transports office- \$10000 & \$4000 to Water board. Since the balance after the two payments is not sufficient, it's not possible to transact the water board payment. Though, the payment instruction toward the electricity & telephone was successful, the complete transaction has to roll back due to insufficient amount. This complete reversal based on nothing-or-all protocol may in turn lead to late payment to other successful utility services. Hence, the nothing-or-all protocol has described above is not sufficient to handle composite E-payments. It can result in loss of confidence & trust in the E-payment services.

Payments on the Internet, can therefore refer to either the particular type of electronic money that involves a software product (although at the moment there is no such product in general use) or to electronic access products (via a card reader & a computer), or to both of these. Systems are also emerging that will allow the use of electronic money to be used over a network, by allowing the cash balance of the prepaid card to be drawn in accordance with the value of the goods or services purchased. Internet payments systems cover transactions both wholesale & retail. Methods of payments include: bank transfers, cheques, Credit \ Debit cards.

V. SECURITY REQUIREMENTS FOR SUCCESSFUL PAYMENT SURVEILLANCE SOFTWARE

The primary goal of cryptography is to secure important data as it transits through media that may be insecure. Cryptographic algorithms provide more services to applications. This system secures the below security needs. Note: This software searches millions of transactions as they occur every day and looks for patterns or interceptions of hack and fraud. This software notifies the server manager immediately when it finds something suspicious.

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1.) Authentication

The assurance that the communicating party is the one that claims to be, prevents the co-interception of one of the parties involved in the transaction. Applications usually perform authentication checks through security tokens or by digital verifications issued by the authorities. Cryptography establishes identity for authentication purpose.

2.) Access Control

The prevention of unauthorized use of a resource (i.e., this service controls who can have access to a resource, under what conditions access can occur, and what those accessing the resource are allowed to do.)

3.) Data Confidentiality (Secrecy)

The protection of data from unauthorized disclosure. Confidentiality is an essential component in user privacy, as well as in the protection of proprietary info's, & as a deterrent to the theft of information services. The only way to ensure confidentiality on a public network is through strong encryption. Data is kept confidential from those without the proper credentials, even if that data travels through an insecure media.

4.) Data Integrity (Anti-Tampering)

The assurance that data received are exactly as sent by an authorized entity (i.e, contains no medications, insertion, deletion, or response). Prevents the unauthorized, medication of data. Financial details travels through multiple routers on the open network to reach their destinations. We must make sure that the information is not modified in transit.

5.) Non-Repudiation

Provides protection against denial by one of the entities involved in a communication of having participated in all or a part of communication.

Non-repudiation, origin-proof that the message was sent by the specified party.

Non-repudiation, destination-proof that the message was received by the specified party.

It is provided through digital signatures & public key certificates.

VI. SIGNIFICANCE OF OUR RESEARCH

As mentioned in abstract, among the survey of 100 respondents, 90% of the respondents are students, 5% working & 5% in business. Even though all of them do not trust in making E-payments due to their reasons mentioned; so also, all the respondents have done E-payments. From them we came to know, 80% of the people use debit\credit cards, 15% use net banking & other non-card E-payment services and 5% of them access all the modes of E-transactions. We have found that most people in sole trading activities & partnership business use the form of direct cheque payments & cash in hand payments so as to reduce certain tax deduction & other miscellaneous charges. And the 90% of respondents we queried with says, debit\credit card payment is more comfortable, preferable, & can be quickly accessed in areas where internet facility is unavailable, having a good consistency rate of 70%. We also found that the Activation of OTP's [One Time Password], digital signature passcodes, etc., has made processing of E-payments move to the next level, with an increasing trend of safety precautions & deduction of charges at low cost base, [Payment Surveillance Software].

Although those respondents make E-payments 40% of the sample agrees to the direct cash payments, so as to reduce the disadvantages of E-payments like *per transaction fees, *monthly processing fee, *online service tax, *extra delivery charges, etc., these 40% respondents describes only two reasons of E-payment (i.e.) Time management, & as an Easy Purchasing Strategy. 2% suggests they have no advantage of making online payment. Also, another 40% say that they withhold direct cash payments due to *Theft, Loss due to negligence & other Ethical reasons. Also all of them (100 respondents) are aware of the Inter Bank mode of Electronic fund Transfer like PayTM, PayPal, Mcheck, etc. , but only 30% of them access those facilities (employed people & business). They finally agree that in future there will not be any material cash transactions, and Electronic Fund Transfers will sustain permanently, with Electronic card transfer holding high consistency. But the drawback in sustainment of EFT's is that *if hit by natural calamities [Eg: Chennai Floods], the fund transfers would be delayed, others say the *additional charges should be controlled so as to make E-payments affordable to common people. Finally 5% suggests that the latest development of RFID[Radio Frequency

Identification] must be implemented so that the EFT's will access without much formalities & with higher safety

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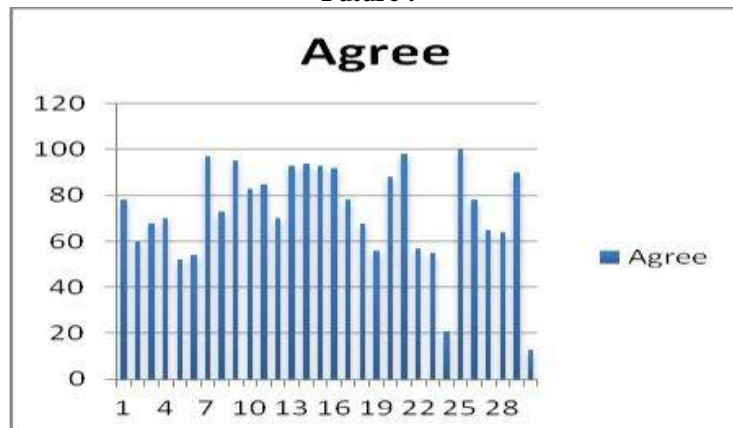
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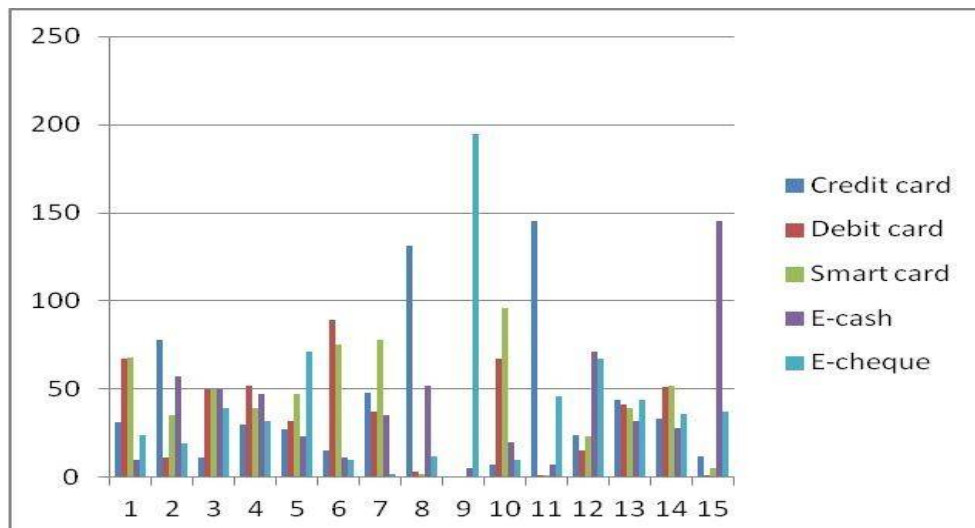
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measures, also the knowledge of RFID must cover the population.

***Graph Representing the Population Agreeing that E-Payments or Transactions have a Higher Scope in Future :-**



Graphical Representation of the method of E-Payment made by Users as per our survey:-



[We have received 210 responses among which we have taken only the first 100 responses as required for our paper.]

VII. CONCLUSION

Technology has arguably made our lives easier. One of the technological innovations in banking, finance and commerce is the E-Payments. E-Payments refers to the technological breakthrough that enables us to perform financial transactions online, thus avoiding hindrances and other hassles. E-Payments provides greater freedom to individuals in paying their taxes, licenses, fees, fines and purchases at unconventional locations and at whichever time of the day, & 365 days of the year. After analysis and comparison of various modes of e-payment systems, it is revealed that it is quite difficult, to suggest that whether payment system is best. There are number of factors which affect the usage of e-

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commerce payment systems. Among all these user base or view is most important. Cashless payment system offers immunity against theft of paper and e-money, and adopting e-payment solutions or systems for different reasons. In addition to cost reduction, comparison was made to a number of other benefits, including improved customer service, improved working capital, increased operational efficiencies and, processing efficiencies and enhanced compliance to organizational policies and procedures. This study is based on survey of 100 respondents. The respondent have to answer the questions on their own. Some people satisfy with our views. But some peoples are not satisfied with us. Feedback can be obtained easily as internet is virtual in nature. Customer loyalty can be gain. Personal attention can be given by bank to customer also quality service can be served. We came to know various strengths of e-payment System such as quality customer service, greater reach, time saving customer loyalty, easy access to information, 24 hours access, reduce paper work, no need to carry cash easy online applications etc.

Throughout this survey of online payment systems we have learned about many recent trends and new technologies involving these systems, with their risk factors, security measures, which is made available for general public, such as using PayPal, or using Safety Pay's Online Cash Payment Platform, other non-card payments.

We have found that credit and debit cards will become obsolete, because we see the increasing development of mobile technology and the internet industry. We see the development of new online mobile payment technologies, which will help make your mobile device extremely flexible, because you will be able to store credit and debit card information on your SIM card. By having your credit or debit card information already stored on your Smartphone, it will save many steps in the purchasing process on any website you choose to purchase from. But our survey has found the disadvantage that 70% of people are not adopted to these mobile technologies, they still stand in using cards. The E-payment can be affordable only if all other Electronic fund transfer media charges less & reduces tax incentives. Example: PayPal charges less fees to business users & no fees to individuals, so its profit margins are small, where as it earns larger profits through other huge contracts of transactions. They do not suggest all EFT's to function under small profit margins, but this can be a resolution.

Future direction of research could be to formulate a system with similar features that supports person to person settlement as well as business. The best example is RFID, which is a system that can be utilized not only for E-payments, but also as an E-storage of all personal affiliations & data, which holds higher grade than that of other E-facilities, we find in our survey only 5% of the population are aware of RFID'S, so 'we conclude that the E-Payment system & E-commerce will update every minute, & RFID should be made aware to all, which is future of E-Commerce.

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