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# Analysis and Future of Electronic Payment System

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## ABSTRACT

*Electronic Commerce industry is exploding at a fast pace. One of the key aspects of electronic commerce is payments. There are different methods to pay electronically. These can be through Credit Cards, Electronic Checks, Electronic Cash, Debit Cards, or Charge Cards. This paper discusses the major electronic payment methods namely Credit Card Processing, Electronic Check Processing, and Electronic Cash. It presents an overview of each architecture, and describes two commercial implementations of the architecture. The paper also analyses and compares the payment methods and reveals their advantages and disadvantages.*

Keywords: E-Payment, Credit Card, Debit Card, Smart Card.

## INTRODUCTION

Electronic Commerce is defined as a monetary transaction that occurs electronically as opposed to the physical exchange of money or checks. Tangible currency is eliminated and accounts are maintained electronically to reflect the

effects of transaction. ECommerce involves trading using the latest electronic equipment and software between the sellers and the buyers. The trade in e-commerce is conducted in a slightly different way than the traditional trading. The earliest form of automation in the financial industry was done to automate the functions of clearing house in bank associations. Electronic Payments can be categorized as Stored Account Payments or Stored Value Payments. In a stored account payment, the buyer and the merchant maintain accounts with a bank. The transactions are registered and the actual transfer of funds takes place at a later stage through settlement. Examples of Stored Account payment System include Credit Cards, Debit Cards and Electronic Checks. In Stored Value Payment System like smart cards, mondex cards, digital cash, certain amount of prepaid monetary value stored electronically on the card. Electronic Checks are also processed on the lines of traditional check processing.

## MOTIVATION



Internet is growing at an extremely fast pace. It has been estimated that there is a new web page every minute. The ease of use, efficiency and quickness, search engines and international presence of Internet has been drawing millions of users towards it. There are various methods to implement electronic payment processing. However it is not clear as to which one will be the leader in the next 10 years. Hence it is very interesting to investigate the software growth and research that has been done in this area and develop more efficient and better software.

### **Credit Card Payment System**

Credit cards are payment cards issued by a bank against a special purpose account associated with some form of installment based re-payment scheme or revolving credit. [3]. This is also known as "Pay Later" method of payment. Diner's Club introduced the first credit card in 1958, followed by American Express in 1966. There are two major organizations issuing 80% of the credit cards in the market today. They are Visa International and MasterCard. These companies are made up of a larger number of member banks.

A Credit card is a piece of plastic, 3-1/8 inches by 2-1/8 inches in size, that carries information that allow you to make purchase now pay for them later. Credit cards from visa master card or

any other network allow you to pay for purchase or services by borrowing from the credit card company. To purchase goods from merchant who accept credit card such as merchant has credit card reader to purchase the payment transaction to withdraw cash from ATM. You then repay by making monthly payment toward the amount borrowed, that is you don't have to repay the whole borrowed amount in full at one go.

### **Debit Card**

is a prepaid card and also known as ATM card. An individual has to open an account with the issuing bank which gives debit card with a personal id number, when he makes a purchase he enter his pin number on shop pin pad. When the card is slurped through the electronic terminal it dial the acquire a banking system either master card or visa card that validate the pin and finds out from the issuing bank whether to accept or decline the transaction the customer can never overspend because the system reject any transaction which exceeds the balance in his account the bank never face a default because the amount spent is debited immediately from the customer account With almost every bank account you are issued a debit card.

## **Smart Card**

Smart card was first introduced in Europe most of these methods are known as stored value cards. A smart card is about the size of a credit card, made of a plastic with an embedded microprocessor chip that holds important financial and personal information. The microprocessor chip is loaded with the relevant information and periodically recharged. In addition to these pieces of information, systems have been developed to store cash onto the chip. The money on the card is saved in an encrypted form and is protected by a password to ensure the security of the smart card solution. In order to pay via smart credit is necessary to introduce the card into a hardware terminal. The device requires a special key from the issuing bank to start a money transfer in either direction. Smart cards can be disposable or rechargeable.

## **Digital Wallet (Electronic wallet)**

Electronic wallets being very useful for frequent online shoppers are commercially available for pocket, palm-sized, handheld, and desktop PCs. They offer a secure, convenient, and portable tool for online shopping. They store personal and financial information such as credit cards, passwords, PINs, and much more. To facilitate the credit-card order process, many companies are introducing electronic

wallet services. E-wallets allow you to keep track of your billing and shipping information so that it can be entered with one click at participating merchants' sites. E-wallets can also store e checks, e-cash and your credit-card information for multiple cards

## **Electronic Check Processing**

Checks account for 11% of all the purchases made over the Internet. Electronic Check Processing (ECP) is an electronic payment process designed to debit consumers' checking accounts for payment of goods and/or services. Corporations can use ECP to centralize, disburse or collect funds from their branches, franchises, agents, or from other corporations. An Electronic Check contains instructions to payer's bank to make a payment of specified amount to payee. Electronic Check Processing is similar to the traditional check processing in that it adopts the traditional check processing steps to clear checks. However, ECP provides mechanism to verify the funds on-line in real time. The contents of an electronic check are similar to the traditional checks. Signatures on electronic checks are digitized. The ECP procedure is capable of validating digital signatures.

## **Electronic cash**

Similar to regular cash, e-cash enables transactions between customers without the need for banks or other third parties. When used, e-cash is transferred directly and immediately to the participating merchants and vending machines. Electronic cashes a secure and convenient alternative to bills and coins. E-cash usually operates on a smartcard, which includes an embedded microprocessor chip. The microprocessor chip stores cash value and the security features that make electronic transactions secure. when e cash created by one bank is accepted by other reconciliation must occur without any problem cash must be storable and receivable. Most E-cash is transferred directly from the customer's desktop to the merchant's site. Therefore, e-cash transactions usually require no remote authorization or personal identification number (PIN) codes at the point of sale.

### **Objectives**

- a) To identify the area of quality customer service with personal attention.
- b) b) To establish strong relationship between bank and customer.
- c) It identify how online payment system work.
- d) Understand different payment technology.
- e) To fulfill the economical requirements of the business.

### **PROBLEM FORMULATION**

The study involves a survey on the attitude of people for not using E-Payment system even though it is easy to access, quicker mode of transaction and so on the following points on have been taken into fray while carrying out the study Innovative Reliable technology Effective business practice smart marketing promotion good usability carefully integration designs.

Component of effective electronic payment system

1. Consumer and browser:- A consumer interact with the online commerce system through a web browser typically a consumer first accessing a shopping mall and then uses the hyperlink from the mall to access the merchant home page.
2. Shopping mall:- A shopping mall is where most consumer first visit for a shipping free there will be several shopping malls and it may pay to enlist with one or more well known mall.
3. Merchant systems:- It consists of the home page and related software to manage the business.
4. Banking network:- it consist of several components there is bank that processes the online financial transaction for the given



merchant the bank maintain the account for the merchant authorize and processes the payment the merchant bank also maintain a link with the consumer bank for verifying the trans actions

## CONCLUSION

Technology has arguably made our lives easier. One of the technological innovations in banking, finance and commerce is the Electronic Payments. Electronic Payments (e-payments) refers to the technological breakthrough that enables us to perform financial transactions electronically, thus avoiding long lines and other hassles. Electronic 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 electronic payment systems, it is revealed that it is quite difficult, if not impossible, to suggest that which payment system is best. Some systems are quite similar, and differ only in some minor details. Thus there are number of factors which affect the usage of e-commerce payment systems. Among all these user base is most important. Added to this, success of e-commerce payment systems also depends on consumer preferences, ease of

use, cost, industry agreement, authorization, security, authentication, nonrefutability, accessibility and reliability and anonymity and public policy. The Reliable and 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, reference was made to a number of other benefits, including improved customer service, improved working capital, increased operational efficiencies and cycle times, processing efficiencies and enhanced compliance to organizational policies and procedures .This opportunities e-payment operation increases different levels of risks for marketing. More than ten Years of Internet marketing research have yielded a set of important findings. Based on our review of these findings, it is clear that the Internet is playing a more and more important role in the field of epayment .peoples are becoming aware of the need to measure the collaborative effects of e-payment The study reveals that the peoples were not aware and educated. They have not any knowledge of epayment. The study is based on survey .The respondent have to answer the questions on their own. Some people satisfy with our views. But some peoples are not satisfies with us. This study states that Online e-payment provides greater reach to customers.



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.

### **Future of Electronic Payment System**

There are a wide variety of payment systems available to a consumer today. However there arises a need to provide a single universal payment system that provides the advantages of all the existing payment system. In an effort towards this direction, an organization called Joint Electronic Payment Initiative (JEPI) has been formed. The objective of this group is to define a set of protocols and interfaces that can support the use of a wide variety of payment methods for network commerce. It is clear that Credit Card Payments have adopted SET as a standard for payment transactions. However, no protocol is currently available for electronic check payment. Financial Service Technology Consortium (FSTC) is working towards bringing in a standard for electronic checks. FSML has been introduced to develop secure financial documents like checks. However, it is yet to be accepted as an industry wide standard. Electronic Cash products like Ecash that do not make use of banking infrastructure are finding it difficult to push into the market. However smart card systems like Mondex are not popular in the

market because of not being backed up by major banking institutions. We should try to develop systems that are not proprietary and inflexible but instead are open-ended. Electronic Payment Industry has an extensive potential for growth considering the growth of Internet. We should take advantage of this and make the best use of available technology for the betterment of mankind.

Throughout our experience researching online payment systems we have learned about many recent trends and new technologies involving these systems, such as using PayPal, or using Safety Pay's Online Cash Payment Platform. You ask yourself, what are some future trends of online payment systems? We have researched and discovered 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. How will a consumer be able to use this technology to purchase from a certain website? When you reach the payment page on the website, your mobile device recognizes it and suggests a type a payment. After you pick your

payment choice, authorization of the transaction is done by fingerprint recognition software on your mobile device, and a few security questions, which will help prevent someone from stealing your banking or personal information if your device was lost or stolen. Why would using your mobile device make transaction easier? 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. Also, at the same time everyone is very comfortable with their mobile device, and by having the choice to purchase a product from your smart phone, helps the company finish the sale. Most customers want to go with the transaction process that has the least amount of steps, and by having your banking information programmed into your SIM card and it only taking a press on the “Buy Now” button, this takes away many of the steps that customers have to go through now to purchase something online. Future direction of research could be to formulate a system with similar features that supports person to person settlement as well.

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