



## IMPORTANCE OF E-COMMERCE PAYMENT SYSTEM IN LESS PAPER WORK

CA. Raj Garg

Assistant Professor, GGN Khalsa College, Ludhiana

[raj.garg.ca88@gmail.com](mailto:raj.garg.ca88@gmail.com)

99880-66269

### **ABSTRACT**

*Electronic Payment is a financial exchange that takes place online between buyers and sellers. An e-commerce payment system facilitates the acceptance of electronic payment for online transactions. This article covers aspects related to benefits derived from e-commerce and what type of methods are used in commerce for payment. Also known as a sample of Electronic Data Interchange (EDI), e-commerce payment systems have become increasingly popular due to the widespread use of the internet-based shopping and banking. Electronic Payment is a financial exchange that takes place online between buyers and sellers. The content of this exchange is usually some form of digital financial instrument (such as encrypted credit card numbers, electronic cheques or digital cash) that is backed by a bank or an intermediary, or by a legal tender. Publishing is another area where the Internet has impacted. With all web sites having web pages that show some content or other visitors, get hordes of web page based information on almost any topic.*



## I. INTRODUCTION

An e-commerce payment system facilitates the acceptance of electronic payment for online transactions. Also known as a sample of Electronic Data Interchange (EDI), e-commerce payment systems have become increasingly popular due to the widespread use of the internet-based shopping and banking.

E payment is a subset of an e-commerce transaction to include electronic payment for buying and selling goods or services offered through the Internet. Generally we think of electronic payments as referring to online transactions on the internet, there are actually many forms of electronic payments. As technology developing, the range of devices and processes to transact electronically continues to increase while the percentage of cash and check transactions continues to decrease. In the US, for example, checks have declined from 85% of non-cash payments in 1979 to 59% in 2002, and electronic payments have grown to 41%.

The Internet has the potential to become the most active trade intermediary within a decade. Also, Internet shopping may revolutionize retailing by allowing consumers to sit in their homes and buy an enormous variety of products and services from all over the worlds. Many businesses and consumers are still wary of conducting extensive business electronically. However, almost everyone will use the form of E Commerce in near future. This site will discuss the e commerce developing procedure in national level especially on e-payment system. Also strategy for fostering increased business and consumer confidence in the use of electronic networks for commerce and payment system.

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## II. ELECTRONIC PAYMENT SYSTEMS

Electronic Payment is a financial exchange that takes place online between buyers and sellers. The content of this exchange is usually some form of digital financial instrument (such as encrypted credit card numbers, electronic cheques or digital cash) that is backed by a bank or an



intermediary, or by a legal tender. The various factors that have lead the financial institutions to make use of electronic payments are:

1. **Decreasing technology cost:** The technology used in the networks is decreasing day by day, which is evident from the fact that computers are now dirt-cheap and Internet is becoming free almost everywhere in the world.
2. **Reduced operational and processing cost:** Due to reduced technology cost the processing cost of various commerce activities becomes very less. A very simple reason to prove this is the fact that in electronic transactions we save both paper and time.
3. **Increasing online commerce:** The above two factors have lead many institutions to go online and many others are following them.

We began E-Commerce with EDI, this was primarily for large business houses not for the common man. Many new technologies, innovations have lead to use of E-Commerce for the common man also. We will now briefly enumerate these innovations based on whom they affected:

1. **Affecting the consumers:** Credit cards, Debit Cards, ATMs (Automated Teller Machines), Stored value cards, E-Banking.
2. **Enabling online commerce:** Digital Cash, E-Cash, Smart cards (or Electronic Purse) and encrypted Credit cards.
3. **Affecting Companies:** The payment mechanisms that a bank provides to a company have changed drastically. The Company can now directly deposit money into its employee's bank account. These transfers are done through Automated Transfer Houses.

There are also many **problems with the traditional payment systems** that are leading to its fade out. Some of them are enumerated below:



1. **Lack of Convenience:** Traditional payment systems require the consumer to either send paper cheques by snail-mail or require him/her to physically come over and sign papers before performing a transaction. This may lead to annoying circumstances sometimes.
2. **Lack of Security:** This is because the consumer has to send all confidential data on a paper, which is not encrypted, that too by post where it may be read by anyone.
3. **Lack of Coverage:** When we talk in terms of current businesses, they span many countries or states. These business houses need faster transactions everywhere. This is not possible without the bank having branch near all of the companies offices. This statement is self-explanatory.
4. **Lack of Eligibility:** Not all potential buyers may have a bank account.
5. **Lack of support for micro-transactions:** Many transactions done on the Internet are of very low cost though they involve data flow between two entities in two countries. The same if done on paper may not be feasible at all.

We will now focus attention on the various **ways available to pay online** these methods of payment are still new even when seen as a technology. Each has its own benefits and shortcomings:

1. **Electronic Tokens:** An electronic token is a digital analog of various forms of payment backed by a bank or financial institution. There are two types of tokens:
  - A) **Real Time:** (or Pre-paid tokens) - These are exchanged between buyer and seller, their users pre-pay for tokens that serve as currency. Transactions are settled with the exchange of these tokens. Examples of these are DigiCash, Debit Cards, Electronic purse etc.
  - B) **Post Paid Tokens** – are used with fund transfer instructions between the buyer and seller. Examples – Electronic cheques, Credit card data etc.
2. **Electronic or Digital Cash:** This combines computerized convenience with security and privacy that improve upon paper cash. Cash is still the dominant form of payment as: The



consumer still mistrusts the banks. The non-cash transactions are inefficiently cleared. In addition, due to negative real interest rates on bank deposits. Now we will enumerate some qualities of cash:

- A. Cash is a legal tender i.e. payee is obligatory to take it.
- B. It is negotiable i.e. can be given or traded to someone else.
- C. It is a bearer instrument i.e. possession is proof of ownership.
- D. It can be held & used by anyone, even those without a bank certificate.
- E. It places no risk on part of acceptor.

The following are the limitations of Debit and Credit Cards:

- a. They are identification cards owned by the issuer & restricted to one user i.e. cannot be given away.
- b. They are not legal tender
- c. Their usage requires an account relationship and authorization system.

### III. DIGITAL CASH

Digital cash is based on cryptographic systems called "Digital Signatures" similar to the signatures used by banks on paper cheques to authenticate a customer. Purchase of digital cash from an online currency server (or bank) involves 2 steps:

- 1. Establishment of an account in this step we are given a unique digital number which also becomes our digital signature. As it is a number known only to the customer and the bank, forgery, which may be done in paper cheques becomes very difficult.
- 2. Maintenance of sufficient money in the account is required to back any purchase.

### IV. ELECTRONIC CHEQUES

The electronic cheques are modeled on paper checks, except that they are initiated electronically. They use digital signatures for signing and endorsing and require the use of digital certificates to



authenticate the payer, the payer's bank and bank account. They are delivered either by direct transmission using telephone lines or by public networks such as the Internet.

**Benefits of electronic Cheques:**

Well suited for clearing micro payments. Conventional cryptography of e-cheques makes them easier to process than systems based on public key cryptography (like digital cash).

They can serve corporate markets. Firms can use them in more cost-effective manner.

They create float and the availability of float is an important requirement of Commerce.

**V. E-BANKING**

Banking as a business can be divided into five broad types:

1. Retail
2. Domestic wholesale
3. International Wholesale
4. Investment
5. Trust

Of all these types, retail and investment banking are most affected by online technological innovations and are the ones that stand to profit most from e-commerce.

Role of e-commerce in banking is multifaceted – impacted by:

1. Changes in technology.
2. Rapid deregularization of many parts of finance.
3. Emergence of new banking institutions.
4. Basic economic restructuring.



E-Banking offers an inexpensive alternative to branching to expand a bank's customer base, and many banks are using e-banking to increase services to their customers. Many banks have started websites on the Internet and many plan to offer banking services over the Internet.

Smart Cards and other forms of electronic cash could be the key to consumer acceptance of home banking, eventually allowing banks to reduce the number of their physical branches.

Four major categories of home banking are:

1. Proprietary bank dial-up services.: A home banking service in combination with a Computer and Modem lets the bank become an electronic gateway to consumer's accounts, enabling them to transfer funds or pay bills directly to creditor's accounts.
2. Off-the-shelf home finance Software: This category is a key player in making relationships between current customers and helping banks gain new customers. Example: Microsoft's Money and Bank of America's MECA Software.
3. Online Service Based Banking: This category allows banks to setup retail branches or subscriber based online services such as Prodigy, CompuServe and America Online.
4. WWW Based Banking: This allows banks to bypass subscriber based online services and reach the customer's browser directly through worldwide web. Advantage of this model is its flexibility to adapt to new online transaction processing models facilitated by e-commerce and elimination of the constricting intermediary.

## **VI. E-COMMERCE AND RETAILING**

Retailing is expected to change with the rapid development of new online sales and distribution channels that literally can be used from anywhere, anytime – from work, school, a hotel, car or airplane. As an example of the Electronic retailing we can see Amazon which sells books online and Dell computers who sell computers online. These retailers started as small players in a



market, which did not trust them. However, they have become major players after taking over some small retailers.

Almost every retailer is now re-evaluating every aspect of its operation from customer service to advertising, merchandising to store design and logistics to order fulfillment and further more reacting to the pressure of retailers, suppliers are assessing technology based solutions to drive down costs and become more efficient producers of goods.

Online channels are impacting traditional retail business models with online retailing constraints of time and space disappear.

### **Electronic Retailing:**

Today electronic retailing is still far from being a competitive threat to more traditional store retailing but it is becoming increasingly attractive as technology and application improve and retailers gain experience.

### **Methods of Online Payment**

Credit cards constitute a popular method of online payment but can be expensive for the merchant to accept because of transaction fees primarily. Debit cards constitute an excellent alternative with similar security but usually much cheaper charges. Besides card-based payments, other forms of payment have emerged and sometimes even claimed market leadership. Wallets like PayPal and Alipay are playing major roles in the ecosystem. Bitcoin payment processors are a cheaper alternative for accepting payments online which also offer better protection from fraud.





### Net banking

This is a system, well known in India, that does not involve any sort of physical card. It is used by customers who have accounts enabled with Internet banking. Instead of entering card details on the purchaser's site, in this system the payment gateway allows one to specify which bank they wish to pay from. Then the user is redirected to the bank's website, where one can authenticate oneself and then approve the payment. Typically there will also be some form of two-factor authentication.

It is typically seen as being safer than using credit cards, with the result that nearly all merchant accounts in India offer it as an option.

A very similar system, known as iDEAL, is popular in the Netherlands.

### PayPal

PayPal is a global e-commerce business allowing payments and money transfers to be made through the Internet. Online money transfers serve as electronic alternatives to paying with traditional paper methods, such as cheque's and money orders. It is subject to the US economic sanction list and other rules and interventions required by US laws or government. PayPal is an acquirer, a performing payment processing for online vendors, auction sites, and other commercial users, for which it charges a fee. It may also charge a fee for receiving money, proportional to the amount received. The fees depend on the currency used, the payment option used, the country of the sender, the country of the recipient, the amount sent and the recipient's account type. In addition, eBay purchases made by credit card through PayPal may incur extra fees if the buyer and seller use different currencies. On October 3, 2002, PayPal became a wholly owned subsidiary of eBay. Its corporate headquarters are in San Jose, California, United States at eBay's North First Street satellite office campus. The company also has significant operations in Omaha, Scottsdale, Charlotte and Austin in the United States; Chennai in India; Dublin in Ireland; Berlin in Germany; and Tel Aviv in Israel. From July 2007, PayPal has operated across the European Union as a Luxembourg-based bank



### Google Wallet

Google Wallet was launched in 2011, serving a similar function as PayPal to facilitate payments and transfer money online. It also features a security that has not been cracked to date<sup>[when?]</sup>, and the ability to send payments as attachments via email.

### Mobile Money Wallets

In undeveloped countries the banked population is very less, especially in tier II and tier III cities. Taking the example of India, there are more mobile phone users than there are people with active bank accounts. Telecom operators, in such geographies, have started offering mobile money wallets which allows adding funds easily through their existing mobile subscription number, by visiting physical recharge points close to their homes and offices and converting their cash into mobile wallet currency. This can be used for online transaction and eCommerce purchases. Many payment options such as Airtel Money and M-Pesa are being accepted as alternate payment options on various eCommerce websites.

E-Commerce or Electronics Commerce sites use electronic payment where electronic payment refers to paperless monetary transactions. Electronic payment has revolutionized the business processing by reducing paper work, transaction costs, labour cost. Some of the modes of electronic payments are following.

- Credit Card
- Debit Card
- Smart Card
- E-Money
- Electronic Fund Transfer (EFT)

### Credit Card

Payment using credit card is one of most common mode of electronic payment. Credit card is small plastic card with a unique number attached with an account. It has also a magnetic strip embedded in it which is used to read credit card via card readers. When a customer purchases a



product via credit card, credit card issuer bank pays on behalf of the customer and customer has a certain time period after which he/she can pay the credit card bill. It is usually credit card monthly payment cycle. Following are the actors in the credit card system.

#### Credit card payment process

| Step   | Description  |
|--------|--|
| Step 1 | Bank issues and activates a credit card to customer on his/her request.  |
| Step 2 | Customer presents credit card information to merchant site or to merchant from whom he/she want to purchase a product/service. |
| Step 3 | Merchant validates customer's identity by asking for approval from card brand company.   |
| Step 4 | Card brand company authenticates the credit card and paid the transaction by credit. Merchant keeps the sales slip.            |
| Step 5 | Merchant submits the sales slip to acquirer banks and gets the service chargers paid to him/her.                               |
| Step 6 | Acquirer bank requests the card brand company to clear the credit amount and gets the payment.                                 |
| Step 7 | Now card brand company asks to clear amount from the issuer bank and amount gets transferred to card brand company.            |



### **Debit Card**

Debit card, like credit card is a small plastic card with a unique number mapped with the bank account number. It is required to have a bank account before getting a debit card from the bank. The major difference between debit card and credit card is that in case of payment through debit card, amount gets deducted from card's bank account immediately and there should be sufficient balance in bank account for the transaction to get completed. Debit cards free customer to carry cash, cheques and even merchants accepts debit card more readily. Having restriction on amount being in bank account also helps customer to keep a check on his/her spendings.

### **Smart Card**

Smart card is again similar to credit card and debit card in appearance but it has a small microprocessor chip embedded in it. It has the capacity to store customer work related/personal information. Smart card is also used to store money which is reduced as per usage.

Smart card can be accessed only using a PIN of customer. Smart cards are secure as they store information in encrypted format and are less expensive/provide faster processing. Mondex and Visa Cash cards are examples of smart cards.

### **E-Money**

E-Money transactions refer to a situation where payment is done over the network and amount gets transferred from one financial body to another financial body without any involvement of a middleman. E-money transactions are faster, convenient and save a lot of time.

Online payments done via credit card, debit card or smart card are examples of e-money transactions. Another popular example is e-cash. In case of e-cash, both customer and merchant both have to sign up with the bank or company issuing e-cash.



### Electronic Fund Transfer

It is a very popular electronic payment method to transfer money from one bank account to another bank account. Accounts can be in same bank or different bank. Fund transfer can be done using ATM (Automated Teller Machine) or using computer.

## VII. CONCLUSION

In all we can say, E-commerce is playing important role in today's world. It has made working very easy in terms of Payment, working. It has made working very easy. E-Commerce or Electronics Commerce sites use electronic payment where electronic payment refers to paperless monetary transactions. Electronic payment has revolutionized the business processing by reducing paper work, transaction costs, labour cost. Being user friendly and less time consuming than manual processing, helps business organization to expand its market reach / expansion. Some of the modes of electronic payments are following: Credit Card, Debit Card, Smart Card, E-Money. Thus we can say e-commerce has made easy working in today's world.

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