

# Electronic Payment Systems in E-Business

Dr. Ajit Kumar

Associate Professor of Commerce, M.N.S. Govt. College Bhiwani, Haryana, India.

## Abstract

The contemporary business practises, the incorporation of this element has emerged as a fundamental and indispensable component of strategic planning, exerting a pervasive influence across all facets of the organisation. Electronic commerce, often known as e-commerce, is a multifaceted phenomenon facilitated by Information and Communication Technologies (ICTs), whereby the exchange of goods and services takes place. It has emerged as a prominent avenue for conducting commercial transactions. In the present day, characterised by significant advancements in science and technology, a new paradigm of commercial transactions has emerged, often referred to as e-commerce. This paper compares the use of previous cash systems and the new systems with the banks, payment interfaces and other modes for the better transaction management of the companies under e-Business.

**Keywords:** E-business, E-banking, Cards, E-wallets.

## Introduction

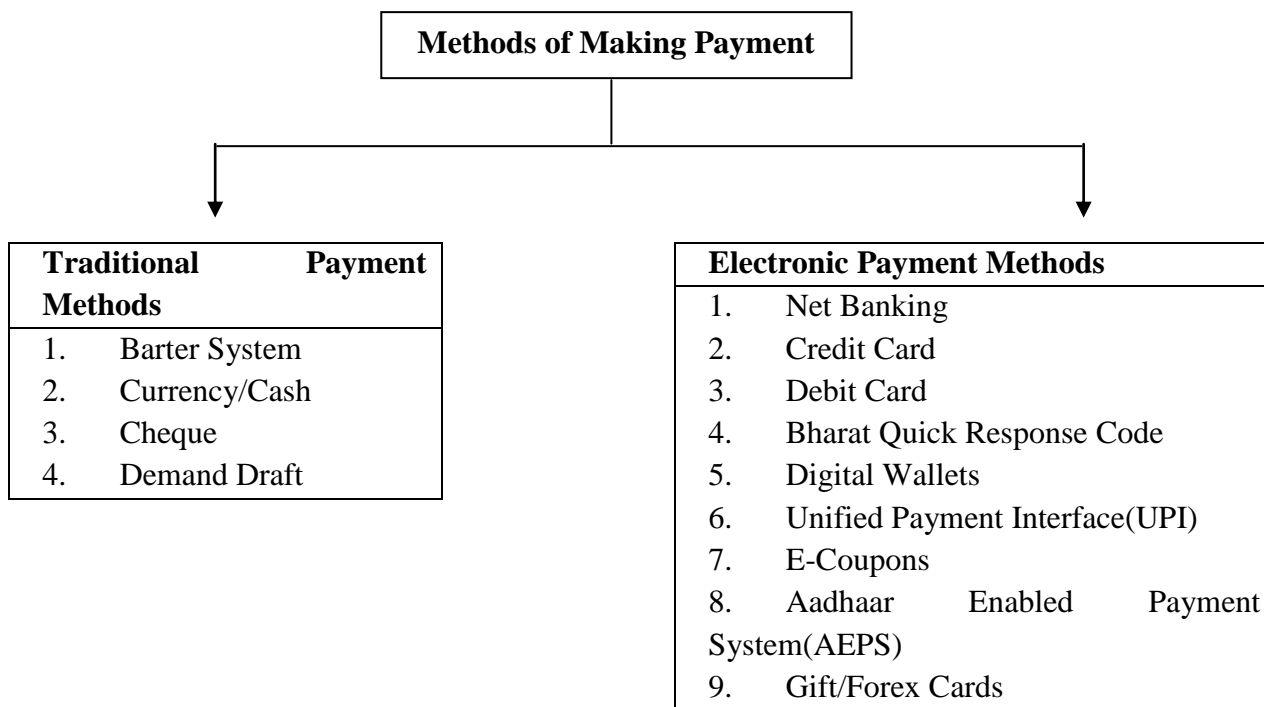
Information Technology is the huge driving force behind the true globalization of the business. It has become an essential and integral part of any business strategy and affects all areas of the business equally. Electronic commerce is a process, which is happening with the help of Information and Communication Technologies and has got a significant share in the selling both the products and services. Today is a world of science and technology and it gives birth to the new phase of sale and purchase that is called e-commerce. Internet has introduced a colossal dimension towards e-payment especially since demonetization in 2016. The rise of e-payment pushes the e-business to go beyond the traditional payment and gives more preference to the online payment systems with data security and privacy. While exploring the IT system and applications to undertake e-payment activities, data governance related regulations such as Information Technology Act, 2000 and information protection protocols must be cared. Electronic payment system has changed the way payment was being done in the past. Today, there is no need to stand in queues of banks and post offices for making payments, for doing financial transactions and for transfer of money. Now, the time has totally change. Online payment system has changed the face of e-business. Information technology has also changed the e-business. Today, the internet is the most important channel through which merchants accept payments from their customers and partners. Today, e-payment is necessary for the success of any e-business. The different facets of e-payment have completely changed the customer-retailer relations and even the role of different players such as acquiring bank, credit card issuing bank and intermediate clearing house in the e-business. This has made it indispensable for online sellers to understand e-payment system. Now technology and the internet presented us with a much faster, reliable and secure option called electronic payment system.

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## METHODS OF MAKING PAYMENT

Barter system, currency/cash, signed checks and vouchers are traditional form. The most important aspect in a business is Electronic Payment System. The main objective of electronic

payment system is making payment using electronic devices (internet). The e-money payment is also known as plastic money.



**TRADITIONAL PAYMENT METHODS**

**1. Barter System** Barter system is the most popular and old mode of exchange. People exchanged goods and services for other goods and services in return.

**2. Currency/Cash**

Cash is the most famous and antiquemethod of monetary transaction.

<b>Cash Payment Strengths</b>	<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>• Movability</li> <li>• Handiness</li> <li>• Manageability</li> <li>• Transferability</li> <li>• Usability</li> <li>• Practice</li> <li>• No Authentication Requirement</li> <li>• Prompt Buying</li> <li>• Option of Micropayments</li> <li>• No Transaction Cost</li> <li>• No Necessity of Hardware</li> <li>• No Need of Third Party Intervention</li> <li>• Less Chances of Forgery</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to use for high-value transactions</li> <li>• Fear of Stolen</li> <li>• Inconvenient for bigger transactions such as buying a house or a car</li> <li>• Irreversible</li> </ul>

**3. Bank Cheque**

The information that is to be provided while issuing a cheque, as shown in Figure, is the name of recipient, the amount to be credited and the date etc.

<b>Cheque Payment Strengths</b>	<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>• Easy</li> <li>• Helpful in cashless payments</li> </ul>	<ul style="list-style-type: none"> <li>• Not useful for micro-payments</li> <li>• Third party intervention such as</li> </ul>

<ul style="list-style-type: none"> <li>No need of technology support</li> <li>Provides some floating period</li> </ul>	<p>consumers, as well as suppliers, bank details</p> <ul style="list-style-type: none"> <li>Possibility of fake cheque</li> <li>Possibility of bounce of cheque</li> <li>Possibility of cancellation of cheque by the person who is providing the cheque</li> <li>Additional security risk to the recipients</li> </ul>
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**4. Demand Draft**

Demand Draft is an another oldest traditional mode. It is also a method of cashless transaction. The information that is to be provided while issuing a cheque, as shown in Figure, is the name of recipient, the amount to be credited and the date etc.

Demand Draft Payment Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Easy</li> <li>Safest option to receive payment from anyone</li> <li>never gets defaulted because it is signed by the banker</li> </ul>	<ul style="list-style-type: none"> <li>Merchant has need to visit a bank in order to deposit demand draft</li> <li>Additional time for clearing demand draft</li> </ul>

**Comparison of Various Traditional Payment Methods**

Factors to be considered	Barter System	Cash	Cheque	Demand Draft
Need of Third Party Intervention	No	No	Yes	Yes
Transaction Cost	No	No	Yes	Yes
Authentication Requirement	No	No	Yes	Yes
Necessity of Hardware	No	No	No	No
Can be Rapidly Changed	Yes	Yes	No	No
Cost for the Merchant	No	No	No	No
Can be Cancelled Later	No	No	Yes	No
Financial Risk for Merchant	No	No	Yes	No
Financial Risk for Customer	No	Yes	No	No
Immediately Re-spendable	No	Yes	No	No
Security against Unauthorized Use	No	No	Little Bit	No
Interference Resistant	No	Yes	No	No
Float Period	No	No	Yes	No
Account has to be maintained	No	No	Yes	Yes

**ELECTRONIC PAYMENT METHODS/ONLINE PAYMENT METHODS/ CASHLESS PAYMENT METHODS**

The 20<sup>th</sup> century will be recalled for the fast growth of technologies that affected every

aspect of human life-LEDs, mobile phones and laptops etc. Now, technology has become essential in various areas, such as education, information management, entertainment, business development and communication. With help of methods of electronic payment, money can be sent to anyone in India (and abroad) from home/office.

**1. Net Banking**

Net banking allows to use customer banking services from anywhere any place in the country.

National Electronic Fund Transfer (NEFT)	Real Time Gross Settlement (RTGS)
Transaction happens in batches hence slow	Transactions happen in real time hence fast
No Maximum Limit	No Maximum Limit
No Minimum Limit	2 Lakh
NEFT is based on Net Settlement	RTGS is based on Gross Settlement

Uses of Net Banking
<ul style="list-style-type: none"> <li>• To check balance account statements</li> <li>• To pay credit card bills</li> <li>• To pay electricity bills</li> <li>• Do a Wi-Fi recharge</li> <li>• Third party transfer</li> <li>• Apply for a loan</li> <li>• Payment for instalment of loan</li> <li>• Purchase of mutual funds</li> <li>• Execution of insurance</li> </ul>

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Secure Source of Carrying Out Multiple Transactions</li> <li>• Availability of Various Transaction Options such as Immediate Payment Service (IMPS), National Electronic Fund Transfer (NEFT), Real Time Gross Settlement (RTGS)</li> </ul>	<ul style="list-style-type: none"> <li>• Security Risks</li> <li>• Possibility of Fraud</li> </ul>

**Pre-Requisites for Internet Banking**

- Internet connection
- A username
- A password to login to your net banking website.

**2. Credit Card**

Visa and Master card are the two main card association. There are a few companies such as American Express that act as credit card association as well as card-issuing entity.

The information on front side of credit card are as follows:

1. Issuing Bank Logo
2. EMV Chip (only on “smart cards”)
3. Hologram
4. Card Number

5. Card Network Logo
6. Expiration Date
7. Cardholder Name

The information on reverse side of credit card are as follows:

1. Magnetic Stripe
2. Signature Strip
3. Card Security Code

Credit Card Strengths	Weaknesses
Convenience	Security issues Lack of authentication Privacy Not affordable for small transactions Risky for merchant and customer Merchant's risk Social equity concerns

### Working Mechanism of Credit Card

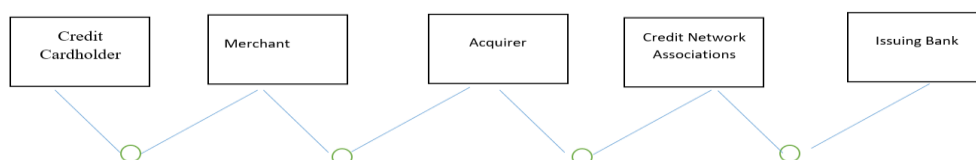
Six parties are involved in working mechanism

1. Consumer's card- Issuing bank
2. Cardholder/ a consumer with a credit card
3. The merchant
4. Merchant's bank (acquiring bank)
5. Intermediate clearing house
6. Credit Card associations (Visa and MasterCard)

### Authorization

1. The cardholder/ an e-business customer furnishes a credit card and other payment details on the website for purchase of goods.
2. The confidential card information is sent to the merchant e.g. Amazon and Flipkart etc. by initiating a Secure Sockets Layer (SSL) session.
3. The merchant sends credit card details such as type of card, issuing bank and the cardholder's account number to acquirer for authorization.

Authorization



### 3. Debit Cards

Debit card like as credit card, without the 'credit' element'. Debit cards may be associated with Visa or Master card. Several banks provide debit cards of different brands. For example, the State Bank of India and Citibank India issue Maestro debit cards in India.

### Working Mechanism

1. Swiping debit card

2. Cash taken out from an ATM machine

### Distinguish between Debit Card and Credit Card

**Nature:** In debit card, payments are easy to obtain, whereas in credit card payments, it involves application process.

**Credit Limit:** In debit card payments, there is no credit amount whereas in credit card payments, there is credit limit. Limit of credit card is based on income level of cardholder, but it also depends on certain factors such as past credit card score, stable job, liabilities against any loan taken and various other payments.

**Trust and Risk:** In debit card payments, debit cards are more trustable and less risky for merchants whereas in credit card payments, credit cards are highly risky for merchants.

**Withdrawal of Amount:** Debit cards are also provided as ATM card by many banks. It is easy to withdraw money from ATMs. Credit cards cannot be used for withdrawal of amount.

**Rewards:** Debit card offers limited rewards schemes whereas credit card offers rewards cards come packed with perks.

### Comparison of Credit Card and Debit Card

Factors to be considered	Credit Card	Debit Card
Need of Third Party Intervention	Yes	Yes
Transaction Cost	Yes	No
Authentication Requirement	Yes	Yes
Necessity of Hardware	Yes-for the seller	Yes-for the seller
Can be Rapidly Changed	No	No
Cost for the Merchant	Yes	Yes
Can be Cancelled Later	Yes	No
Financial Risk for Merchant	Yes	No
Financial Risk for Customer	Yes	Little bit
Immediately Re-spendable	No	No
Security against Unauthorized Use	Little bit	Little bit
Interference Resistant	Yes	Yes
Float Period	Yes	No
Account has to be maintained	Yes	Yes

### 4. Digital Wallets/ e-Wallets

Now-a-days e-wallets are offered by PayTm, Mobikwik, Freecharge, Oxigen, Reliance Money etc. various e-wallets app such as Buddy, Payzapp, Lime, Pocket are launched by

banks State Bank of India, HDFC Bank, Axis and ICICI Bank respectively.

### Paytm

Now-a-days, Paytm is the largest digital payment gateway in the country, it is widely acceptable app in India. It is very beneficial for both customers and merchants to make payments from their bank accounts, credit and debit cards.

Uses of Paytm
• Transfer of amount from digital wallet to bank account
• Transfer of amount from bank account to digital wallet
• Payment of utility bills
• Payment for purchase of mobile
• DTH Recharge
• Shopping online

### Mobikwik

Mobikwik is another free e-wallet app for money transfer in India. It is super-secure mode for cashless payments and transfer of money. It is operational on Android, Windows and ios.

Uses of Mobikwik
• Book rail/bus tickets
• Paying gas/electricity/DTH bills online
• EMI Payments
• Mobile Recharge
• Providing best cashbacks and discounts

### Freecharge

It is an another important money transfer app.

Uses of Freecharge
• Do Google Play recharges
• Investment in mutual funds
• Payment of utility bills
• Buy metro/Mobile Recharges
• Making of charitable donations online
• Send and receive money instantly
• Buying amazing discount coupons from all favourite brands starting at just Rs.1

### Buddy (By SBI)

The first Indian mobile e-wallet app is Buddy. It is available in 13 languages. It has several unique features.

**Uses of Buddy**

- Payment of bills
- Recharges
- Making of charitable donations online
- Free of cost

**PayZapp**

HDFC Bank launched PayZapp. It is a secure mode of payments. The e-commerce platform of HDFC bank offers a comprehensive range of digital and physical products.

**Uses of PayZapp**

- Making instant payments for data plan/DTH by linking Debit and Credit card
- Buying movie tickets
- Shopping online
- Payment for groceries
- Booking of flight tickets and hotel rooms
- Enjoying massive discounts at SmartBuy

**6. Unified Payment Interface (UPI)**

Presently, Government of India has been taking great initiatives for promoting digital payments. For developing cashless economy, the Government of India has launched Unified Payment Interface (UPI) for smartphones and Unstructured Supplementary Service Data (USSD) for basic feature phones.

Unified Payment Interface is a new method of online payment initiated by National Payment Corporation of India (NPCI) and Reserve Bank of India (RBI) on 11 April, 2016. It is developed as an application. It is multi-banking payment system. With the help of this application, customer can do financial transactions and transfer of money through their smartphone. It has unique feature. There is no requirement of bank details and IFSC Code. In this app, all transactions are taken place with virtual ID. It is a simple app in use.

**Available Apps**

SBI, PNB, UPI Collect, ICICI, AXIS Pay, Canara Bank, UCO UPI, Union Bank UPI, OBC UPI and 20 other banks.

**Uses of Unified Payment Interface**

- Money Transfer
- Receive Money
- Bill Payments
- Online Shopping Payments
- Online Transactions
- House Rent Payments
- Any Types Of Online Payments

**Linking of Unified Payment Interface App from Bank**

1. Create UPI Profile

2. Add Bank Details



### Requirements for Unified Payment Interface

- Smartphone with internet facility
- Bank account details (only for registration)

### 7. E-Coupons

Various online mega stores offer electronic coupons. These coupons are very beneficial in taking discounts during online shopping.

### Example- Groupons, Nearby Coupons, Shopping Site Coupons.

### 8. Aadhaar Enabled Payment System (AEPS)

At the grocery store and merchant store, customer will be provided with a finger scanner to make payments for purchase of items. Aadhaar –cum-Debit Cards enable customers to make micro-payment for maximum Rs. 4,000.

### Conclusion

There are varied types of electronic payment methods such as online credit card transactions, e-wallets, e-cash and wireless payment system. 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, alternative payment methods have emerged and sometimes even claimed market leadership. The paper proves the positive impact of new payment system on the e-business.

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