



“A STUDY ON ELECTRONIC PAYMENT SYSTEM”

Chiravuri Harshita

Final MBA-Department of Management Studies

Sri Vasavi Engineering College

Tadepalligudem, Andhra Pradesh.

Duvvarapu Bhargavi

Final MBA-Department of Management Studies

Sri Vasavi Engineering College

Tadepalligudem, Andhra Pradesh.

Kadali Sunitha

Final MBA-Department of Management Studies

Sri Vasavi Engineering College

Tadepalligudem, Andhra Pradesh.

ABSTRACT:

In comparison to the previous century, when the concept of electronic transfer was proposed, electronic payments have expanded dramatically due to the quick growth of online shopping and Internet-based banking. Electronic payments became the first alternative for transferring money to/from payer/payee in the twenty-first century. E-payment methods include visa, mastercard, smart cards, debit cards, credit cards, e-checks, and e-wallets, among others. Behind the new acceptance of payment systems are dependent on three factors: cost, time, and security per transaction. This article will discuss the background study, several types of electronic payment systems. This study will also identify benefits and drawbacks of e-payments.

KEYWORDS: e-payments, e-transactions, e-payment-types

INTRODUCTION:

The digital payment system has grown recently, especially since demonetization. The government is taking essential measures to encourage the usage of payment gateway platforms by the general people. To encourage payment gateways, it has announced discounts on purchases of certain goods digitally. It has also introduced UPI (Unified Payment Interface), an app-based payment system that allows users to transact across numerous banks. The government is planning to release an enhanced version that would allow financial transactions to be conducted via mobile phones without the use of an internet connection through a platform known as USSD (Unstructured Supplementary Service Data). These initiatives have significantly boosted the

country's digital payment system. Other government initiatives, such as BHIM and UPI, are assisting in the development and faster acceptance of digital payments. Digital payment refers to consumer transactions carried out at point of sale (POS) for services and products either internet banking or mobile banking using smart phone or card payment.

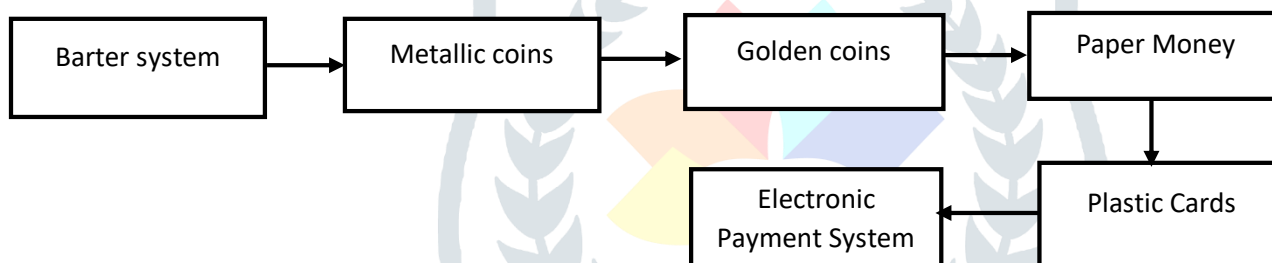
OBJECTIVES:

- To study the history of electronic payments.
- To understand the forms of electronic payments.
- To study the popular online payment apps in India.
- To understand the growth of digital payments in India

DEFINITION OF ELECTRONIC PAYMENT SYSTEM(EPS):

An e-payment system is a method of paying and/or transacting for products and services on an e-commerce website or in an electronic environment without any use of cash or checks. E-payment systems are referred to as online payment systems.

HISTORY OF ELECTRONIC PAYMENTS:



The earliest form of a payment system is the **ancient barter system** where transactions are settled with delivery/exchange of things in kind. Then came precious **metals/metallic coins** as a medium of exchange, which resulted in early 20th century **Gold standard-based currency**. Following that, the world witnessed the rise of **paper currency**, where each independent country/region having its own unique currency. Payment systems advanced with the invention of the telegraph and Morse code in the 1850s, the telephone (Graham Bell, 1875), and the world wide web in the 1990s. One of the earliest examples of electronic payment can be traced back to 1918, when the Federal Reserve Bank of the United States (US) first moved currency through telegraph. Later, in 1972, the Automated Clearing House (ACH) was established in the United States, providing commercial banks and the country's central treasury with an alternative to cheque payment. The first **card payments** can be traced back to 1914 in Europe, when merchants and hotels began to offer prepaid and credit cards to their clients. With the introduction of the World Wide Web and personal computers in the 1990s, digitalization of cards became popular. Debit and credit cards are widely used in global transactions for all types of products and services. Electronic cheques, e-cash, credit cards, and electronic fund transfers are a few examples of electronic financial products and services. A Unified Payments Interface (UPI) is a modern banking system innovation that

consolidates several bank accounts into a single mobile application (of any participating bank) and integrates several banking functionalities.

The National Payments Corporation of India (NPCI) defines E-wallet as the digital version of the physical wallet with more functionality. State Bank Buddy and ICICI Pockets are two instances of Indian E-wallets. A payment gateway, or PG, is a third-party organisation that processes and authorises online transactions utilising banking, cards, electronic wallets, and other information. Nowadays, two major payment gateways are **Paypal and Amazon Pay**. As part of payment gateways, firms such as Mastercard and Visa connect with banks across the world to issue debit/credit cards and support online transactions. Another modern marvel is **Cryptocurrencies**. It is a decentralised and peer-to-peer (P2P) network that uses block chain technology to conduct transactions. Bitcoin is a wellknown example of a crypto currency. Bitcoin is a digital money or digital asset that investors can buy and trade.

TYPES OF E-PAYMENT SYSTEMS:

1. Debit Card:

A debit card is a card that is linked to the customer's bank account and has unique credentials. The fundamental distinction between a debit card and a credit card is that a debit card deducts money from the user's bank account instantly at the moment of the transaction. It uses banking through internet and the Automatic Teller Machine (ATM) card . Users of the debit card are able to make immediate payment for products purchased through the bank. Money is secured in banks and will be withdrawn only when the user of the Debit Card makes any purchases through its use. There are two kinds of Debit Cards; online and offline

2. Credit Card:

Credit cards are the most often used method of payment for online purchases. Allowing credit card payments on your website allows customers to shop without having to pay in advance. Financial institutions issue credit cards to customers in order to facilitate online payments. However, it is not suitable for making small-value payments.

3. Smart Card:

A smart card, also known as a chip card, is a card made of plastic that is equipped with a microchip and contains information such as the amount of money, an individual's identification, and the ability to conduct immediate payments. The service provider issues the user a validated PIN. To ensure the security of data saved on these cards, encoded information is stored within them and has a high processing speed.

VISA and Mondex cash cards are examples of this type of card.

4. E-Cash / E-Wallet:

E-cash is money in a digital format that is used to make transactions using pre-installed software on the customer's computer. It is a popular choice among clients because it allows for small-amount transactions and has a low cost. The E-Wallet is a prepaid account that allows users to safely keep a number of debit cards, credit cards, and other payment methods without having to enter their credentials each time they want to make a

purchase. The use of electronic wallets is growing by the day. Customers can use e-wallets to avoid entering card information each time, enabling faster checkout. PhonePe, Paytm, Mobikwik, Amazon Pay, and other well-known digital or E-wallets are available in India.

5. Online banking:

Customers can make purchases more easily by paying with a bank account. This e-commerce payment mechanism does not require a debit card, but the customer must register with their bank for a net banking facility. To complete a purchase, the consumer only needs to submit their net banking ID and PIN.

6. Mobile Payment:

Customers can use their smartphones to make purchases fast and conveniently utilising mobile payment. A user merely needs to install a mobile payment app from the app store. They must then connect their bank account to that app in order to add money to their wallet, make purchases, and make payments directly from their bank account. When a customer decides to pay using that app on an e-commerce website, the app receives a payment request, which it must accept before the payment can be performed.

POPULAR ONLINE PAYMENT APPS OR E-WALLET LIST IN INDIA:

1. Google Pay:

Google Pay is one of the greatest payment apps in India, with the biggest number of installations. It is significant given the number of features and the app's user-friendly interface. The app allows you to directly execute transactions from your primary bank account without having to maintain a separate wallet. You can also pay your utility bills, recharge your phone, and transfer money to anyone, including service providers, merchants, or third parties. Furthermore, Google Pay rewards you with coupons and cashback with almost every transaction.

2. PhonePe:

PhonePe allows you to transfer and receive money, pay bills, and recharge phones quickly and easily. However, it does not end here, it also allows you to invest in gold and mutual funds. PhonePe was introduced with the motive of providing a one-stop solution for all transactions and application services. As a result, you can use your favourite applications to book flights, order food, and buy groceries without having to download a separate application.

3. BHIM application(app):

BHIM(Bharat interface for money) is a mobile payment app in India developed by the National Payments Corporation of India (NPCI) that is based on the Unified Payments Interface (UPI). It was inaugurated on December 30, 2016, with the goal of facilitating e-payments directly through banks and driving towards cashless transactions.

4. Paytm (Pay through mobile):

One of the most popular online payment apps in the Indian fintech industry. Paytm has the broadest range of payment choices, from mobile recharge to municipal tax, from electricity bills to school fees, and much more. After demonetisation, Paytm became an everyday thing for almost every Indian, especially among fast food stalls and vendors.

5. Amazon Payments/Pay:

Amazon Pay is a payment service provided by Amazon that allows users to pay for purchases made on websites and mobile apps using the payment and shipping information stored in their Amazon account. This service allows customers to make purchases in a simple and safe manner without having to re-enter their payment information for each transaction. Users can use Amazon Pay to make payments on third-party websites that offer the Amazon Pay option at the checkout.

6. Freecharge:

One of the most popular online transaction apps is Freecharge, which is powered by Axis Bank. It enables users to carry out operations such as DTH bill payments, metro card recharge, and digital gold investing. In addition to the factors listed above, you can invest in mutual funds and use Freecharge credit cards to gain rewards and vouchers.

7. Cred:

Cred is a credit card bill payment platform that allows users to pay bills for one or more credit cards from a single location. One of the most important benefits of this application is that, in addition to credit card bill payment, Cred educates users about hidden charges associated with credit cards and their bills. This provides the user with more information about the costs linked with the card they are using. Furthermore, Cred offers benefits in the form of cashbacks on every Cred credit card bill payment. To sign up on this platform, one compulsorily needs to have a credit score of 750 or above.

8. Samsung Pay:

You can add your debit or credit card to Samsung Pay, and then use it to pay using your credit/debit card at online or offline channels, eliminating the need to carry your cards with you. This programme is really useful for people who have a lot of cards.

9. Airtel Thanks:

Airtel offers the Airtel Thanks app, which allows users to see their bill details, recharge their phones, and send money, all from one app. The app, which is integrated with its other services, provides the Airtel Wallet, which clients may use for shopping and recharges. Customers can now open an Airtel Payments Bank digital account and receive 6% interest on their money. The app also provides access to UPI services for easy payments.

10. BharatPe:

BharatPe provides 'Offline' payment solutions for businesses such as local juice shop, pharmacy store etc. It offers UPI QR Code and PoS machines (card swipe machines). BharatPe charges 0% commission on payments processed through their products, allowing small businesses to have all the revenue they make. This encourages businesses to accept cashless payments, as they are usually unable to take card payments due to charges linked to them.

HOW E-PAYMENT WORKS:



ADVANTAGES:

1. Convenience:

Virtual payments enable simple, quick transactions without the use of cash or cheques. They can be accomplished with a few clicks on a computer or smartphone, making it simple to complete transactions from any location and at any time.

2. Security:

When compared to traditional payment methods, virtual payments offer a higher level of security. Transactions are encrypted and handled through secure channels, which reduces the possibility of fraud and theft.

3. Speed:

Virtual payments are processed quickly, often within seconds, they are perfect for time-sensitive transactions.

4. Reduced Costs:

Traditional payment methods may be more expensive than virtual payments. For example, they eliminate the need for paper checks and shipping expenditures, and they can reduce the fees associated with wire transfer.

5. Accessibility:

People who do not have access to regular banking systems, such as those living in remote or underbanked areas, can use virtual payments.

DISADVANTAGES:

1. Technical Issues:

Virtual payments rely on technology, which is subject to malfunctions, server outages, and other technical problems. Transactions may be delayed or fail entirely if there is an issue with the payment system.

2. Security Risks:

While virtual payments are generally secure, the possibility of fraud and theft exists. Cybercriminals can steal financial information through a variety of means, including phishing scams and malware.

3. Consumer Protection Is Limited:

Unlike traditional payment methods, virtual payments may not provide the same level of consumer protection. For example, if a payment is made in error, obtaining a refund may be difficult.

4. Fees:

Virtual payment systems may impose transaction fees, which vary depending on the payment method and the amount paid.

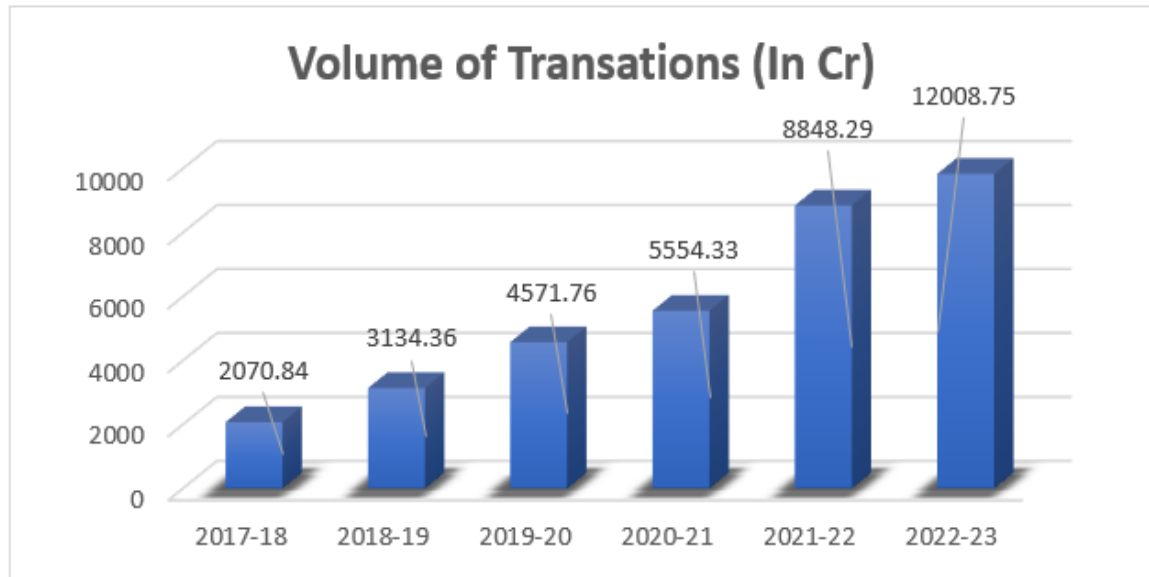
5. Dependence on internet access:

Because virtual payments require internet access, they may not be offered in locations where internet access is limited or inconsistent.

6. Expensive Technology:

Despite the fact that using mobile payments is less expensive than traditional payment systems, it still requires new hardware, such as a terminal or smart phone that supports Near Field Communication. Making payments is impossible if you still have an old credit or debit card terminal or if you do not have a smart phone. To process mobile payments, one needs also have a good internet connection and current infrastructure.

GROWTH FOR DIGITAL PAYMENTS IN INDIA:



.From the above graph, we can witness that growth for digital payments in india are stipulately increasing from 2017-18 (2070.84 crores) to 2022-23(12008.75 crores).

CONCLUSION:

In this article, it has been studied that how online payment methods are increasingly being used for both daily online and onsite purchases. According to the numbers shown in this study, the number of customers using online payment methods and conducting online transactions is steadily increasing, implying that online payment systems will be there for a long time. At the same time, the government of India is supporting digital payments by implementing initiatives such as Digital India, Jan Dhan Yojana, and others in order to promote financial inclusion in the country. Online payments play an important role in financial inclusion because of their convenience. It may be stated that as an economy progresses from the developing stage to the developed stage, non-cash transactions and the use of electronic payments will increase. Thus, it can be concluded that electronic payments and other kinds of online transactions have promising future possibilities, particularly in growing economies such as India.

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