



Electronic payment methods and technology in the digital era-an overview

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Abstract

An Electronic Payment System is defined as a mode of payment over an electronic network, such as the Internet. The Indian economy has developed at a rapid pace since the growth of e-commerce, electronic payments, and digital payments have gone a long way. Electronic payments have been rising since the implementation of demonetization and will continue to do so with the current government ensuring that these types of payments are promoted. Like everything else in our world, payment transactions are rapidly shifting towards digitalization, driven by innovative digital payment technologies. Digital payments have undergone a remarkable evolution over the years, evolving from conventional methods to sophisticated, technology enabled solutions. Here, it is very important to know how digital payments work, examines common payment methods used, and highlights the role of key participants in this payment ecosystem. Digital payments refer to electronic financial transactions conducted over the Internet or other electronic devices, allowing individuals and business to send and receive money without the need for physical currency. The ecosystem of digital payments encompasses various technologies, platforms, and digital payment services that enable individuals and business to conduct transactions electronically. To understand how digital payment work, we need to examine the participants of this process. Integrating new digital payment technologies with existing financial systems can pose challenges, particularly in ensuring compatibility and navigating complex transaction processes.

Keywords: Payment system, machine learning, artificial intelligence, speed, security, et

Introduction

An Electronic Payment System is defined as a mode of payment over an electronic network, such as the Internet. The Indian economy has developed at a rapid pace since the growth of e-commerce, electronic payments, and digital payments have gone a long way. Electronic payments have been rising since the implementation of demonetization and will continue to do so with the current government ensuring that these types of payments are promoted. Like everything else in our world, payment transactions are rapidly shifting towards digitalization, driven by innovative digital payment technologies. Digital payments have undergone a remarkable evolution over the years, evolving from conventional methods to sophisticated, technology enabled solutions. Here, it is very important to know how digital payments work, examines common payment methods used, and highlights the role of key participants in this payment ecosystem. Digital payments refer to electronic financial transactions conducted over the Internet or other electronic devices, allowing individuals and business to send and receive money without the need for physical currency. The ecosystem of digital payments encompasses various technologies, platforms, and digital payment services that enable individuals and business to conduct transactions electronically. To understand how digital payment work, we need to examine the participants of this process. Integrating new digital payment technologies with existing financial systems can pose challenges, particularly in ensuring compatibility and navigating complex transaction processes. The electronic payment card has been in existence for many years. It started in the form of a card embossed with details of the cardholder, which could be used at a point of sale to purchase goods or services. Card technology has advanced over the years to keep ahead of the worldwide increase in card-related crime.

Innovative digital payment technologies are driving the transaction from traditional methods to advanced, technology-driven solutions, enhancing security, speed, and accessibility. Ensuring robust payment security is crucial to protect against fraud and unauthorized transactions. Several digital technologies play a crucial role in the operation and security of digital payments, including: Machine Learning and Artificial Intelligence, which allow companies to monitor transaction patterns and potential fraudulent activities, while AI-driven systems enhance user experience by understanding spending behaviours. Digital payments refer to electronic transactions conducted over the Internet or electronic devices, allowing individuals and business to send and receive money without using physical currency. These transactions occur through online platforms, mobile apps, and electronic payment systems. Digital payments involve initiation, authorization, processing, settlement, and confirmation. Users initiate transactions, payment information is authorized and processed securely, funds are settled between banks, and both parties receive confirmation of the transaction. Technologies, such as Machine Learning, Artificial Intelligence, Near Field Communication (NFC), Magnetic Secure Transmission (MST), Biometric verification, electronic trails, and tokenization protocols play crucial roles in the operation and security of digital payments. Key trends in digital payments include real-time payments, crypto-currency adoption, A2A payments, Central Bank Digital Currencies (CBDCs), Biometric authentication, and embedded influence. These trends reflect ongoing advancements in technology, changing consumer behaviours, and evolving Fin Tech Market. To realize their full potential for people and economies, digital payments need to work every time, with effective, timely recourse available if they fail.

Review of Literature

The terms need to be transparent, and funds and data need to be protected, with accountability when this does not happen. Further, to effectively build sustainable economies, digital payments need to treat all people fairly, and to function across providers so there is competition and choice. These are responsible digital payments.

Digital Payment

The term "digital payment," also known as "electronic payment" and "e-payment," denotes a financial transaction conducted by digital means, in contrast to conventional methods like cash or checks. Alternative designations for this particular form of transaction are "electronic payment" and "e-payment." It entails making monetary or other value transfers between parties through the use of digital devices and technologies. Since both "e-payment" and "digital payment" refer to electronic methods of making financial transactions, they are commonly used interchangeably. However, depending on the setting, they may be used slightly differently. Both phrases refer to the practice of transferring funds between individuals or businesses through digital or electronic methods. Let's explore the meanings of these terms.

E-Payment (Electronic Payment)

E-payment, often known as electronic payment, as a broad term for any type of electronic money transfer between individuals or businesses. It includes a wide variety of digital payments as those made by a credit card, debit card, bank transfer, mobile wallet, or an online payment gateway. Electronic payments have been used for a wide range of purposes, including, but not limited to, making purchases, paying bills, and transferring money. Electronic payment systems typically involve a secure and private channel between the payer and the payee (The Merchant or Recipient). Information about the financial transaction is transmitted electronically, generally via the internet, and processed through encrypted channels to ensure its security.

Findings

Kim H (2016) ^[5] Consumer Behavior and Adoption Patterns: Kim's study primarily concentrates on the patterns of consumer behavior and adoption in relation to digital payment systems. The author explores the elements that influence users' decisions to adopt or switch between various digital payments systems. These aspects include ease of use, trust, and a user's perception of their own level of safety. The Indian government has implemented the BHIM (Bharat Interface for Money) application as part of its efforts to encourage the adoption of digital payment systems. This app has been developed using the Unified Payments Interface (UPI) framework. The government's provision of subsidies, welfare payments, and other forms of monetary assistance has witnessed a growing trend towards digital disbursement.

QR Code Payments

In recent years, the majority of transactions in India have been completed using QR codes. In order to accept payments from clients' mobile wallets, shops, small businesses, and street vendors quickly adopted QR codes. Because of this, both parties felt more comfortable and safer completing the purchase.

Security and Privacy Concerns

With the rise of online payment systems came new worries about security and privacy. Stakeholders' focus has switched from preventing fraudulent transactions and data breaches to strengthening the security architecture underlying digital payment systems.

Suggestions

Government can ensure to the public that the operation of digital payment transaction is free from transactions cost which in turn helps the customers of various transactions to purchase via online mode. Training Programmes could be organized by the government to train all the people to make use of the digital payments. Government can give continuous media coverage through TV news/ shows, Radio or social networking or newspapers/magazines about the benefits of digital payments to the society and for the individual. Customers must be able to comply with the terms and conditions of Digital payment methods, notify the issuer of the loss/theft of the Electronic Payment Instrument (EPI) immediately and keep track on the balance, especially after each transactions. Offer responsive and accessible customer support channels to assist users promptly in case of any issues or queries related to digital payments.

Conclusion

There has been a dramatic shift in the way digital payments are handled in India as a result of developments in both technology and law. Several causes, including government led programmes like Digital India and the Unified Payments Interface (UPI), the widespread adoption of smartphones, and the recent demonetization of paper currency, have contributed to the dramatic rise in the use of digital payment systems. Substantial changes have occurred in India's payment landscape as a result of the widespread adoption of various digital payment systems in recent years. There are a number of variables that have contributed to the rise of digital payment systems, including the quick pace of technological advancement in related industries and government initiatives aimed at fostering digitization. Mobile wallets have become in popularity as a quick and secure way to pay individuals and businesses. Popular examples are Paytm, Phone Pay, and Google Pay. This pattern is likely to persist. When it comes to transferring funds across different types of bank accounts, the Unified Payments Interface, or UPI, has recently become the de facto standard. In Today's Technology savvy customer base; it is very important for Banks to adapt the latest technology, such that banks can catch up with the pace with which customer preferences changes. Adaption of newer technology is also critical to challenge competitor banks and other institutions in offering products and services in the market place. (Ref. Indian Banking sector in transition). Also with the new age of Digitalization in the banking sector, the daily operations are becoming faster, economical, and easier for customers to use and therefore every bank is grasping to adjust their own operations to fit the needs of a demanding customer.

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