

CASHLESS ECONOMY AND DIGITALIZATION: A STUDY OF ECONOMIC IMPLICATIONS

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ABSTRACT

In a cashless economy, the reliance on physical currency is significantly reduced, and electronic transactions are the primary mode of payment. The cashless economy is a transformative approach that offers several advantages, including cost-effectiveness, facilitation of growth, enhanced business friendliness, and increased financial inclusion. To propel this movement, governments have been actively promoting digital payment platforms such as the BHIM app, AEPS, and Digishala. However, the successful transition to a cashless economy hinges on the establishment of a robust digital infrastructure. Despite its many benefits, the transition to a cashless economy poses certain challenges that demand attention, such as changing attitudes, bolstering transaction security, and improving infrastructure. With proactive measures, governments, businesses, and individuals can collectively propel the nation toward a more efficient, inclusive, and digitally empowered economic future. This paper aims to comprehensively explore the implications of a cashless economy by focusing on consumer's perception of cashless transactions. Further analysis will be done on secondary data.

KEYWORDS: Cashless Economy, Digital Economy, Digital Payments, Digital Transaction Cashless Transactions, Mobile Wallets.

Introduction

The history of money transactions reflects humanity's continuous pursuit of more efficient and convenient ways to facilitate trade and exchange. Throughout history, economies have undergone transformative phases. The age of mercantilism, characterized by trade through the exchange of gold and bullion, eventually gave way to the barter system, where goods and services were directly exchanged for other commodities. As industrialization took hold, economies expanded, leading to the invention of money. Money, as an identifiable object of value, became widely accepted as a medium of exchange, while also serving as a measure and store of value. Now advancements in technology and financial systems have played a crucial role in shaping the methods we use to conduct transactions and manage our finances today.

A cashless economy is an economic system where a minimal amount of cash is used in transactions, and most financial transactions are conducted through electronic means such as credit cards, debit cards, mobile wallets, or other digital payment methods. A cashless economy can indeed bring several benefits that can positively impact a country's economy and make commerce easier, more efficient, and faster. The path towards a cashless society involves the development of a robust digital economy. This trend aligns with the global movement towards cashless transactions. Sweden stands as a prime example of a cashless economy, with cash accounting for just 13% of payment transactions. Even in Canada, on average, each person possesses two credit cards, highlighting the shift towards digital payment methods. However the rise of the digital economy has been remarkable, transforming various aspects of businesses and societies worldwide. Let's explore some key points related to the influence of technology, digitalization, and India's efforts towards becoming a digitally enhanced society:

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Objectives

- To study the concept of less-cash society; cashless economy and digital economy.
- To explore the implications of cashless economy.
- To evaluate cost –benefit analysis of cashless economy.

Methodology

secondary data is obtained from diverse sources, including government websites, media articles, and research journals. This approach allows for a comprehensive analysis of the research topic and provides a broader context. Collected data has analyzed utilizing MS Excel, ensuring accurate and reliable results. The use of statistical techniques in Excel aids in deriving valuable insights and drawing meaningful conclusions.

Review of Literature

Tarun Mittal (2017), "India's money trail - from 'kaudis' to digital payments", traces the historical evolution of currency in India, delving into its origins with kaudis shells as the earliest form of currency on the Indian Peninsula. The article meticulously documents the progression from coin usage, highlighting the transformations undergone during the rule of various royal families and the British colonial period. The narrative encompasses the emergence of banks in 1773, culminating in the establishment of the Reserve Bank of India in 1935. Moreover, the article sheds light on the introduction of paper currency following the enactment of the Paper Currency Act in 1861. Transitioning to the modern era, the 21st Century witnessed a notable trend towards digitalization in the Indian economy. The article expounds upon the advent of online payment mechanisms, which paved the way for a cashless economy. Noteworthy initiatives, such as Digital India, Demonetization, and the Unified Payments Interface (UPI), orchestrated by the Government of India, are also examined within the context of propelling the cashless economy agenda.

Jain (2006) in "E-Payment and E-Banking," observed that the implementation of E-Payment systems has the potential to mitigate the issue of black money. This is due to the inherent technological benefits, including enhanced security, rapid and reliable payment processing, and efficient fund transfers. These advantages are expected to facilitate the efficient allocation of resources for financial institutions such as Banks and NBFCs, as well as for the general populace in India.

Bansi Patel and Urvi Amin (2012) in their research paper titled "Plastic Money: Pathway towards a Cashless Society" explore that plastic money has become an integral component of transactions. This evolution has not only streamlined the process of financial interactions but has also contributed to societal advancement. Furthermore, Patel and Amin highlight a significant advantage of plastic money: its potential to counteract money laundering. They underline that by embracing plastic transactions, the financial system gains an enhanced ability to monitor and regulate financial activities, thus contributing to the reduction of illicit practices. Additionally, the utilization of plastic money facilitates more effective tax regulation, promoting a fairer and more transparent financial environment.

Nair Anisha(2019) in her article, explained about Cashless Transaction, Types of Cashless Payment Methods and the Benefits of Cashless Transactions. Although cashless transactions offer numerous benefits, but it is important to be aware of potential concerns related to privacy, data security, furthermore she talks about digital divide.

BJP Government (2015), During this tenure the "Digital India" initiative was introduced. This initiative marked the launch of the official website for Digital India, outlining its purpose and outlining its vision for the growth of the Indian economy. The primary goal of Digital India was to bridge the existing digital gap in the nation. This was to be achieved by ensuring that internet services were not only accessible but also affordable in rural areas. The initiative aimed to empower these regions with the capability to access a range of governmental services while also fostering inclusivity and economic progress.

Various Concepts

• Less Cash Society

In a "less cash economy," there is a reduced emphasis on using physical cash for transactions, but cash is still used to some extent alongside digital payment methods. The focus is on decreasing the overall reliance on cash, promoting the use of digital payment solutions, and encouraging the adoption of electronic transactions.

- **Cashless Economy**

A "cashless economy" takes the concept of a less cash economy a step further. In a cashless economy, physical cash is entirely eliminated or reduced to a minimal level. Cash is no longer a valid means of payment within the economy. Individuals and businesses rely entirely on digital payment solutions for purchasing goods and services, making payments, and conducting financial transactions. This typically includes using credit/debit cards, mobile payment apps, online transfers, and other electronic payment systems.

- **Digital Economy**

The term "digital economy" has a broader scope and refers to an economy that is heavily reliant on digital technologies for various economic activities, not just payment methods. In a digital economy, technology plays a pivotal role in all aspects of business operations, communication, and service delivery. It includes digital services, e-commerce, digital marketing, data analytics, cloud computing, the Internet of Things (IoT), artificial intelligence (AI), and various other technological innovations that encompass the transformation of traditional industries through digitalization, automation, and the integration of technology to drive economic growth and efficiency.

Types of Cashless Modes and Payments/ Modes of Cashless Transaction

- **Cheques and Demand Drafts (DDs):** Cheques and Demand Drafts are not electronic or digital payment methods; they are paper-based instruments used in traditional banking systems. As such, they do not possess the same features as secure electronic transactions.
- **Different types of Financial Transactions:** National Electronic Fund Transfer (NEFT), Real Time Gross Settlement (RTGS), Electronic Clearing System (ECS), Immediate Payment Service (IMPS), these are secure electronic payment systems used for transferring funds in India. Each of these systems offers specific features to ensure the security and reliability of transactions.
- **Credit/Debit Cards:** Transactions using credit or debit cards, where the cardholder swipes, inserts, or taps their card on a Point-of-Sale (POS) terminal.
- **Mobile Wallets:** Payments made through mobile applications like Apple Pay, Google Pay, Samsung Pay, etc., which store payment card information securely.
- **Online Banking:** Transactions conducted through internet banking portals or mobile banking apps provided by banks.
- **QR Code Payments:** Customers can make payments by scanning QR codes displayed at merchant outlets using their mobile phones.
- **Contactless Payments:** Tap-to-pay technology allows users to make payments by waving or tapping their contactless cards or mobile devices at the POS terminal.
- **Prepaid Cards:** Cards loaded with a fixed amount of money, which can be used until the balance is depleted.
- **Cryptocurrencies:** Digital currencies like Bitcoin, Ethereum, etc., which can be used for online transactions.
- **NFC (Near Field Communication) Payments:** popular examples of cashless transactions utilizing NFC technology include Apple Pay, Google Pay, and Samsung Pay. These platforms have gained widespread acceptance among consumers due to the swift and seamless nature of NFC transactions. With just a few seconds, individuals can complete their purchases, making the process notably quick and efficient.
- **Peer-to-Peer (P2P) Payments:** Transactions between individuals using mobile apps like Venmo, PayPal, or other P2P payment platforms.
- **Biometric Payments:** Some systems allow users to make payments using their biometric data (fingerprint, facial recognition) for authentication

Cashless Economy In India And Government Initiatives

The government has taken a series of measures in recent years to lessen the nation's dependency on physical cash. These endeavors underscore a broader push toward a more digitized economy. On November 8, 2016, Prime Minister Narendra Modi announced the demonetization of rs.500 and rs.1000 notes in a surprise televised address to the nation. Demonetization in India was a significant policy step aimed at addressing various economic challenges and promoting a move towards a more digitized and transparent financial ecosystem. It plays a pivotal role in steering India closer to becoming a

cashless economy. This move catalyzed a drastic transformation aimed at fostering a cashless economic landscape. An example of this shift is the significant impact witnessed by Paytm, which experienced a surge in daily usage to 5 million after demonetization, up from their usual three million transactions. Moreover, Paytm observed a remarkable 700% surge in overall traffic and an astounding 1000% surge in the funds added to accounts within the initial two days post-demonetization.

Following the demonetization in India, the government initiated a push towards promoting card-based and online transactions with the overarching goal of transforming the nation into a cashless economy. In 2014, the Pradhan Mantri Jan Dhan Yojana was introduced as a remarkable global endeavor for financial inclusion. This national mission aimed to ensure comprehensive financial inclusion by extending banking services to all households across the country. This initiative facilitates access to fundamental financial services, encompassing basic savings accounts, tailored credit solutions, insurance, and pension options. The scheme has been instrumental in bridging the banking gap among the economically disadvantaged.

Another key initiative, the Direct Benefit Transfer (DBT), was launched in 2013 by the Indian Government to facilitate the direct transfer of benefits and subsidies from various social welfare programs, such as LPG subsidy, Old Age Pension, Scholarships, and MGREGA, directly to beneficiaries' bank accounts. This mechanism greatly facilitated the penetration of digital banking in rural areas.

The Unified Payment Interface (UPI) was launched in 2016 that represents a groundbreaking system that consolidates multiple bank accounts within a single mobile application, offering seamless fund transfers, merchant payments, and other banking features. This integration simplifies digital transactions, leading to a remarkable increase in monthly UPI transactions from zero to 754 million in less than three years.

The introduction of the Goods and Services Tax (GST) in 2017 has further incentivized businesses to embrace cashless transactions as a way to streamline financial operations.

The establishment of Financial Literacy Centres (FLCs) by the Reserve Bank of India and the Finance Ministry serves as a cornerstone of the PMJDY initiative. These centers provide financial education programs to raise awareness about banking products and their associated benefits.

The Digital India scheme is a transformative initiative launched by the Government of India in 2015 with the goal of accelerating the country's digital transformation and promoting the widespread use of digital technologies to empower citizens and improve various aspects of governance and service delivery. The scheme envisions a digitally empowered society and a knowledge economy driven by technology.

These strategic moves gained further momentum with the outbreak of the Covid-19 pandemic, which acted as a catalyst for a profound transition towards digital transactions within the country.

A testament to this paradigm shift can be observed through the National Payments Corporation of India (NPCI) data. In June 2020, a remarkable milestone was achieved as the Unified Payments Interface (UPI) recorded an unprecedented surge. The volume of UPI payments soared to an all-time high of 1.34 billion transactions, encompassing transactions valued at INR 2.62 lakh crore. This surge in digital transactions underscored the growing preference for and reliance on digital payment methods, marking a significant stride towards India's aspiration to become a cashless economy.

Cost Benefit Analyses of Cashless and Digital Economy((challenges and benefits

To facilitate a smooth transition towards a cashless economy and to ensure secure and efficient digital transactions, the following factors are crucial:

- **Digital infrastructure:** To support the increasing number of transactions in India's fast-moving economy, a robust digital infrastructure is essential, including high-speed internet connectivity and reliable payment gateways to handle the growing demand for online transactions securely and efficiently.
- **Safe and Secure Internet Connection:** A stable and encrypted internet connection is crucial to protect users' sensitive financial information from potential cyber threats and fraud.
- **Digital Literacy:** Adequate digital literacy is crucial for users to understand the functioning of digital payment systems. Educating people about the benefits of digital transactions, how to use payment apps, the benefits and risks of digital transactions and understanding security measures will increase confidence and trust in cashless methods.

- **Easy-to-Use Payment Platforms:** User-friendly interfaces and simple payment platforms will encourage individuals, including those with limited digital literacy, to adopt digital payment methods more readily.
- **Internet Penetration in Rural Areas:** Reliable internet connectivity to rural areas is essential to promote financial inclusion and enable digital transactions in remote regions. For inclusive digital payment system and accomplish with broader population, there needs to be improved internet penetration in rural areas. Efforts should be made to expand internet coverage, especially in remote and underserved regions, to ensure equal access to digital payment services.

Benefits of Cashless

The expansion of digital payments in India has significantly improved the quality of life for citizens, fostered financial inclusion, and bolstered economic growth. The availability of diverse and user-friendly digital payment solutions, particularly during the pandemic, played a crucial role in maintaining social distancing and enabling businesses, including small merchants, to continue operations. The advantages of utilizing digital payments are manifold:

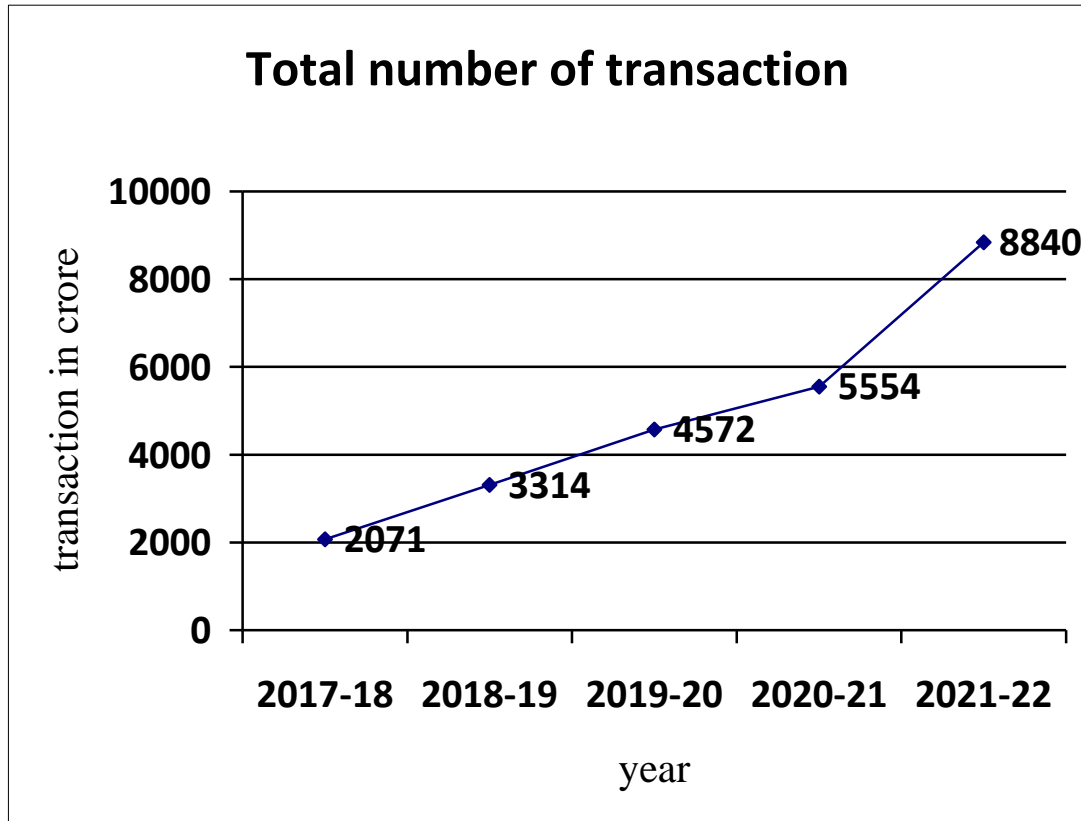
- **Instant and Effortless Transactions:** Digital platforms like BHIM-UPI and IMPS offer real-time fund transfers, supplanting the need for physical cash. BHIM-UPI, in particular, allows transactions via mobile phones using either phone numbers or user-friendly virtual payment addresses. This mode also provides access to multiple bank accounts via a single mobile app, streamlining the payment process.
- **Transparency in Governance:** Traditional cash-based payments were prone to inefficiencies like payment leakages and fictitious beneficiaries, especially concerning government-backed social security disbursements. Embracing digital modes ensures direct benefit transfers to intended recipients, thus minimizing leakage and promoting accountability.
- **Enhanced Transaction Speed and Punctuality:** Unlike the time cash takes to physically exchange hands, digital payments are virtually instantaneous, even across varying distances. This swiftness holds regardless of geographical proximity.
- **National Electronic Toll Collection (NETC) System:** The NETC system enables cashless highway toll payments through Radio Frequency Identification technology, allowing vehicles to traverse toll plazas without halting. This technology promotes efficient travel and reduces congestion.
- **Bharat Bill Payment System (BBPS):** The BBPS guarantees an interoperable bill payment service accessible through diverse channels like internet banking, mobile apps, and BHIM-UPI. Citizens can conveniently settle bills at their convenience, enhancing financial ease.
- **Heightened Credit Accessibility:** Unlike cash transactions, digital payments establish a traceable financial history, increasing access to formal financial services, including credit. Banks can leverage digital transaction data to make cashflow-based lending decisions for individuals and businesses, particularly aiding small enterprises in securing credit.
- **Security and Safety:** Digital payment methods in India mandate multi-tiered authentication, ensuring secure transactions. This fortifies the recipient's financial safety while negating the risks associated with receiving cash payments, which can be prone to theft.

Is India Truly Ready for a Cashless Economy? (Analysis and Interpretation)

The Indian government is dedicated to enlarging the scope of digital transactions within the country's economy, aiming to bolster the financial sector's resilience and accessibility for citizens. This commitment has led to a substantial rise in digital payment transactions, with numbers surging from rs.2071 crore transactions in the fiscal year 2017-18 to impressive rs.8840 crore transactions in the fiscal year 2021-22. This achievement reflects the collaborative efforts of the entire government machinery and stakeholders, including the Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), and various banks.

The digital payment transactions conducted over the last five fiscal years are outlined as follows:

Financial Year	Total no. of Digital Transaction (in Crore)
2017-18	2071
2018-19	3134
2019-20	4572
2020-21	5554
2021- 22	8840



Source: RBI and Banks

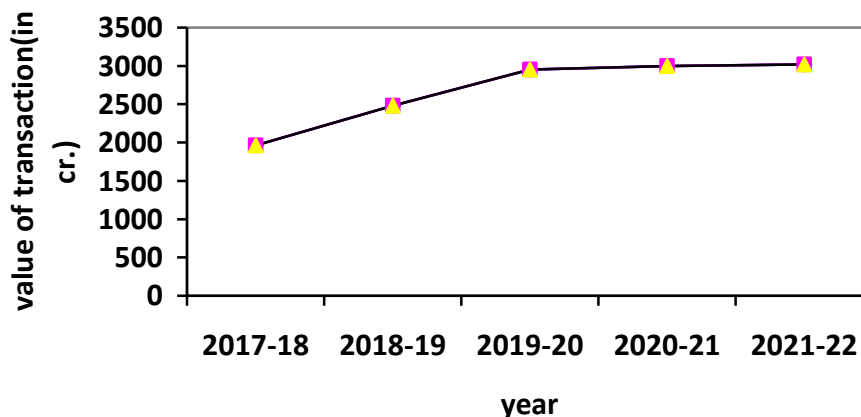
The total number of digital transactions using the mobile banking, BHIM-UPI, IMPS, NACH, AePS, NETC, debit cards, credit cards, NEFT, RTGS, PPI and others channel has witnessed sharp annual increases around 45 per cent in 2018-19 as against 65 per cent last year. The acceleration in terms of total number has also been remarkable at 8840 crore in 2021-22, which was substantially higher than 2071 crore witnessed during 2017-18.

The total value of digital payments during the last five financial year and in the current financial year are as under:

Financial Year	Total Value of Digital Transactions (in Lakh Crore)
2017-18	1,962
2018-19	2,482
2019-20	2,953
2020-21	3,000
2021-22	3,021

Source: RBI and Banks

total vaue of digital transaction



In January 2021, The Reserve Bank had declared the development of a comprehensive measure known as the Reserve Bank of India – Digital Payments Index (RBI-DPI), using March 2018 as its starting point. A tool designed to measure the level of payment digitization within India. This index aims to assess the degree of payment digitization throughout the nation. Released biannually, this index is constructed based on these five distinct criteria:

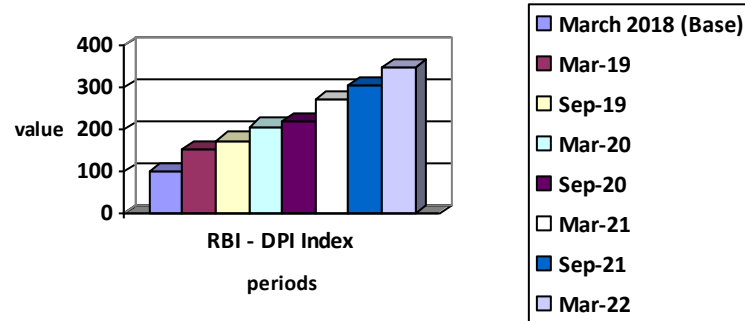
Criteria	Weight Age	Sub Parameters
Payment Enablers	25%	Internet, mobile, Aadhaar, bank accounts, participants, and merchants
Payment Infrastructure (Demand Side)	10%	Debit cards, credit cards, prepaid payment instruments, customers registered–mobile and internet banking, and FASTags
Payment Infrastructure (Supply Side)	15%	Bank branches, business correspondents, ATMs, PoS (point of sale) terminals, QR (quick response) codes, and intermediaries
Payment Performance	45%	Digital payment systems (volume), digital payment systems (value), unique users, paper clearing, currency in circulation, and cash withdrawals
Consumer Centricity	5%	Awareness and education, declines, complaints, frauds, and system downtime

The RBI-DPI Index consistently showcases substantial progress in the uptake and expansion of digital payment usage across the nation. The evolution of the index series since its inception is as follows:

Period	RBI - DPI Index
March 2018 (Base)	100
March 2019	153.47
September 2019	173.49
March 2020	207.84
September 2020	217.74
March 2021	270.59
September 2021	304.06
March 2022	349.23

Source :Reserve bank of India

Digital payment index



The index for September 2021 stands at 304.06 as against 270.59 for March 2021 and 349.49 in March 2022.

Conclusion

The introduction of a particular form of cashless payment can impact other forms of cashless transactions in the short term. The noticeable effects of adopting cashless payments on economic growth, however, become evident only over an extended period. Therefore, policies aimed at promoting cashless payments are unlikely to have immediate effects on the economy.

Due to initiatives by the Reserve Bank and the Indian Government, India's payment systems have made substantial progress in becoming more digitized. The push for digital infrastructure aligns with increased public acceptance of digital transaction methods. Notably, transactions using systems like PPI, UPI, IMPS, RTGS, and NEFT are experiencing upward trajectories.

In conclusion, while the idea of a cashless economy and digital transaction methods holds significant promise, addressing challenges like providing banking access to the unbanked, enhancing banking and digital literacy, and improving technology infrastructure is imperative for successful cashless adoption. Despite India's advancing stance toward a cashless system, the transition will require time. India boasts a prominent position in aspects related to digital transactions, technological infrastructure, and payment regulations. Simultaneously, substantial potential for the growth of digital transactions exists due to the currently low per capita volume.

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