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A Review of Online Payment Services in India

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Abstract

This research paper examines the transformation towards a cashless economy in India, analyzing its advantages, disadvantages, and future prospects. The study highlights the benefits of using e-wallets, online banking services etc. However, challenges exist, including the digital divide, cybersecurity concerns, and privacy issues, as evidenced by various scholars. The future scope for a cashless economy is also explored. The paper primarily is a review of secondary sources. Additionally, a short survey was also utilized to assess the citizens usage of online payment services/apps.

1.Introduction

In recent years, online payments have become an integral part of the Indian economy. With the advent of payment gateways, the shift from cash to cashless transactions has gained momentum. A payment gateway serves as a vital component in facilitating secure online transactions and ensuring the safety of electronic systems. It acts as a bridge between economic institutions and the national banking system, enabling seamless transactions in the digital realm.

Payment and settlement frameworks in India are frameworks for payments and settlements involving money. They fall within the purview of the Payment and Settlement Frameworks Act, 2007 (PSS Act), which was passed in December 2007 and is governed by the Board for Guidelines and Oversight of Payment and Settlement Frameworks and the Reserve Bank of India. India has many payment and settlement systems, including gross and net settlement systems. India's Real Time Gross Settlement (RTGS) system handles gross settlement, while the National Electronic Fund Transfer (NEFT) system, Immediate Payment Service, Unified

Payments Interface, Electronic Clearing Services (ECS Credit), and Electronic Clearing Services (ECS Debit) handle net settlement (UPI). (Reserve Bank of India - Payment and Settlement Systems, n.d)

The payment and settlement frameworks in India encompass various systems for conducting financial transactions involving money. These frameworks are regulated by the Payment and Settlement Frameworks (PSS) Act, 2007, overseen by the Board for Guidelines and Oversight of Payment and Settlement Frameworks as well as the Reserve Bank of India. Within these frameworks, there exist different types such as gross settlement systems that handle Real Time Gross Settlement transactions(RTGS), and net settlement systems including National Electronic Fund Transfer (NEFT), Immediate Payment Service (IMPS), Unified Payments Interface (UPI), Electronic Clearing Services(ECS) credit and debit. The Reserve Bank of India is making every effort to encourage elective payment methods that will improve the security and efficiency of the payment framework and simplify the entire process for banks.

An important development by the Govt of India in this context is The Digital India program to transform the country into a " digitally empowered society and knowledge economy"(Ministry of Electronics and Information Technology, n.d). By providing good internet connectivity, the campaign attempts to bridge the gap between citizens and the government as well as improve digital literacy. "Faceless, Paperless, Cashless" is one of the professed goals of Digital India.

2.Online Payments in India

Online payment options can involve Online and mobile banking services, Point-of-Sale (PoS) devices, mobile wallets, digital payment apps, bank prepaid cards, Unified Payments Interface (UPI), etc. Banks have developed numerous channels for payments, including the web, mobile devices, ATMs (Automatic Teller Machines), and drop boxes, to enable customers to make payments electronically.

One of the most well-known payment methods, especially among young people, is the Internet. Customers use several bank websites to make charge and credit payments for small purchases and retail transactions.

India is witnessing rapid development in credit and debit card usage within the Asia-Pacific region. A that there were 25 crore credit card transactions in April 2023 as opposed to debit cards at 22 crore. "In terms of

value of transactions, credit cards stood at Rs 1.3 lakh crore against Rs 53,000 crore for debit cards." (Bhakta, 2023)

The implementation of electronic payments in India has contributed to the growth and development of the financial sector. While paper-based transactions have historically dominated the payment system, there has been significant progress in adopting e-payments. This shift towards digital payments has led to increased growth within the Indian financial sector compared to previous years (Wang, 2020)

The use of payment gateways in India has witnessed significant growth in recent years. India is undoubtedly one of the countries in the Asia-Pacific region that is developing credit and debit cards the fastest. The availability and use of the internet in India, where there are already 32 million PC users and 600 million Indians accessed the internet in January 2023 alone. This may also have an impact on consumer standards of conduct (Digital 2023: India Data Reports, n.d). 98% of all transactions were once carried out in cash, but since the public authority demonetized on November 8, 2016, our country has also started to shift towards a credit-only economy. Previous flexible payment methods like Paytm, Google Pay, Telephone Pe, and others have gained attention as a result of the Demonetization Act (Fouillet et al., 2021)

This can be attributed to several factors, including the increasing penetration of smartphones and internet connectivity across the country. Additionally, the government's push towards a digitally empowered society and its emphasis on e-governance has further fuelled the adoption of online payment gateways in India (Jain, 2023). Furthermore, the convenience and ease of online transactions provided by payment gateways have contributed to their popularity. These services are not only useful in India but also all over the world. Take these examples below from a BBC article-

“Using a payment app to pay your friends directly or split a restaurant bill has become increasingly popular among younger generations in particular. But are they safe?”

"The only time in the last year I've drawn out cash is for the school fete cake stall and to pay my manicurist" (Finley, 2018).

The use of payment gateways in India has witnessed exponential growth in recent years. According to recent data, millions of people in India now utilize payment gateways for various purposes such as mobile Payment Gateways in India.

The rapid increase in mobile users, coupled with the demonetization event of November 2016, has significantly contributed to the adoption of mobile banking in India. Various public and private banks have

actively introduced mobile banking services through different channels like text messages and mobile applications. As per the Reserve Bank of India's definition, mobile payments include transactions conducted via bank applications and Unified Payment Interface apps. To engage in these transactions, users are required to possess a phone, SIM card, and bank account. Nevertheless, it is also feasible to use wallet-based systems for mobile banking without having a traditional bank account. As per Global Data, India is one of the top markets in mobile payment adoption and surpasses the US, the UK, China, and Denmark (Rana et al, 2020).

Some studies on street vendors and other small businesses in urban and metropolitan areas report an increase in the adoption of mobile payments during the demonetization period (Kurosaki, 2019). Incentives, such as referral and transactional rewards also encouraged Indians to switch to mobile payments (Vashistha et al., 2019).

RBI data show that from October 2016 to January 2020, mobile phone transactions exponentially increased (from 72.6 million transactions to 1,440.3 million). While the number of mobile banking transactions has risen almost twenty-fold over the past three years alone, the average mobile banking transaction reduced significantly (from 14,355 rupees in October 2016 to 3,620 in January 2020) (Fouillet et al., 2021)

3.Method

This study mainly used secondary sources to gather and review digital payment services and apps in India. Additionally, a short Google Form survey was utilized to assess the citizens' usage of such services. The form had approximately 13 questions- 12 were close-ended questions and 1 was an open-ended question.

4.Results

There were a total of 52 responses to the form predominately from the age group 20-30 years of age. There were almost an equal number of male and female respondents.

76.7% of the participants used payment apps daily and Paytm was the preferred app followed by Google Pay.

When asked why people use these apps, the most common answer was its ease of use (53%) followed by its ease of use especially during an emergency (40%). Most participants used these services to make payments (77%).

Another question was whether such apps/services have impacted their lives- the majority (39%) reported that it did impact them in some way or the other. This was followed by a question on whether such services are

necessary for the economy to which the majority (37%) reported that it is highly necessary. However, most of the participants were neutral when asked if India should fully convert from a cash to a cashless economy.

5.Advantages and Challenges of Digital Payments

One of the most popular forms of online payments is the digital wallet which acts as a digital, individualized ledger often linked to the respective bank account, Following are some other advantages of making transactions through such e-wallets (S&D, 2017):

- Saves time: digital wallets hold the amount in the electronic form this not only saves time but also eliminates the need for manual entry of payment information, reducing the risk of errors.
- Ease of use: A digital wallet is like one-click pay without filling in details about the card viz card number and passwords every time. It allows users to link the digital wallet to accounts and pay right away so that the consumers face no issues entering the details every time a transaction happens.
- Security: There is a good amount of security when payments are made through e-wallets since the wallet does not pass the payment card details to the website. These virtual wallets allow users to lock their wallets.
- Convenient and information stored under one roof: As digital wallets help to eliminate the need to carry a physical wallet, they are highly convenient. Also, better management is possible as there is synchronization of data from multiple platforms like bank accounts, credit and debit cards, mobile accounts, and billing portals.
- Attractive discount: Cash-back and discounts are being offered by most of the players along with providing offline wallet balance top-up known as the 'Cash Pickup' service. This service is being offered by Mobikwik that will facilitate cash to be directly added to MobiKwik wallet where consumers of even smaller towns can benefit.
- Chatbots for Real-Time Support- The integration of Chatbots into digital wallets makes it easier for businesses to connect with their customers easily at any time and anywhere. On the other hand, It makes it simpler for customers to connect with the brand regarding complaints, inquiries, or feedback on the product or service in real-time.
- Cost-effective- These wallets are built-in software and have no physical presence leading to few operational costs. This leads to a reduction in fees for certain services without compromising profits.

Paytm, Freecharge, etc are commonly used e-wallets in India. Overall these Payment gateways play a crucial role in facilitating smooth and secure online transactions.

Another important such service is the "Buy Now, Pay Later" (BNPL) which allows users to make payments over a certain period. Many online merchants and fintech firms in India are providing the BNPL feature to their clients as a practical payment option, a fantastic substitute for credit cards. LazyPay, Simpl, Amazon Pay Later, etc are some popular BNPL players in the market.

Online banking is also popular among Indian citizens. Some advantages are as follows (Hugar, n.d)-

1. Convenience- The most obvious advantage is customer convenience. There is no need for customers to visit physical banks and conduct any transaction. There is no tedious paperwork to be done. Customers don't need to stand in a long queue for any work.
2. 24/7 Availability- physical banks operate only during office hours. If customers have urgent transactions past 4 p.m., it is not possible to conduct such transactions on the same day. Online Banking allows customers can have access to all the bank resources at any time within a few seconds at their fingertips.
3. Instantaneous- The speed of online banking is incredible compared to physical banking. Online banking offers services instantly. In a physical bank, you have to be in the bank to fill out the form and stand in a queue to start the process. The banker fills in the details of the customer and then the transaction is processed. This easily takes two to three days at a minimum.
4. Efficient- Computers don't require processing time or make human errors. Online banking eliminates human error and eliminates the need to rely on human inefficiency, up to an extent.
5. Bill Payments- Bill payment has become easy for customers after the introduction of online banking. Customers can easily pay all bills like gas payments, electricity bills, etc.

in a few seconds with a single touch

6. Eco-Friendly- Any environmental benefits through e-banking are a vision that everyone is seeing which is possible through online banking. Online banking helps reduce paperwork, electricity, use of land, etc.
7. Tracking - It is simple to view transaction history through online banking. The information on spending their savings, deposits, and transfers is easily available. Customers can easily track their savings and expenses. This helps customers to manage their budgets and reduce overspending habits. Customers can easily detect discrepancies in transactions, thus reducing fraud and safety risks.
8. Increase in profits- Financial institutions that embraced online and digital technology have been more profitable than ever before. Earlier Due to high operational expenses, Many banks charged high fees, and most

banks were facing losses. After embracing online banking, These institutions are turning into a profitable businesses with economic charges.

9. Improved Management Decisions- The senior management can make a smart, well-informed decision thanks to technology. Strong analytics will aid banks in making better decisions, which may prove advantageous in the long run. Technology can also help in the decision of whether to provide a loan to a specific person or not.

Additionally, it's important to note that the administration of India is also uplifting different advanced payment applications, for example, Aadhaar Payment application, UPI Application, Bharat Connection point for Cash (BHIM) applications alongside confidential area applications like Paytm, Mobikwik, Freecharge and so on. Such new applications are advantageous to move support across different parts of our country. The digital payments industry in India is developing at a quick speed giving a profoundly appealing stage to unfamiliar financial backers to put resources into India.

Despite these advantages, online payment services do have some disadvantages as mentioned below (S&D, 2017):

1. Lack of Trust- the reason why some people are not switching to online payment services is that they trust people more than a machine. Some people like to have a personal touch and thus don't want to use technology and trust them, especially in money matters.
2. Online Fraud- A few instances of forgeries have been documented. Some fraudulent or proxy websites can intercept user data entered for a transaction and utilize it for their purposes. When users receive their bills, significant losses may have already been incurred because in some cases they were unaware of the fraud.
3. Lack of Awareness- Some people don't understand read through or fully understand the online services and can make some mistakes that can lead to monetary loss. Long user agreements can make it difficult to comprehend where the user's details are stored, how it is used etc.
4. Technology Disruptions- Only an Internet connection makes it possible to do online banking. The User's ability to access the account can be impacted if the internet is interfered with by a power outage, server problems, or if the User is in a remote location. Network issues in different geographical areas like remote places also make it difficult to make transactions. Scheduled site maintenance also means the user can't access their accounts and may have to seek an alternative option.

5. Dependency on Devices- Having everything on a smartphone is highly practical—unless there are problems with its battery, network, or internet connection. Users must have cash, a credit card, or a debit card if the device is turned off shortly before payment. There could be a lot of issues if the user is dependent on the device and has no spare cash or debit card.

6. Privacy and Security Concerns - Despite the high security that financial organizations have, no system is error-free. Still, sensitive data is vulnerable to hacking. But several safety precautions must be taken. Privacy has always been a concern to customers and banks. Customers' lack of awareness can also lead to security issues without knowledge.

7. Limited Service-Despite services being developed at record speed, some services remain untouched or not efficient enough. This includes bank loans, credit applications, a large deposit, or withdrawal of cash. This is the area where banks need to focus and find a solution for it. Some banks still require their customers to visit banks to sign the documents.

6.Discussion

The adoption of a cashless economy in India has gained significant momentum in recent years, driven by various factors that highlight its potential benefits. According to a study conducted by the Reserve Bank of India (RBI) in 2017, the use of mobile banking and digital payment systems can significantly enhance financial inclusion, particularly in rural areas (RBI, 2017). This shift empowers a larger segment of the population to access banking and financial services, thereby contributing to the reduction of economic disparities.

Furthermore, a cashless economy has the potential to reduce corruption and tax evasion in India. The digital footprint created by digital transactions simplifies the tracking of financial activities, making it more difficult for individuals and businesses to engage in tax avoidance. This is evident in the Indian government's efforts to formalize the economy through the introduction of the Goods and Services Tax (GST) in 2017, which heavily relies on digital tax payments.

Another advantage of a cashless economy is the enhanced efficiency and transparency it offers. The advent of the Unified Payments Interface (UPI) and mobile wallets has facilitated swift and secure transactions, reducing the reliance on cash, which can be expensive to handle and transport.

Moreover, the widespread adoption of digital payment methods empowers small and medium-sized enterprises (SMEs) by granting them easier access to financial services and enabling them to accept digital payments, ultimately promoting business growth and entrepreneurship in India.

While the advantages of a cashless economy are evident, certain disadvantages must be considered. Firstly, India still faces a significant digital divide, as a substantial portion of the population lacks access to smartphones and the internet. This digital divide poses a challenge to the adoption of digital payment methods, particularly in rural areas, and impacts efforts aimed at achieving financial inclusion.

Secondly, the digital realm is susceptible to cybersecurity threats and fraud, posing potential risks to individuals and businesses. The surge in digital payments may lead to an increase in cybercrimes, necessitating the development of robust cybersecurity infrastructure and increased awareness among users (Hugar, n.d).

Moreover, the increased use of digital payment methods raises concerns about individual privacy and data security, necessitating strict regulations and security measures to safeguard personal and financial data.

Lastly, a complete shift to a cashless economy relies on the availability of technology, electricity, and internet connectivity. In cases of technology failures or power outages, individuals may face difficulties in conducting essential transactions.

Coronavirus had a huge impact on the economy and created a threatening impact on the whole world. Covid-19 had its footprint on all the industry and as a result, everyone had to face its consequence and change its core mechanism to survive in the market. The banking sector was no exception to this and faced huge losses due to it. Many industries were badly affected by covid but some industries got benefitted too. Some industries were revolutionized to survive and compete in markets. So many industries faced losses and on some scale provided a new direction for growth as well.

Following the outbreak of COVID-19, banks were shut down, and their operations were reduced by approximately half. To conduct banking operations including cash deposits, cash withdrawals, check clearing, and other teller services, a 1-meter distance had to be maintained. Customers felt a great deal of discomfort as a result, which altered their digital banking habits. Customers and banks had operational and technological difficulties, which brought to light the banking systems' lack of adaptability in emergencies.

Customers and banks have to swiftly adjust to the constraints of physical interaction due to the pandemic. This sped up the use of digital technology by both banks and clients. The bank's backend operations will be optimized through digitalization and the immediate lessons learned from the current Covid issue. This will end

the reliance on physical banks and manual entry. The COVID-19 situation speed up the use of technology and refocus attention on banking-related subjects. It created an urge to move towards digitalization and people also felt compelled to try online banking as the situation demanded it.

7.Future Scope of a Cashless Economy in India

The future of a cashless economy in India appears promising, with several key areas for further development. Initiatives such as Digital India, the demonetization of high-denomination currency notes in 2016, and the widespread acceptance of UPI and digital wallets have laid the foundation for continued growth (Bhakta, 2023).

To realize this potential, it is essential to focus on enhancing the financial literacy among the population, ensuring that individuals are well-informed about digital payment methods, financial planning, and the associated risks (Fouillet et al, 2021). Public-private collaborations can play a significant role in promoting financial education.

Infrastructure development is another crucial aspect, where the government should invest in improving digital infrastructure, including internet connectivity and electricity supply, to bridge the digital divide and promote access to cashless transactions across all regions (S&D, 2017).

Additionally, continuous improvement in regulations and policies is vital to creating a secure and reliable digital payment ecosystem. These regulations should address privacy and consumer protection concerns.

Lastly, to tackle cybersecurity challenges, investments in robust cybersecurity measures and public awareness campaigns are essential to protect individuals, businesses, and the financial system (S&D, 2017). By addressing these areas, India can continue its journey towards a cashless economy that is inclusive, efficient, and secure.

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