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Digital Payment Adoption in India and Pakistan: A Comparative Analysis

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Abstract

The evolution of financial transactions, from the ancient barter system to modern banking, has now witnessed a significant leap into the realm of digital payments, heralding an era of e-banking systems. This paper compares adoption of digital payment systems in India and Pakistan. India, a global leader in digital payments, processed 70 billion transactions in 2022. Pakistan is also making strides in digital transformation, with the potential to boost GDP and enhance financial inclusion. Initiatives like the Ehsaas program utilize digital wallets, and regulatory advancements encourage fintech start-ups. While Cash on Delivery (COD) remains popular, digital payment adoption is on the rise in Pakistan due to an increasing number of internet users and mobile connections. India excels in digital payments, while Pakistan holds substantial growth potential. This analysis offers insights into challenges and opportunities, recommending measures to enhance Pakistan's digital payment ecosystem.

Keywords: *E- Banking, India, Pakistan, Transparency, Digital Transformation, Financial Inclusion, Comparative Analysis.*

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Introduction

Historical Evolution of Financial Transactions

Over millennia, financial systems have progressed dramatically, from primarily barter markets to today's computerised transactions. As the human civilization transitioned from hunting to cultivation during the Neolithic Revolution, the expanding population increased trade and the demand for a means of exchange. It featured the direct exchange of commodities and services, wherein, the barter system became inefficient,[1] owing to the dual coincidence of desire. To overcome its limitations simultaneously, another alternative was introduced during the ancient times transitioning into the Middle Ages. This alternative, named Commodity Money, used commodities that had intrinsic value such as shells, livestock, or precious metals (e.g., gold and silver) as a medium of exchange in bargains.

Barring even that, handling the enormous quantities of precious metals became burdensome with time. This became the foundation for Representative Money which were basically 'Bank issued paper notes' redeemable for any exchange of a specific commodity (e.g., gold and silver) in a certain quantity as reserve in modern times.

Fast-forward to the 19th century, numerous states adopted another substitute, i.e., the Fiat Currency Systems. In the respective System of Finance, the currency had no inherent worth but it was recognised as statutory exchange by government order. For which, the Central banks were found to manage inflation, administer the money supply, and stabilise markets.

With the advent of computers and technologies in the world especially since the dawn of the 21st century, the financial

system was revolutionised by the Internet. Digital Transactions and Electronic Banking (E-baking) such as online payments, wire transfers, and electronic fund transfers became the new norm of transactions. Credit and Debit cards also became ubiquitous.

With the advancement, the most recent evolutions include Central Bank Digital Currencies, (CBDCs), which are digital representations of a state's national currency generated and monitored by the central bank or monetary authority in addition to cryptocurrencies like Bitcoin, which operates on Decentralised Blockchain Technology. Cryptocurrencies serve up untamed, private, and pseudonymous transactions that do not require the use of middlemen and decentralised transactions, altering the realm of finance and disrupting conventional banking methods.

This aisle of modernization comprises the main structural themes on which this financial resolution has been built. The historical evolution of financial transactions traced from the progression of traditional barter systems to the emergence of modern banking systems highlights the adaptability of financial practices and sets the stage for the current era of digital payments based on the fundamentals of 'trust' to enhance cooperation and collaboration for any kind of transaction. 'Backup', to accommodate or feature the money seconded by any secure commodity, and the 'Gate' or channel that allows the financial flow to be streamed.

Digital Payment Adoption Trends Globally

The global financial landscape is evolving in nature to pace up with the digital financial transformation. These digital advancements have not only uplifted financial inclusivity but have also influenced economic activities globally. As major South-

Asian states, India and Pakistan also steer the complex landscape of tech-based finance, while participating in the global transition towards digital economies in the digital age, the global digital payments market is expected to reach $9.47 trillion in 2023.[2] This substantial spike reflects the world's expanding dependence on digital payment systems, driven by reasons such as efficiency and the continued transition towards cashless commerce.

Along with the global perspective on digital payment adoption, miscellaneous challenges are also faced by countries worldwide offering insights into the common trends. Customer trust, regulatory compliances, tech-infrastructure, cybersecurity concerns, service quality among others are key challenges bearing a direct impact on the adoption of digital finance in states. India having dealt with the whilom and other obstacles has now come to rank at the top globally among the e-financing states. On the other hand, Pakistan is still working on its system in making substantial attempts to modernise its financial sector opting the fintech.

Digital Payment Landscape in India

The following is an assessment of India's digital transformation efforts, examining how it has effectively implemented digital technologies, particularly emphasising India's successful integration of international and national transaction advance usage.

Growth and Trends in Digital Transactions and Digital Payment Systems

The landscape of digital transactions in India has seen a remarkable transition over the years, owing to a convergence of variables. The country had a population of around 1.38 billion

people as of October 2021[3], creating a sizable market for digital payments. The expansion of digital infrastructure is especially notable in this dynamic context. India has around 1.18 billion mobile connections, 700 million internet users, and approximately 600[4] million smartphones, all of which are steadily increasing. The startling 25.5 billion real-time payment transactions, which will drive India to the top spot internationally in 2020[5], are an incredible monument to this rise.

In India, the emergence of digital transactions began in the late 1990s, when pioneering banks such as (ICICI Bank) Industrial Credit and Investment Corporation of India, (HDFC Bank) Housing Development Finance Corporation Limited, IndusInd Bank Limited, and Citi Bank India launched online banking services. This ushered in the era of digital transactions, with an increasing number of financial institutions providing digital services to their customers. The National Payments Corporation of India (NPCI) emerged as a key actor in 2008, with a responsibility to develop a solid payment and settlement infrastructure, offering innovations such as the Aadhaar Enabled Payments System, Bharat Bill Payments System (BBPS), BHIM, and Cheque Transaction System.

Banking cards, USSD, Aadhaar Enabled Payment Systems (AEPS), Unified Payments Interface (UPI), mobile wallets, bank pre-paid cards, point of sale (PoS), online banking, mobile banking, and micro ATMs are currently available in India. This variety demonstrates India’s dedication to developing a cashless economy.

The digital payment ecosystem in India is dynamic and continually evolving. From 2010 to 2020, India's digital transaction journey was defined by a solid CAGR of 43 per cent in

value and 12.54 per cent in transaction volume, aligning with the government's Digital India project, which was announced in 2015. [6] The growth in fintech adoption, as seen by India's third-largest US$ 31 billion fintech industry in September 2021, demonstrates its dedication to digital emancipation.

The critical launch of the Unified Payments Interface (UPI) in 2016 facilitated transactions, and by 2021, 297 banks would be connected to the network. UPI's efficiency and accessibility have made it a favourable alternative for retail and merchant payments, with UPI transactions exceeding US$ 100 billion in October 2021 [7]. This digital transition is being aided further by the emergence of fintech, with over 17 unicorns valued at US$ 50 billion as of December 2021, with a potential value of US$ 150-160 billion by 2025.[8]

Role of Government and Regulatory Bodies

India's fast digitization is due in large part to a collaborative effort from both the governmental and commercial sectors. The government's ambitious Aadhaar Programme, a biometric digital identity effort launched in 2009, has 1.2 billion individuals enrolled.[9] Not only has this Programme hastened the uptake of digital services, but it has also permitted the linking of roughly 870 million bank accounts to Aadhaar, a stunning increase from 56 million in 2014. In addition, the Goods and Services Tax Network, which was launched in 2013, integrated transactions from over 10.3 million enterprises onto a single digital platform, pushing businesses to adopt digitalization. [10]

Correspondingly, the private sector, particularly Reliance Jio, has democratised internet access by pairing low-cost handsets with mobile service subscriptions. This approach

sparked innovation and price competition, resulting in a 95 per cent drop in data prices since 2013[11]. Mobile data usage per user has increased by 152[12] per cent year on year, exceeding trends in the US and China. Global and local digital enterprises have recognised India's prospects and are catering to a varied range of users and situations. They have made material accessible in all 22 of India's official languages and tailored services to market requirements. For example, by adapting its platform to Indian demands, Alibaba-backed Paytm has over 100 million "Know Your Customer" compliant mobile wallet customers and nine million merchants.

Likewise, for the Enterprise Adoption in India, the Maharashtra administration used blockchain technology to produce COVID-19 exam certificates, which improved visibility and security. In addition, the RBI has launched a critical Digital money pilot project, offering the Wholesale and Retail Digital Rupee, abbreviated as e₹, to investigate the revolutionary potential of digital money in the nation's financial environment. Together, the commercial and governmental sectors, as well as regulatory actions, are moving India into a technologically sophisticated and digitally inclusive economy.

Surprisingly, India's digital transformation is narrowing the divide between richer and poorer states. States such as Uttar Pradesh and Jharkhand are aggressively developing their internet facilities and providing services to new subscribers. In India as a whole, the digital population ranges from about 692 million as of January 2023.[13] Between 2014 and 2018, Uttar Pradesh alone generated approximately 36 million internet customers. [14] Ordinary Indians are benefiting from this revolution, which allows them to do tasks ranging from news site reading and food

delivery to video conversations and mobile-based financial transactions. However, India has a lot of unrealised possibilities. Only 40 per cent of the population has internet access, and cash continues the most common means of retail transaction. While e-commerce is developing at a rate of 25 to 30 per cent each year, it accounts for only 5 per cent of global trade, compared to 15 per cent in China in 2015.[15] Glancing forward, India's digital landscape stands ready for solid expansion, with enormous prospects to accelerate advancement and creativity.

Case Studies of Key Digital Payment Services

India has been working efficiently on the adoption of its financial digitalization for quite a while now. Paytm, India's largest mobile payments and commerce platform was launched in August 20116 in Noida, Delhi NCR, with a start-up capital of US$2 million. Its creator Vijay Shekhar Sharma, have now had the merchant subscription reached over 93 million17. Paytm began as a prepaid cellular and Direct-To-Home (DTH) recharge service before expanding to include debit cards, postpaid mobile, and wireline bill payments in 2013. The advancing potential of the platform can be illustrated by the pro-beggars in India having embraced digital payment options such as *Paytm* and *PhonePe* to become accustomed to the digital world using QR Codes hanging around their neck for transacting the panhandled money. [18] Paytm, for further assuage is available in 11local Indian languages, i.e., one of the key reasons for its widespread usage.[19]

In India, the adoption of these digital services has also impacted the economy by uplifting transparency based on transactions and taxes. Because firms like Paytm offer an easy approach to identifying the seller while making a purchase, the

number of middlemen is minimized. All goods are taxed fairly, according to the government. Since all transaction data is readily available online, tax evasion is no longer conceivable. The web-based business sector is included in the data innovation industry. The area has contributed more to India's GDP than any other region, from 1.2 per cent in 1998 to 7.5 per cent in 2012.[20]

India's push towards digital payments, including the Unified Payments Interface[21] (UPI) and mobile wallets like Google Pay, has uplifted financial inclusion enabling millions of people, especially those in rural areas, to access financial services and make transactions easily. The UPI has seen remarkable success, and it is projected that over 500 million Indians will use digital payment solutions by 2025.[22] This mass adoption contributes to India's economic growth by increasing the efficiency of transactions and reducing the costs associated with cash handling. Also, it will have an impact on the decrease of paper money, in one way or another, assisting in the decrease of printing costs and environmental benefits.

Digital India Program

The Digital India program, launched in 2015, has led India through a radical digital transformation. An indispensable aspect of this initiative is the substantial expansion of digital infrastructure. By 2023, over 300,000 villages were equipped with high-speed internet, resulting in a surge of internet users from 300 million in 2015 to a remarkable 700 million. [23] This fundamental shift has also seen mobile penetration skyrocket to nearly one billion subscribers, marking a 152 per cent increase in mobile data usage per user year-on-year.

A pivotal force in this evolution is the UPI, introduced in 2016. It has remarkably streamlined digital transactions, connecting 297 banks by 2021 and facilitating transactions exceeding $100 billion in October 2021. [24] This monumental shift towards digital payments has catalysed a significant reduction in cash reliance and boosted transaction efficiency. Notably, this digital surge has significantly contributed to India's GDP. From 2010 to 2020, digital transactions witnessed a Compound Annual Growth Rate (CAGR) of 43 per cent, and the digital sector, encompassing e-commerce, fintech, and IT services, burgeoned to account for 7.5 per cent of India's GDP in 2012, up from 1.2 per cent in 1998. The fintech sector, valued at $31 billion in 2021, is poised to reach $150-160 billion by 2025, underscoring the program's impact on India's economy.

Inclusive economic development is a salient feature of the Digital India program. The Pradhan Mantri Jan-Dhan Yojana (PMJDY)[25] part of the initiative, has significantly increased bank account holders, especially in rural areas, fostering financial inclusion. Efforts to enhance digital literacy, coupled with multi-lingual digital services, have bridged the digital divide. In sum, the Digital India program has exemplified how comprehensive digitalization can contribute to a country’s economic prosperity and serve as an inspiration for others seeking inclusive growth and technological advancement.

With a staggering growth in mobile phone users, India's mobile environment has seen a dramatic transition, approaching one billion subscribers by 2023.[26] Because of the growth of mobile devices, there has been a considerable movement towards mobile-based payment systems. The 2016 demonetization effort was a watershed milestone in this process, forcing people to

embrace digital payment alternatives while conventional money faced constraints. As a result, a larger segment of the public began to use digital payment methods. Simultaneously, the fast growth of digital infrastructure, fuelled by low-cost smartphones and readily available data plans, has substantially contributed to the success of digital payments.

Digital Payment Landscape in Pakistan

Pakistan's Digital financial landscape can be discerned in the practice of being implemented as a norm currently. In recent times, Pakistan, with a population of over 241.8 million, has 87.35 million internet users, resulting in an internet penetration rate of 36.7 percent.[27] While the nature of economic digitalization is dynamically evolving and expanding worldwide, Pakistan has begun to take some steps to pace up with the world in the interim.

Role of Government and Regulatory Bodies in Progress of Digital Transactions

Backed by the State Bank of Pakistan (SBP) in 2021, Pakistan launched its Raast ID which has become an integral part of the digital finance ecosystem. [28] Raast ID offers reliability and enhanced safety, enabling instant person-to-person (P2P) payment transactions. While not seconded by the government of Pakistan, 1 BILL is another product offered by 1LINK, in collaboration with Habib Metro Bank, which provides a unified bill payment service network in Pakistan. Collaborating with the government, 1BILL is being used as the utmost suggested source of bill payment by the E-portal of Pakistan's Higher Education Commission (HEC) for payment of fees related to national tests or government-related invoices and vouchers enabling a public-private partnership as well.

The SBP's efforts to increase financial inclusion in the country are on a run. The Digital Innovation and Settlements Department (DI&SD), established in 2021[29], as part of a restructuring within the SBP, resulted in the formation of a Digital Financial Services Group (DFSG), which included the Department of Digital Innovation and Settlements, and Department of Payment Systems Policy and Oversight. Taking into account the SBP's consideration for the digitization of banking and payments in Pakistan, the DI&SD strives to undertake novel initiatives in the field of financial technology and innovations such as, but not limited to, E-Banking, CBDC, Distributed Ledger Technology (DLT), and other developing advances in technology. The Roshan Digital Account (RDA), SBP's flagship revolutionary product, is likewise located under DI&SD. The sector is also in charge of the deployment and operation of present and future vital financial systems.

Apps such as Careem, Daraz, Airlift, Bykea, Rozee, Zameen[30], and others have emerged as pivotal drivers of Pakistan's financial digitalization, notably reshaping the nation's economic landscape. These platforms have become conduits for the transition from cash-based transactions to digital payments. Their integration of digital payment options has promoted cashless transactions, thereby accelerating the adoption of e-wallets and digital payment methods in Pakistan, fostering a more technologically advanced financial ecosystem.[31] By providing access to digital financial tools, they have contributed significantly to greater financial inclusion in the form of Digital Marketing and E-commerce, reducing disparities in financial access and opportunities across Pakistan.

Ehsaas Program in Pakistan

The Ehsaas Programme is a key social protection and poverty reduction project in Pakistan. It seeks to establish a welfare state by combating elite capture and utilising 21st century means such as information technology and digitalization.[32]

Ehsaas uses digital technologies, such as digital wallets and biometric authentication, to provide financial aid to those in need. Digital wallets and biometric identification have expedited the procedure, increased efficiency, and decreased the risk of fraud. These technologies enable recipients to receive payments securely and easily, hence boosting financial inclusion.[33]

With its digitization initiatives, the Ehsaas Programme has had a significant influence on financial inclusion in Pakistan. It has aided in the development of a more inclusive financial sector, particularly through the emergency cash program launched during the COVID-19 epidemic. This has established the groundwork for a more robust and inclusive financial system, highlighting the potential benefits of digitization in poverty alleviation and social protection and also emphasizing the need to use technology, digital wallets, and biometric identification for efficient and transparent assistance distribution.[34]

Innovative Payment Solutions

Along with the efforts like 1 BILL Payment System, Pakistan illustrates an enlivened access to financial and Transaction Services like Easypaisa, Digital Banking Applications, Roshan Digital Accounts, JazzCash, Raast Payment, and credit-based 'Buy Now, pay Later' initiatives. Pakistan being consistent to create a more inclusive and vibrant financial sector is taking key initial steps in this regard.

To promote E-commerce and digital payments for credible auditing and transparent records, recent changes have also occurred in Pakistan regarding the tax reduction for online payments made at restaurants. Restaurants now pay a lower sales tax rate, according to the Federal Board of Revenue (FBR). In the past, Pakistan's typical sales tax rate was 17 per cent.[35] The sales tax rate for restaurants has since been reduced, nevertheless, to 5 per cent.[36] To promote digital payments in restaurants, the government has also offered incentives. Restaurant credit card tax rates have decreased; there have been reports of a 10 per cent reduction.[37] This price cut is intended to encourage patrons to pay for meals at restaurants using their credit cards and digital wallets. This adjustment intends to facilitate the use of digital payment systems and provide diners with some tax reductions.

Moreover, according to SBP Governor Jameel Ahmad[38], the SBP is also actively working on the creation of its digital currency. Actively contemplating its peers of a Central Bank Digital Currency, Jameel Ahmad, the governor of the SBP, has indicated interest in starting a CBDC experiment[39] and hinted that it would be made accessible to the general public by the end of 2025.

Opportunities

Pakistan has implemented regulatory sandboxes, which are specialised regulatory environments aimed at encouraging innovation and permitting limited-scale testing of novel goods, services, and processes. These sandboxes are intended to promote technical progress and the introduction of new technology.

In December 2019, the Securities and Exchange Commission of Pakistan (SECP) announced the SECP Regulatory Sandbox Guidelines, which establish a framework for regulated firms to test new financial services and solutions in a controlled environment. Regulatory sandboxes allow regulators to monitor and learn from the implementation of new technologies, allowing them to better understand and adapt to changing industries.

To boot in the progress, PayPal and Stripe Payment Gateways[40] are on track to be brought to Pakistan for their urgent exigency, according to Dr. Umar Saif, the state's Caretaker Federal Minister for Information Technology and Telecommunications. The main objective of this project is to make it uncomplicated for freelancers and E-commerce businesses in Pakistan to access these payment methods. To promote cooperation and productivity in the country, the plan also calls for the development of co-working facilities for up to 500,000 independent contractors. This initiative intends to streamline online payments and financial activities, which will be highly advantageous to independent contractors, E-commerce companies, and Pakistan's digital economy. It is evident that there is considerable necessity for PayPal and Stripe in Pakistan

By promoting entrepreneurship, facilitating transactions, and fostering innovation in the financial sector, Payment Gateways and applications have contributed to economic growth in Pakistan. This growth, in turn, has the potential to enhance the nation's GDP[41], setting the stage for sustained development.

Challenges

According to the World Bank, Pakistan has the third-largest adult unbanked population in the world with 100 million

people missing access to a bank account, creating the problem of financial exclusion in the country. [42] The fact that people frequently use cash just makes the problem worse. Nevertheless, Pakistan is currently addressing these issues by digitizing its banking systems, and bringing unbanked people into the formal financial system.

In Pakistan, the proliferation of massive online scams, coupled with a pervasive lack of awareness among the public regarding digital financial policies, has regrettably resulted in a high incidence of fraudulent activities. [43] Consequently, the adoption of digital finance tools such as e-wallets and mobile applications has encountered significant resistance. This has had a detrimental impact on Pakistan's digital economy, hampering efforts to cultivate an online audience for secure and accountable trade transactions. As a result, a prevailing apprehension persists among the populace, discouraging them from utilizing online applications.

Moreover, the looming threat of cyber hacking poses a substantial risk[44] to a state like Pakistan, which remains largely unfamiliar with cyber security practices among its population. To address this pressing issue, it is imperative to implement vocational training programs aimed at equipping individuals with the knowledge and skills necessary to navigate the digital landscape safely. By promoting awareness and educating the populace about avoiding online scams, Pakistan can take vital steps towards enhancing digital literacy and promoting the responsible use of fintech services. Failure to do so may lead to significant challenges in achieving widespread digital literacy and ensuring the secure utilization of fintech resources.

Comparative Analysis

A Comparative Study of Digital Payment Adoption

The adoption of digital payments has been a revolutionary factor in the financial ecosystems of both India and Pakistan, both of which have unique socio-economic and technical circumstances. Over the last decade, India's digital payment ecosystem has seen significant upheaval, particularly due to the government's Digital India program and the establishment of the UPI. The astounding expansion of the UPI network, with over 297 banks linked and transactions reaching $100 billion in October 2021, demonstrates the country's adoption of digital payments. India's digital payment journey corresponds with the country's rapidly growing fintech industry, which has over 17 unicorns valued at $50 billion as of December 2021.[45] Pakistan's digital payment ecosystem, on the other hand, is still developing. While digital wallets, mobile banking, and innovative payment systems such as Raast Payment and Easypaisa have gained popularity, Pakistan’s digital payment market is still in its infancy.

One notable difference between the two countries is the amount of internet penetration. With a population of 1.38 billion people, India has around 700 million internet users. Pakistan, with a population of around 241.8 million, trails behind with 87.35 million internet users, resulting in a 36.7 per cent internet penetration rate.[46] [47] This discrepancy in internet access has a substantial influence on the adoption of digital payments and financial inclusion.

Furthermore, in both the countries, digital platforms have emerged as critical drivers of financial digitization. Careem, Daraz, and JazzCash in Pakistan, as well as comparable platforms in India,

have aided in the move from cash-based transactions to digital payments. These platforms have not only made cashless transactions possible.

The governments of India and Pakistan have made important contributions to the advancement of digital payment acceptance. The Digital India project in India and the State Bank of Pakistan's efforts, such as Raast ID, have laid the groundwork for digital transformation. Additionally, regulatory sandboxes have been put in place to stimulate innovation and the testing of novel financial services and solutions. While changing, India's regulatory framework allows for experimentation and adaptability, while Pakistan is building the basis for regulatory reforms to support innovation and growth in the fintech industry.

Yet, the significant preference for Cash on Delivery (COD) for online transactions in Pakistan is a major obstacle. Although easy for customers, this desire might be a substantial impediment to digitization. COD transactions are inefficient, insecure, and opaque in comparison to digital payments. Furthermore, e-commerce enterprises face logistical issues as a result of this desire. Pakistan may address this predilection for COD to migrate to a more efficient and secure digital payment environment. Withal, security is a major risk in the introduction of digital payments. To foster user trust, both governments must prioritise security measures. It is critical to implement two-factor authentication, encryption, and cybersecurity awareness programs. The relevance of such measures has been proved by Digital India project.

Recommendations

Strategies for Pakistan to Enhance its Digital Payment Ecosystem

Pakistan's effort to enhance its digital payment ecosystem necessitates a comprehensive approach that takes into account both India's lessons and its particular environment. First and foremost, Pakistan should prioritise the construction of digital infrastructure, following India's achievement in linking rural areas via optical fibre. The emphasis on digital inclusion, particularly in rural areas, will be critical in growing internet access and mobile device use, and therefore supporting digital payments.

Collaboration between the government and business sector should be fostered, as seen in India. Public-private partnerships such as the 1BILL system and the digital initiatives of the Ehsaas Programme demonstrate the possibilities for collaboration between government and financial institutions.

Pakistan may find valuable insights into India's path towards financial digitization. To begin, it is essential to grasp the importance of comprehensive digital infrastructure development. India's success in connecting remote villages through optical fibre and increasing internet penetration can serve as a blueprint for Pakistan. The rapid growth of mobile users in India and the subsequent surge in mobile-based payment systems underscores the significance of addressing mobile penetration.

Another vital lesson from India is the role of the UPI in facilitating digital transactions. Pakistan can explore the possibility of developing a similar nationwide payment system to encourage the transition from cash-based to digital transactions

through awareness, campaigns, and vocational trainings, thereby promoting financial inclusion. While working towards this objective, Pakistan shall promote and enhance the existing digital payment platforms, making them more user-friendly and secure. Collaborations between financial institutions, the government, and fintech companies can lead to innovation in digital payment solutions. Financial incentives for telecom providers can promote mobile penetration as well.

Additionally, India's Pradhan Mantri Jan-Dhan Yojana (PMJDY) showcased the potential for leveraging financial inclusion to promote digital payments. Pakistan may consider implementing its initiatives in the similar strategic fashion to expand the number of bank account holders, particularly in underserved areas, creating a broader user base for digital financial services.

Pakistan can indeed learn valuable lessons from India's experience in financial digitization, but it must also consider its unique challenges and current economic circumstances. Pakistan with its struggling economy and a substantial unbanked population, necessitates a tailored approach.

Comprehensive Digital Infrastructure Development

While India's achievements in connecting remote areas through optical fibre are commendable, Pakistan should first address its immediate economic challenges. To make comprehensive digital infrastructure development feasible, Pakistan must prioritise economic stability. Developing partnerships with international financial institutions and attracting foreign investment are crucial steps to address its defaulted economy.

By the same token, recognising the importance of mobile penetration, Pakistan can take incremental steps. The government should collaborate with telecom companies to expand mobile network coverage in underserved areas, ensuring that even remote regions have access to mobile services. Financial incentives for telecom providers can promote mobile penetration, and affordable mobile devices can be leveraged to ensure widespread access to telecommunications services, fostering greater connectivity and digital inclusion digital inclusion across a variety of demographics, eventually promoting societal and economic development.

Policy Implications

Pakistan's authorities may consider prioritizing the development of a proactive and adaptable regulatory framework to foster the growth of the country's digital payment ecosystem. India's experience serves as an example, highlighting the value of a supportive regulatory framework that encourages innovation while safeguarding users' financial interests. This could potentially involve exploring the establishment of regulatory sandboxes for controlled testing and implementation of innovative financial services.

Additionally, the exploration of public-private collaborations could play a role in promoting digital financial inclusion. Successful initiatives like Pakistan's Ehsaas Programme and partnerships between government agencies and financial institutions might inspire policymakers to promote similar connections. Educational and awareness initiatives may also be beneficial in influencing people's preferences towards digital

payments, reducing reliance on Cash on Delivery (COD), and encouraging financial digitization.

Policymakers in Pakistan might want to consider emphasising programs that educate the public about the advantages of digital payments and the security measures in place. Furthermore, the possibility of creating a Central Bank Digital Currency (CBDC) could be a forward-looking step to enhance financial security and convenience. Also, learning from global best practices in cybersecurity and digital finance, Pakistan may adapt proven methods to safeguard its digital ecosystem effectively

Conclusion

In both Pakistan and India, the key is to strike a balance between promoting digital finance for economic growth and ensuring the security and inclusivity of the digital ecosystem. While Pakistan can draw lessons from India's experiences in promoting financial literacy and bridging the digital divide, India may continue refining its digital infrastructure and regulatory environment to maintain its leadership in the digital finance space. The exchange of knowledge and best practices between the two nations can contribute to the sustainable growth of digital finance in the region.

In conclusion, Pakistan is making admirable attempts to modernize its financial sector even though India is further along in its digital transformation plans. By awareness and education of e-commerce and its usage, Pakistan can assimilate and execute similar practices as India to standardize the widespread usage.

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