

ADOPTION AND IMPACT OF CASHLESS PAYMENT SYSTEMS IN RURAL BANGLADESH: CHALLENGES, OPPORTUNITIES, AND POLICY IMPLICATIONS

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Abstract: This study aims to explore the challenges, opportunities, and policy implications of adopting cashless payment systems in rural Bangladesh, focusing on how digital financial services can promote economic development and financial inclusion in these areas. The study is based on an extensive literature review that includes journal articles, research papers, government reports, and credible news sources to analyze the factors influencing the adoption of cashless payment methods in rural Bangladesh. The findings show that, despite the increased use of mobile financial services, various challenges, including inadequate digital infrastructure, low financial literacy, cultural preferences for cash, and security concerns, impede the transition to a cashless society in rural areas. However, there is potential to improve financial inclusion, economic efficiency, and transparency. Countries such as India and Kenya have provided useful insights for integrating digital banking services in rural areas. The study closes with policy recommendations that include investing in digital infrastructure, financial literacy initiatives, adoption incentives, improving cyber security, and developing public-private partnerships to promote the transition to a cashless society in rural Bangladesh.

Keywords: Cashless payment systems; Rural Bangladesh; Financial inclusion; Digital infrastructure; Mobile financial services

1 INTRODUCTION

The global trend toward cashless payment methods has significantly altered how individuals and organizations conduct financial transactions, particularly in urban areas[1]. This digital revolution has the potential to transform economic interactions, increase financial inclusion, and accelerate economic growth in developing nations such as Bangladesh. While mobile financial services (MFS) such as bKash, Nagad, and Rocket have been widely adopted in urban areas in Bangladesh, rural areas remain considerably under-represented in the digital economy [2]. Given that rural Bangladesh accounts for a sizable amount of the country's population and economic activity, the lack of widespread cashless payment acceptance in these areas is a critical issue that must be addressed. Transitioning to a cashless society in these regions could result in significant benefits, but it also raises concerns about practicality and execution[3].

According to the data, the sociological aspect of the rural regions of Bangladesh is a rather risky move. Since most transactions are still done in cash, it discourages efficiency, security, and the majority of the people's involvement in financing[4]. Furthermore, the culture of cash dependence in these communities has largely made them cut off from engaging with these communities as well making them vulnerable to instabilities with little or nothing to fall back on. As such, the introduction of cashless payments is seen as a type of revolution because it allows an individual cut off from financial institutions to connect with these banks through digital mediums[5]. However, there are a few significant barriers to this change. The most critical hurdle is the absence of adequate, digital infrastructure in the rural landscape, which is sporadic mobile coverage and poor networks [6]. In addition, electricity shortages in peripheral areas worsen these infrastructural gaps and thus further impede residents' access to and use of cashless payment technologies.

In the rural areas of Bangladesh, the reason for the Limited usage of cashless payment systems particularly the high costs of operation is financial literacy. Many of the people in the villages are not knowledgeable on how to use the digital payment systems so they have suspicions on whether their transactions would be safe given the increase in fraudulent activity stemming from cybercrime[7]. The efforts that have been built in place already to combat financial literacy and financial inclusion have not been very successful in empowering and convincing people about using cashless means of payment. In the segmentation crusade, exporting countries should consider the cultural and behavioral factors of the target market, which in this case cash is not only a mode of payment for transactions but a mode of socio-economic relations interactions. Changeover from a cash medium to a cashless medium would require plenty of intervention and change in the way people think and act which takes time[8].

The transition towards a cashless rural economy raises concerns regarding security and trust as well. It's not uncommon to hear reports of identity thefts and online fraud which perhaps explains why a sizeable portion of the population is reluctant to even use mobile financial services [8]. Cashless payments are seen as high risk by rural people as they think it is easy to lose money due to card skimming, Internet scams, or simple technology failure. This notion is only made worse by the lack of effective adequate regulatory measures and laws that aim to protect the basic rights of consumers while making sure that their concerns about digital means of transacting are addressed[9]. There is a need to build stronger cyber security frameworks and ensure that clients are well-informed on the safe use of online mediums. In addition, the relevant local structures and Institutions should support trust-building programs that help increase the adoption of cashless payment systems seamlessly.

Numerous opportunities exist that strongly advocate for the advancement of cashless payment systems in rural Bangladesh, despite the challenges faced. A primary advantage is the potential for enhanced financial inclusion. Cashless systems can grant rural communities access to vital financial services, including savings, credit, and insurance, which are frequently inaccessible in economies that rely heavily on cash [10]. The capability to conduct digital transactions can significantly transform the lives of rural households, allowing them to save time and minimize the expenses related to cash management. Furthermore, cashless payment systems can empower women and small business proprietors by affording them greater autonomy over their financial resources and promoting economic self-sufficiency[11].

The financial benefits of introducing a cashless system are not limited to individual households. Digital payment systems can improve the operational efficiency of small and medium-sized enterprises (SMEs) in rural areas, facilitate better registration, and create opportunities for growth and expansion[12]. Furthermore, moving to cashless transactions can increase transparency and prevent corruption in government spending, such as agricultural subsidies and social welfare payments. When all transactions are recorded, the risk of financial resources being stolen or lost in transit is reduced, thereby promoting greater accountability and governance.

Drawing lessons from international experiences, such as India's Demineralization Efforts in 2016 and Kenya's success with M-Pesa, it becomes clear that effective political frameworks and strategic investments are crucial to overcoming adoption barriers [13]. These cases highlight the importance of a supportive ecosystem, including cooperation between governments, financial institutions, and telecommunications operators, to drive the transition to a cashless society. For Bangladesh, public-private partnerships can play a crucial role in expanding digital infrastructure, promoting financial literacy, and offering incentives for adopting digital payment methods[14]. Policy measures need to be carefully designed to address the unique challenges faced by rural areas and ensure that the transition to cashless payments is fair and inclusive. While Bangladesh's journey to a cashless rural economy is fraught with challenges, the potential benefits are enormous. By addressing infrastructure gaps, improving financial literacy, and implementing strong safeguards, Bangladesh can pave the way for a more inclusive and efficient financial system. The purpose of this paper is to further explore these challenges and opportunities and provide policy recommendations to accelerate the adoption of cashless payment systems in rural Bangladesh.

2 REVIEW OF THE LITERATURE

This section is carried out in the study of existing literature. This comment covers topics such as digital infrastructure, financial literacy, cultural obstacles, security issues, opportunities and exploration of global affairs.

2.1 Digital Infrastructure and Accessibility

The availability and quality of digital infrastructure are important factors affecting the acceptance and efficiency of cashless payment systems, especially in rural areas of Bangladesh[15]. Due to limited access to reliable internet connections and weak telecommunications networks, rural populations often face significant problems. Research shows that many rural areas still lack advanced mobile networks such as 4G or even stable 3G connections, preventing residents from fully utilizing mobile financial services such as mobile banking and digital wallets [16]. The lack of infrastructure not only limits simple transactions but also access to a wider range of financial services, such as digital money transfers, microcredit, and savings programs. These services are particularly important for rural populations who would otherwise be excluded from the formal financial system.

Apart from infrastructure limitations of the internet and mobile network, lack of power supply is a major challenge. In rural Bangladesh, frequent power cuts and unreliable electricity distribution networks have hampered the adoption of DFS[17]. The absence of reliable electricity makes it difficult for users to recharge their devices, access mobile banking applications, or make cashless transactions [18]. Discrepancies in the availability of electricity are more prominent in rural areas as compared to urban areas. Thus, a cashless system in inaccessible rural areas cannot fully unleash its potential without a stable internet infrastructure and a power supply chain.

However, there is evidence that digital infrastructure enhancements can help drive the adoption of cashless payment technologies. According to the World Bank (2021), as network coverage expanded, quantities of digital transactions climbed considerably[19]. It appears that the growth of mobile network coverage, particularly the adoption of 4G and 5G

technologies, has been a game changer, allowing rural residents to easily access digital money[20]. Increased accessibility implies more transactions and the inclusion of underserved communities in the digital economy. Thus, investing in and improving digital infrastructure in rural Bangladesh is critical to the widespread adoption of cashless payment solutions. Improved network coverage and a consistent power supply will enable rural residents to access and benefit from mobile financial services, bridging the digital divide and increasing financial inclusion[21]. As infrastructure improves, rural Bangladesh will be better positioned to fully realize the benefits of cashless systems, resulting in economic growth and increased access to financial services.

2.2 Financial Literacy and Awareness

Particularly in rural Bangladesh, where a sizable section of the populace lacks the knowledge and abilities required to interact with contemporary financial technologies, financial literacy is essential to the adoption of digital payment systems[22]. Even while mobile financial services are expanding quickly, many people in rural areas still don't understand how digital payment systems operate or how they may help them. A significant portion of rural residents lack a thorough understanding of digital payment systems, such as e-wallets, mobile banking, and other cashless platforms, according to research by Kunchaparthy et al., (2024). This knowledge gap not only makes it more difficult for them to use digital payment systems efficiently but also breeds skepticism and mistrust, which makes them reluctant to embrace these technologies.

In rural Bangladesh, where cash transactions have traditionally been the norm, the transition to cashless systems may be regarded as frightening. Uncomfortable digital tools, security worries, and fraud fears are some of the reasons people are reluctant to adopt digital payments[24]. Misinformation regarding the dependability and security of mobile financial services further makes these difficulties worse[25]. As a result, many rural residents continue to use cash for regular transactions, impeding the larger goal of financial inclusion and cashless adoption.

To solve these issues, increasing financial literacy and awareness is critical. In other situations, training initiatives and educational efforts have been successful in boosting the use of digital payments. Püchel et al., (2022) point out that these kinds of programs have been successful in several nations, where focused programs that explain the advantages of digital payments, their operation, and safe usage practices have increased acceptance rates. Similar programs in Bangladesh have the potential to greatly improve rural consumers' comprehension and trust in digital finance[27]. For instance, teaching people how to conduct simple mobile transactions, comprehend transaction costs, and safeguard their data from fraud may allay worries and promote use.

Additionally, financial institutions are crucial in advancing digital literacy. Initiatives to teach rural communities about safe digital practices, like spotting phishing scams, creating strong passwords, and securely utilizing mobile banking apps, can be spearheaded by banks and mobile financial service providers[28]. This proactive strategy can increase trust and lessen opposition to the use of cashless payment methods. Using collaborations with local community leaders, non-governmental organizations, and other grassroots groups, financial institutions can efficiently connect with rural communities and provide customized instructional materials[29].

2.3 Cultural and Behavioral Barriers

The cultural desire for cash poses a substantial impediment to the implementation of cashless payment systems, particularly in rural Bangladesh. Cash is profoundly embedded in social and cultural activities for many members of these cultures, making it more than merely a means of transaction[30]. According to research by Акбаева & Боташева, (2024), cash is perceived as a physical and safe item that offers a sense of familiarity and control that digital transactions cannot match. For instance, handling money physically is frequently linked to financial transactions that are honest and trustworthy, which is challenging to reproduce in digital representations. The shift to a cashless economy is a difficult and gradual process because of this attachment to currency. In rural areas, social customs like giving actual money as gifts at festivals, weddings, or other cultural events serve to further solidify the dependence on cash[32]. These activities foster an emotional connection to cash, making digital substitutes appear impersonal and untrustworthy. Furthermore, a lack of exposure to digital payment systems breeds misconceptions and skepticism about their dependability, security, and usefulness. Many people are concerned about fraud, hidden fees, and losing control of their finances while switching to digital platforms.

Changing these deeply ingrained cultural and behavioral tendencies necessitates a multifaceted strategy that combines trust-building with constant exposure to the advantages of cashless systems[33]. Behavioral economists, such as Noreen et al., (2021), contend that changing cultural patterns takes time and frequently necessitates intentional interventions. One viable method is to stimulate digital transactions through incentive-based schemes. For example, offering discounts, cashback prizes, or loyalty points for using mobile wallets or digital banking systems might progressively encourage people to try cashless payments and overcome their initial reluctance. Another important aspect is the development of trust. Rural communities require guarantees that digital payment methods are secure and reliable. Financial institutions and service providers can address this by streamlining the onboarding process, providing clear instructions, and ensuring transaction

fees are transparent[35]. Demonstrations, workshops, and community outreach programs organized by trustworthy local leaders can also be effective in reducing anxieties and increasing confidence in digital payments.

Furthermore, the move to a cashless economy must take into account the distinctive cultural background of rural Bangladesh. Tailored ads that connect digital payment solutions to cultural values and customs can help make the transition more acceptable[36]. For example, creating user-friendly systems with vernacular language support and addressing specific local demands might help close the gap between cultural preferences and modern financial technologies.

2.4 Security Concerns and Cyber Security

One of the most significant barriers to the broad adoption of cashless payment systems, particularly in Bangladesh's rural areas, is security concerns. Many prospective consumers are concerned about the risks associated with digital financial transactions, such as identity theft, fraud, and hacking. These worries are especially significant among older generations, who are less comfortable with digital technologies and accustomed to the apparent safety of cash transactions. Alao & Alonge, (2024) found that rural communities are hesitant to use digital payment platforms due to concerns about unauthorized transactions or system failures.

Inadequate understanding of safe online behavior only makes these issues worse. A good number of people do not know the basics of protecting their accounts, such as creating strong passwords, protecting themselves from phishing attacks, and ensuring that their transactions are done on safe networks[38]. This knowledge deficiency puts people at risk of cyber threats and undermines their trust in cashless systems. Also, there is inadequate information on the mechanisms through which digital banking systems ensure the safety of user data and transactions which leads to distrust.

Combating these security risks will require a multi-pronged approach, encompassing both strong cyber defenses and education and outreach efforts[39]. To safeguard users in the face of cyber threats, service providers and financial institutions (FIs) are required to invest in greater cyber security technologies like encryption, multi-factor authentication, and real-time fraud monitoring. Transparent communication about such safeguards can reassure users[40]. For example, If a user is instantly notified of transactions or unusual account activities, users will be sure about system reliability.

Education plays a vital role in empowering users to adopt secure digital practices. Awareness campaigns tailored to rural populations can teach individuals how to recognize and avoid potential scams, protect their personal information, and recover lost funds in the event of fraud[39]. Financial literacy programs should also include cyber security training as a core component, equipping users with the tools to navigate digital platforms safely. Establishing regulatory frameworks that protect consumers' rights and offer unambiguous remedies in the event of fraud or unauthorized activities is equally crucial. Policies that enforce strict data protection laws, require secure payment gateways, and hold service providers responsible can all help to increase public confidence in digital systems[41]. In addition, the establishment of readily available support channels, such as helplines or local agents, can offer users prompt assistance and resolution for any security-related issues.

2.5 Challenges & Opportunities

In rural Bangladesh, the process of implementing cashless payment systems is complicated and full of potential as well as major obstacles. The absence of sufficient digital infrastructure is one of the main challenges. The smooth operation of digital payment systems is hampered in many rural locations by fluctuating power sources, limited mobile network coverage, and inconsistent internet connectivity [42]. Despite the existence of mobile financial services (MFS) platforms such as bKash, Nagad, and Rocket, these systems are unable to realize their full potential due to a lack of reliable infrastructure[43]. In order to guarantee that cashless systems are available to everyone, significant investments in electricity and telecommunications are required, as highlighted by the digital divide between urban and rural areas.

The lack of financial awareness in rural areas is another significant obstacle. A sizable section of the rural population is ignorant about the operation of digital payments, which breeds resistance and mistrust [44]. Because they worry about fraud, identity theft, and unauthorized withdrawals, people frequently have doubts about the security of online transactions. Adoption is further deterred by unclear information regarding the advantages of cashless transactions[45]. To close this gap, training initiatives and educational efforts that are specific to the needs of rural areas are crucial. Such programs might concentrate on educating people on the long-term benefits of going cashless, how to use mobile financial apps safely, and how transactions work.

Cultural constraints also contribute significantly to the slow adoption of cashless systems. Cash is an integral part of rural Bangladesh's economic and social fabric[46]. Physical money is regarded as a tangible and reliable medium, whereas digital payments are viewed with distrust Gracious Kaazara et al., (2024). Behavioral economists say that such established behaviors are difficult to break without ongoing exposure to alternatives and intentional interventions[48]. Incentive-based schemes, such as reductions or payback offers for digital payments, can help to promote behavioral changes. Furthermore, establishing confidence through localized customer support services and dependable grievance processes helps alleviate concerns about digital platforms.

The increasing use of mobile phones in Bangladesh's rural areas offers a big opportunity in spite of these obstacles. According to Eziamaka et al., (2024), mobile financial services (MFS) platforms have shown promise in reaching

marginalized communities and providing a gateway to digital financial inclusion. Government programs that include cashless payments into welfare programs, for example, may encourage adoption by fostering a reliance on digital networks for basic services. For instance, distributing pensions or subsidies via mobile wallets encourages cashless transactions while simultaneously improving transparency and minimizing leaks.

Using global best practices presents yet another exciting possibility. According to Slade, (2024), the success of M-Pesa in Kenya demonstrates that telecom companies, financial institutions, and governments can work together strategically to overcome obstacles like mistrust and inadequate infrastructure. The experience of digital wallets in India further emphasizes the significance of user-friendly platforms and public awareness initiatives in maintaining adoption.

3 CASE STUDIES AND INTERNATIONAL COMPARISONS

Many nations have studied the shift to cashless payment methods in rural areas, and Bangladesh can learn a lot from these studies. These case studies demonstrate the tactics, difficulties, and results of putting cashless programs into practice in various socioeconomic and cultural contexts. Through the examination of these global experiences, Bangladesh can implement customized strategies to tackle its own obstacles while capitalizing on prospects for expansion and financial inclusion.

3.1 India: Demonetization and Digital Payment Growth

The popularity of digital payments temporarily increased as a result of India's 2016 demonetization campaign, which was intended to battle counterfeit cash and black money[51]. With less cash available, mobile payment platforms like Paytm, PhonePe, and BHIM experienced unheard-of growth. The project demonstrated how important infrastructure is to maintaining cashless transactions in remote locations, including dependable internet connectivity and cell networks [52]. To make cashless systems work in impoverished areas, however, the initiative also revealed gaps in digital access and financial awareness, highlighting the necessity of focused educational initiatives and reasonably priced technology.

3.2 Kenya: M-Pesa and Financial Inclusion

Launched in 2007, Kenya's M-Pesa transformed financial services by offering a mobile money network that allowed millions of unbanked people to transact securely online[53]. Strategic alliances between Safaricom, the government, and financial institutions played a major role in M-Pesa's development. This partnership produced a user-friendly system that could be accessed using simple mobile phones without the need for internet connectivity, and it guaranteed strong agent networks for cash-in and cash-out services [54]. By creating offline-capable payment systems and using cellular networks to connect with rural populations, Bangladesh can imitate this strategy.

3.3 China: Seamless Integration with Daily Life

With systems like Alipay and WeChat Pay controlling both urban and rural markets, China has emerged as a global leader in digital payments[55]. These platforms were successful because they included payment methods in everyday activities including utility payments, e-commerce, and transportation. Even in less developed regions, the adoption of QR code technology was made easier by its broad use and low technological infrastructure requirements[56]. Furthermore, strict regulatory frameworks promote customer trust by guaranteeing safe and transparent transactions [57]. Bangladesh can learn from China's strategy by encouraging QR code-based solutions and making sure the platform is adaptable to a range of user requirements.

3.4 Nigeria: Cashless Policies to Combat Corruption

Nigeria implemented a cashless policy in 2012 with the goal of improving financial transaction transparency and lowering corruption[58]. To lessen dependency on cash, especially in rural areas, the government pushed digital payments and set transaction limitations. In order to inform the public about the advantages and security of cashless systems, public awareness initiatives, and bank partnerships were essential [59]. By enacting transaction caps and providing subsidies or lower transaction costs to rural populations, Bangladesh might follow suit.

3.5 Nordic Countries: Pioneering Cashless Societies

Almost all transactions are made online in Nordic countries like Sweden and Denmark, which have some of the world's most cashless economies[60]. Their success is a result of widespread internet access, high levels of financial awareness, and public confidence in regulatory frameworks. These nations' governments have aggressively supported cashless transactions by incorporating them into public services and providing rewards for the adoption of digital technology[61]. Despite the

differences in the socioeconomic setting, Bangladesh may learn a lot from the focus on inclusivity, education, and trust when creating a cashless ecosystem.

3.6 Adoption of Cashless Payment Systems in Rural Bangladesh

In rural Bangladesh, cash still accounts for the majority of transactions, despite notable developments in financial technology. A cultural preference for cash-based transactions, a lack of digital infrastructure, and insufficient financial literacy are some of the reasons behind the sluggish adoption of cashless payment methods[62]. The potential of digital payments and their actual application in rural areas are significantly separated by these obstacles.

There are encouraging indications of advancement, though. A solid basis for the introduction of digital payment solutions has been established by the extensive use of mobile phones[63]. Even in rural locations, mobile financial services (MFS) such as bKash, Nagad, and Rocket have transformed financial accessibility. Without requiring a conventional bank account, these platforms enable users to send and receive money, settle invoices, and carry out other transactions. Rural communities find them desirable due to their localized services and user-friendly interfaces, which progressively increase familiarity and trust in cashless systems[64].

Initiatives from the public and business sectors have also helped bring about this slow change. Awareness and accessibility have increased as a result of initiatives to increase 4G coverage, encourage digital literacy, and incorporate mobile financial services into public initiatives like the distribution of social welfare benefits[65]. Adoption has also been aided by focused advertising and monetary rewards like cashback deals. These trends suggest a slow shift in rural populations' financial behavior, even though adoption rates are still quite low. Bangladesh may hasten the implementation of cashless payment systems and open the door to increased financial inclusion and economic growth in its rural areas by addressing obstacles like cultural opposition, cybersecurity issues, and infrastructure deficiencies.

4 DISCUSSION AND CONCLUSION

In rural Bangladesh, the implementation of cashless payment systems has enormous potential to revolutionize the banking sector and spur economic growth. However, there are several obstacles in the way of a cashless rural economy that must be carefully considered. Inadequate digital infrastructure is one of the main problems. Relying on digital payment methods is challenging in many rural locations due to poor telecommunications networks, frequent power outages, and inconsistent internet connectivity[66]. A solid technological foundation is essential to the efficacy of cashless systems, and adoption will continue to be restricted unless large investments are made to upgrade digital infrastructure. The adoption of cashless payment systems in rural Bangladesh holds immense potential for transforming the financial landscape and driving economic progress[67]. However, the journey toward a cashless rural economy is fraught with challenges that need to be thoughtfully addressed. One of the foremost issues is the lack of adequate digital infrastructure. Many rural areas suffer from unreliable internet connectivity, weak telecommunications networks, and frequent power outages, making it difficult to rely on digital payment methods. The effectiveness of cashless systems depends heavily on having a strong technological foundation, and until significant investments are made to improve digital infrastructure, adoption will remain limited.

A further significant obstacle is financial literacy. A sizable section of the rural populace is ignorant of the operation of digital payments, which breeds distrust and makes them reluctant to utilize them[68]. Many consumers are either ignorant of the advantages of cashless transactions or afraid of making mistakes that could cost them money. To solve this problem, extensive training initiatives and education efforts are needed to raise digital awareness and financial literacy. The possibility of broad adoption rises when rural populations are given the information and abilities they need to operate cashless systems. Furthermore, enabling local influencers and community leaders to promote digital payments can aid in fostering trust and altering attitudes.

Long-standing customs and cultural preferences also affect how quickly cashless payments are adopted. Cash serves as a sign of familiarity and security in rural Bangladesh in addition to being a medium of commerce. People feel in control of their finances because they are accustomed to seeing and handling tangible money. Persuading people to switch to digital platforms calls for a methodical strategy that honors their cultural customs. Incentive-based programs, such as cash-back incentives or discounts for online purchases, may persuade customers to try cashless solutions before embracing them more completely[69]. It takes time to modify behavior, and persistent work is required to break long-standing patterns. A further major obstacle is security concerns. In remote areas, people frequently dread identity theft, digital fraud, and the possibility of losing hard-earned money. Many individuals are wary about trusting cashless systems because of reports of cybercrime and hacking. Strong cybersecurity safeguards and easily available user support mechanisms are necessary to get beyond this obstacle. People's trust in digital payments can be increased by teaching them how to protect their financial information and by offering clear channels for redress in the event of fraud. Establishing a secure and intuitive environment is essential for assuring prospective users of the system's dependability.

In rural Bangladesh, there are significant chances to make use of cashless payment systems despite these obstacles. With the help of these platforms, millions of unbanked people can have access to basic financial services including insurance, loans, and savings. Cashless payments can provide women and small company owners with more financial autonomy and

entrepreneurial prospects[70]. Furthermore, because a cashless economy guarantees that every transaction is transparent and traceable, it can increase efficiency and decrease corruption. Digital platforms can be used to distribute government payments more efficiently and securely, including social welfare benefits and subsidies. Government agencies, financial institutions, telecom providers, and non-governmental organizations must cooperate to go forward. Prioritizing investments in internet infrastructure is essential, as is creating financial education initiatives specifically designed to address the needs of rural areas. To get beyond obstacles related to infrastructure and awareness, public-private collaborations might be extremely important. Before expanding, policymakers might use pilot initiatives in a few rural areas as test cases so they can learn from the experiences and improve their approaches. In the end, despite the difficulties, Bangladesh's transition to a cashless rural economy is a worthwhile endeavor in the long run. Cashless systems have the potential to increase economic opportunities, foster financial inclusion, and advance a more transparent and fair financial ecosystem with consistent work and calculated interventions.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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