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Challenges, Strategies, and Transparency of Digital Transactions in Building a Cashless Society: Bangladesh Perspective

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***Abstract*—As part of the Digital Bangladesh initiative, the need for a cashless society has become increasingly significant. Cash transactions still dominate economic activity in Bangladesh, leading to corruption, tax evasion, money laundering, and financial crimes. To transition to a cashless society, it is necessary to encourage digital transactions, formulate effective policies, and implement technology-based transaction monitoring systems. This study examines the challenges of creating a cashless society in Bangladesh, proposes strategic approaches to overcome these barriers, and highlights the role of digital transactions in enhancing financial transparency. Drawing on literature review, policy analysis, and evidence-based reasoning, it emphasizes how the integration of the banking system, mobile financial services, and supportive policy frameworks can accelerate the country's transition towards a transparent and sustainable cashless economy.**

***Index Terms*—Cashless Society, Digital Transactions, Bangladesh Bank, Transparency, Policy**

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I. Introduction

Bangladesh is undergoing a rapid digital transformation across public and private sectors, yet cash continues to dominate day-to-day payments, retail trade, and high-value person-to-person (P2P) transactions. International evidence suggests that wider digital payment adoption enhances efficiency, transparency, and financial inclusion [1], [2]. In Bangladesh, mobile financial services (MFS) such as bKash and Nagad have achieved significant penetration; however, digital usage remains skewed toward low-ticket transfers and utility payments, while large-value transactions still rely on cash [1], [3].

The persistence of cash-centric behavior creates governance and economic challenges: (i) limited auditability of money flows, (ii) elevated risks of tax evasion and illicit financial activity, and (iii) operational inefficiencies for businesses and government agencies. These frictions impede real-time transaction monitoring and reduce the effectiveness of supervisory oversight, ultimately constraining domestic revenue mobilization and public trust.

A structured shift toward cashless payments can (i) strengthen transparency and accountability in financial transactions, (ii) lower transaction and compliance costs, (iii) expand the formal tax base, and (iv) support inclusive growth by connecting underserved populations to formal finance [1]. For policymakers and regulators, digital transaction trails enable data-driven supervision and targeted interventions [6].

Prior work documents general benefits and adoption drivers of digital payments globally [1] and outlines Bangladesh's opportunities and constraints [3]. However, an integrated Bangladesh-specific synthesis that jointly (a) maps the *challenges* to cashless transition, (b) proposes actionable *strategies*, and (c) links those strategies to *transaction transparency and monitoring* outcomes remains limited [6].

This paper sets out three core objectives. First, it seeks to identify the key challenges hindering Bangladesh's transition towards a cashless society, focusing on issues such as infrastructure gaps, low financial literacy, lack of incentives, and cybersecurity concerns. Second, it proposes strategies that integrate policy reforms with technological deployment in order to accelerate the adoption of digital payments. Third, it analyzes how digital transactions can enhance transparency by enabling auditable trails and data-driven monitoring mechanisms. In alignment with these objectives, the study addresses three fundamental research questions. It investigates the principal barriers that inhibit Bangladesh's movement towards a cashless society, examines which policy and technological interventions are most effective in promoting digital payment uptake, and explores how digital transaction records can strengthen supervisory monitoring and reduce illicit activities.

The paper contributes by: (i) offering a Bangladesh-specific framework that aligns policy levers with technology enablers; (ii) articulating a monitoring pathway that connects digital transaction data to supervisory analytics; and (iii) presenting a prioritized, implementation-ready set of recommendations grounded in local constraints and capacities [6].

The analysis focuses on retail payments, P2P/P2B transactions, and government collections. It assumes continued expansion of mobile broadband, incremental improvements in national ID-based KYC, and ongoing regulatory support for interoperability. Macroeconomic shocks and cross-border flows are outside this paper's immediate scope.

Section II reviews the literature and related policy documents. Section III details the methodology. Section IV presents findings on challenges, strategies, and transparency mechanisms. Section VI synthesizes policy recommendations, followed by conclusions in Section VIII.

II. Literature Review

A. Conceptual Foundations

The literature frames a *cashless society* as one in which digital instruments (cards, mobile wallets, instant transfers, QR payments) displace physical currency for most transactions. *Digital transactions* generate machine-readable records that enable auditability and data-driven oversight, which in turn supports *transparency* and accountability in public finance and market exchanges [1]. Within this framing, transaction *monitoring* spans compliance reporting, anomaly detection, and risk-based supervision.

B. Global Evidence on Cashless Transitions

Cross-country studies report that expanding electronic payments correlates with improved efficiency, reduced shadow-economy activity, and stronger revenue mobilization, provided enabling regulations and infrastructure are in place [1]. Experiences from highly digitalized markets and large emerging economies suggest that policy mandates, merchant acceptance, and interoperable rails are recurrent success factors [1].

C. Adoption Drivers and User Behavior

Research highlights cost, convenience, trust, and interoperability as primary adoption drivers for consumers and merchants. Network effects (more users $\rightarrow$ more acceptance $\rightarrow$ more usage) reinforce uptake; conversely, frictions such as fees, liquidity constraints, and usability gaps suppress adoption. Incentives (cashback, fee waivers) and clear consumer protection norms are repeatedly shown to accelerate adoption [5].

D. Payment Infrastructure and Interoperability

The diffusion of mobile money, instant account-to-account systems, and standardized QR schemes expands the reachable surface for digital retail payments. Interoperability across banks, non-bank mobile financial services (MFS), and government collections reduces fragmentation, while API-based integration lowers onboarding and acceptance costs for small merchants [6]. Literature also stresses the role of identity/KYC rails and reliable connectivity as foundational enablers [6].

E. Governance, Transparency, and Monitoring Mechanisms

A consistent theme is that digital payments create *traceable* transaction trails that facilitate supervisory analytics (e.g., anomaly detection, linkage analysis) and streamline compliance (e.g., automated reporting)[2]. Studies argue that proportional, risk-based monitoring—augmented by data analytics—can curb illicit flows while preserving inclusion and usability [1], [6]. Public-sector digitalization (tax, fees, utilities) is shown to multiply transparency gains via end-to-end traceability [6].

F. Risks and Barriers

Despite benefits, literature flags cyber risk, fraud, privacy concerns, and digital literacy gaps as salient barriers in developing contexts. Merchants' preference for cash (to avoid taxes/fees) and consumers' liquidity habits can limit substitution from cash to digital. Rural infrastructure constraints (power, connectivity) and inconsistent dispute-resolution mechanisms further dampen trust [3].

G. Bangladesh-Specific Evidence

Bangladesh has witnessed rapid MFS penetration with strong usage for P2P transfers, bill payments, and remittances; however, high-value trade and many B2B flows remain cash-intensive. Reports emphasize advancing interoperability, widening merchant acceptance (especially in local markets), and strengthening supervisory technology (SupTech) to translate digital usage into verifiable transparency gains [3], [6]. Fee structures, awareness campaigns, and security assurances are identified as levers for sustaining adoption [6].

H. Synthesis and Identified Gap

Across the literature, three threads recur: (i) the need for integrated policy and infrastructure to reduce cash reliance; (ii) the centrality of incentives and trust to shift behavior; and (iii) the importance of analytics-ready data for effective monitoring. However, a Bangladesh-specific synthesis that jointly maps *challenges*, prescribes actionable *strategies*, and links them to measurable *transparency* outcomes (and supervisory workflows) remains comparatively limited [6]. This paper addresses that gap by aligning policy levers with technology enablers and monitoring pathways in the Bangladesh context.

III. Methodology

This study adopts a qualitative research design to explore the challenges, strategies, and implications of transitioning towards a cashless society in Bangladesh. The analysis draws upon secondary data collected from Bangladesh Bank reports, international case studies, and peer-reviewed scholarly literature. A policy analysis was carried out to identify existing regulatory gaps and institutional limitations. Furthermore, a thematic analysis was applied to systematically categorize and interpret recurring patterns, highlighting the major challenges and potential strategies for accelerating

digital payment adoption and enhancing financial transparency.

IV. Findings and Discussion

The findings reveal three core challenges hindering Bangladesh's transition towards a cashless society: (i) infrastructural limitations, particularly in internet connectivity and electricity supply, (ii) behavioral resistance stemming from low levels of trust and limited digital literacy, and (iii) regulatory challenges related to ensuring interoperability and reducing transaction costs. To address these barriers, the study highlights strategies such as introducing merchant incentives, strengthening cybersecurity frameworks, and mandating digital payment adoption in key economic sectors.

V. Policy Implications

The transition towards a cashless society in Bangladesh requires well-structured policy measures. A gradual withdrawal of high-denomination currency notes can encourage people to rely more on banking channels for transactions. Strengthening interoperability among mobile financial services (MFS) and reducing transaction fees will particularly benefit small businesses, thereby expanding digital adoption. Furthermore, the implementation of SupTech (supervisory technology) can enable real-time monitoring of digital transactions, enhancing regulatory oversight. Equally important are nationwide public awareness campaigns to improve digital literacy and ensure consumer protection, which will build trust in the system.

A. Challenges

Despite significant progress in financial digitization, several challenges persist. A lack of digital literacy among the general population limits widespread adoption of digital payments. In rural areas, inadequate internet connectivity and technological infrastructure pose significant barriers. Concerns over cybersecurity and the fear of digital fraud further discourage users from embracing cashless systems. Additionally, many businesses remain highly dependent on cash-based transactions, creating resistance to change.

B. Strategies

To address these challenges, multiple strategies can be pursued. The promotion of mobile and internet banking is essential to expand financial inclusion. Making bank-mediated transactions mandatory for amounts exceeding BDT 200,000 would increase traceability and transparency. Furthermore, requiring digital payments for government and private bills, taxes, and education fees can accelerate the shift towards digital finance. Introducing QR code–based payment systems in local markets and shopping centers will also simplify transactions for both consumers and merchants.

C. Transparency through Digital Transactions

Digital transactions inherently create machine-readable records that can be monitored by financial authorities. Every transaction routed through the banking system enhances auditability and reduces opportunities for informal, untraceable exchanges. By leveraging AI-based transaction analysis, institutions such as Bangladesh Bank and the National Board of Revenue (NBR) can detect anomalies, monitor compliance, and prevent illicit financial flows. This not only reduces tax evasion and money laundering but also fosters accountability, contributing to a more transparent and resilient financial ecosystem.

VI. Policy Recommendations

A. General Recommendations

To accelerate the transition towards a cashless economy in Bangladesh, several broad policy measures are essential. These include reducing transaction fees and providing incentives for digital payments, strengthening cybersecurity frameworks to build trust, and conducting nationwide awareness campaigns to enhance digital literacy. Furthermore, gradually limiting the use of cash in high-value transactions will encourage greater reliance on digital financial channels.

B. Regulatory Enforcement Measures

In addition to general recommendations, specific regulatory enforcement measures are necessary to ensure compliance and sustainability. Every individual should be encouraged to use bank transactions, mobile banking, and internet banking instead of cash, with assurances of money security provided by regulatory bodies. Bangladesh Bank should consider withdrawing high-denomination notes such as 1000, 500, and 200 taka bills from circulation, thereby compelling individuals to rely on banking systems for larger transactions [2].

Moreover, as many transactions as possible—including those conducted in government offices, private offices, schools, colleges, universities, shopping malls, local markets, and real estate—should be mandated through the banking system. For high-value transactions, particularly land, flat, or asset purchases exceeding BDT 200,000, submission of bank transaction records should be made compulsory. These measures would not only increase transparency but also facilitate Bangladesh's gradual but steady transition towards a fully cashless society.

VII. Expected Outcomes

The implementation of a cashless financial ecosystem is anticipated to yield several critical outcomes:

- **Enhanced Transparency and Accountability:** Digital transaction records facilitate traceability, enabling improved oversight and governance in financial operations.
- **Mitigation of Corruption and Illicit Financial Activities:** Reduced reliance on cash is expected to curb

opportunities for tax evasion, money laundering, and other fraudulent practices.

- **Increased Government Revenue:** Broader digital adoption strengthens revenue mobilization through better compliance and monitoring mechanisms.
- **Development of a Modern and Efficient Financial System:** The transition to digital payments promotes the establishment of a technologically advanced, inclusive, and efficient financial infrastructure.

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VIII. Conclusion

The transition towards a cashless society in Bangladesh demands coordinated efforts from regulators, financial institutions, fintech companies, and citizens alike. Addressing infrastructural limitations, strengthening public trust, and ensuring transparency in digital transactions are critical prerequisites for success. With supportive policies, technological innovation, and widespread adoption of digital financial services, Bangladesh can move closer to establishing a more inclusive, transparent, and accountable cashless economy.

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