

From Registration to Financial Agency: A Five-Stage Pathway and A Gender-Responsive Scorecard for Women's Digital Financial Inclusion in Bangladesh

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ABSTRACT: Purpose: Bangladesh counts more than 239 million registered mobile financial service (MFS) accounts, yet registration alone says little about whether women can control and use digital money for their own purposes. This paper reframes women's digital financial inclusion as financial agency and asks where the pathway from registration to agency breaks down.

Design/methodology/approach: The study is a structured policy review combined with a secondary-data descriptive analysis. It draws on Global Findex indicators for Bangladesh (2017, 2021 and 2024 survey waves), Bangladesh Bank statistics and regulations (MFS data, no-frill account reports, e-KYC guidelines, the National Financial Inclusion Strategy 2021–2026) and peer-reviewed research on mobile money, intrahousehold control and digital fraud.

Findings: Women's account ownership fell from 43.5% in 2021 to 33.4% in 2024 while the gender gap widened slightly to 20.2 percentage points. Only 49.3% of women had a SIM card registered in their own name and 21.4% could change a phone PIN without help, against 74.0% and 38.7% of men. Bangladesh Bank recorded 101.02 million female and 137.88 million male registered MFS accounts in February 2025, but publishes no sex-disaggregated activity data. The paper organizes barriers along five stages (access, activation, regular use, productive use and resilience) and proposes a Gender-Responsive Digital Finance Scorecard that pairs each volume indicator with a control or protection indicator.

Originality/value: The paper moves measurement from counting accounts to auditing control, safety and remedy.

Implications: Regulators and banks can adopt the scorecard to standardize sex-disaggregated activity, credential-control and complaint data.

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Published Online:

October 15, 2026

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KEYWORDS:

women's financial inclusion, financial agency, mobile financial services, intrahousehold control, digital fraud, Bangladesh

JEL Classification: G21; G23; G28; J16; O16; O33

Cite the Article: Sultana, N., Alamm, Md. S., Sumaiya, U., Hasan, Md.B., Islam, Md.A. (2026). From Registration to Financial Agency: A Five-Stage Pathway and A Gender-Responsive Scorecard for Women's Digital Financial Inclusion in Bangladesh. *International Journal of Human Research and Social Science Studies*,3(10),914-926. <https://doi.org/10.55677/ijhrsss/06-2026-Vol03I10>

1. INTRODUCTION

Bangladesh has built one of the largest mobile money markets in the world. In February 2025, Bangladesh Bank reported 239.24 million registered MFS accounts served by 1.86 million agents, with 101.02 million accounts registered to women and 137.88 million to men (Bangladesh Bank, 2025). No-frill accounts opened with deposits of 10, 50 or 100 taka numbered 36.65 million in June 2026 (Bangladesh Bank, 2026b), and the central bank has reported that female-owned deposit accounts rose from 33.45 million in 2019 to 55.32 million in 2024 (Mohasin et al., 2025). On these administrative measures, the country appears to be close to universal reach.

Survey data tell a different story. The Global Findex 2025 database, which interviews individuals rather than counting accounts, shows that only 33.4% of Bangladeshi women aged 15 and over had an account at a financial institution or a mobile money provider in 2024, down from 43.5% in 2021. Men's ownership also fell, from 62.9% to 53.5%, leaving a gender gap of about 20 percentage points (World Bank, 2025). Bangladesh Bank's own analysts acknowledge a gender gap of about 20% in account ownership (Mohasin et al., 2025). The contrast between hundreds of millions of registered accounts and a minority of women who report owning one is the starting point of this paper.

Three facts explain much of that contrast. First, one person can hold several accounts, and accounts registered in a woman's name may be opened or operated by someone else. Second, an account that is opened for a single transfer and then left unused offers little practical benefit. Third, a woman who does not control her phone, SIM card or PIN may hold an account in name while another household member decides how it is used. Registration statistics cannot see any of these conditions. They count the existence of an account, not the user's ability to act through it.

This paper therefore treats women's financial agency, rather than account ownership, as the outcome of interest. We define financial agency as a woman's practical ability to open, control and use suitable financial services safely, for goals she chooses, and to obtain remedy when something goes wrong. The definition builds on Kabeer's (1999) distinction between resources, agency and achievements, and on evidence that control over where money lands can change women's economic behavior (Field et al., 2021; Riley, 2024).

The research gap is practical as well as conceptual. Bangladesh's National Financial Inclusion Strategy (NFIS-B) 2021–2026 calls for data disaggregated by gender and other characteristics (Financial Institutions Division & Bangladesh Bank, 2021). Yet the public MFS series reports registration by sex but not activity by sex, and the June 2026 no-frill account report gives a sex breakdown only for student accounts (Bangladesh Bank, 2025, 2026b). Existing Bangladesh studies document gender gaps in mobile banking use (Islam et al., 2022; Lee et al., 2022; Shen et al., 2026), but few translate that evidence into indicators that a bank or supervisor can collect and act on.

The paper addresses three research questions:

- **RQ1.** What do current national and international data show about the gender gap in digital financial inclusion in Bangladesh, and what do they fail to show?
- **RQ2.** At which stages of the pathway from registration to agency do Bangladeshi women face the most binding barriers?
- **RQ3.** Which indicators should bank, MFS providers and Bangladesh Bank use to monitor progress toward women's financial agency?

The paper makes three contributions. It assembles a verified descriptive profile of the gender gap in Bangladesh that combines the latest Global Findex connectivity indicators with central-bank administrative series. It proposes a five-stage pathway (access, activation, regular use, productive use and resilience) that locates where women drop out of the journey. It then offers a Gender-Responsive Digital Finance Scorecard that pairs every growth indicator with a control or protection indicator, so that providers cannot report success on volume while women's control or safety deteriorates.

The remainder of the paper is organized as follows. Section 2 reviews the literature and sets out the theoretical lens. Section 3 describes the methodology. Section 4 presents the descriptive evidence and the stage-by-stage analysis. Section 5 develops the scorecard. Sections 6 to 9 discuss the findings, implications, limitations and conclusions.

2. LITERATURE REVIEW AND THEORETICAL BACKGROUND

2.1 From access to agency

Early financial inclusion research measured progress through account ownership, branch density and the number of people reached. Digital finance broadened this agenda by lowering the cost of reaching remote users, and reviews credited it with extending formal services to people previously excluded (Ozili, 2018). The Global Findex series has tracked account ownership since 2011 and has progressively added measures of use, resilience and, in its 2025 edition, digital connectivity and phone safety (Demirgüç-Kunt et al., 2022; Klapper et al., 2025).

A parallel strand of development economics questioned whether ownership translated into welfare. Duflo (2012) argued that the relationship between women's empowerment and economic development runs in both directions and that targeted policy is needed because growth alone does not close gender gaps. Kabeer (1999) offered a measurement framework that remains useful here: resources are the preconditions for choice, agency is the process by which choices are made, and achievements are the outcomes. An account is a resource. Whether a woman decides when and how to use it is a question of agency. Whether it improves her income, savings or security is an achievement. Counting accounts measures only the first element.

2.2 Intrahousehold control and bargaining

The household is not a single decision maker. Bargaining models describe household choices as the result of negotiation between members with different preferences and different fallback positions, shaped by social norms as well as income (Agarwal, 1997). Empirical work shows that the channel through which money arrives, and who can see it, changes how it is spent. Anderson and

Baland (2002) interpreted women's participation in rotating savings groups in Kenya partly as a strategy to protect savings from claims by husbands. Ashraf (2009) found in a laboratory experiment in the Philippines that spouses' choices changed depending on whether their financial decisions were private or observable. Schaner (2017) showed that transaction costs and bargaining power jointly influence whether Kenyan couples use individual or joint savings accounts.

Commitment and control features can strengthen women's position. Ashraf et al. (2010) found that a commitment savings product in the Philippines increased household decision-making power, especially among women who had less power at baseline. The most direct evidence on control over earnings comes from India. Field et al. (2021) showed that depositing women's public-works wages into bank accounts in their own names, combined with basic training, increased women's labor supply and shifted norms about women's work, relative to depositing wages into a household account that was usually controlled by the husband. Riley (2024) reached a similar conclusion in Uganda: disbursing microfinance loans to a mobile money account rather than in cash helped women resist pressure to share the money, and their business capital and profits rose by 11% and 15%, respectively.

Bangladesh has a long history of debate on this question. Studies of microcredit in the 1990s found that loans issued to women were often controlled or used by male relatives (Goetz & Sen Gupta, 1996), while other work estimated larger household effects when credit went to women rather than men (Pitt & Khandker, 1998). Kabeer (2001) argued that the two findings reflect different definitions of empowerment and that control over loan use, rather than the name on the loan, should be the test. Digital finance revives the same question. A mobile wallet registered to a woman is a new kind of loan document: its value depends on who holds the phone and knows the PIN.

2.3 Mobile money, welfare and gender

The mobile money literature provides the strongest case that digital channels can improve welfare. In Kenya, M-Pesa users were better able to smooth consumption after negative shocks because remittances arrived faster and at lower cost (Jack & Suri, 2014), and long-run access to mobile money was associated with reduced poverty, with larger effects for female-headed households and a shift of women from farming into business (Suri & Jack, 2016). Riley (2018) found that mobile money users in Tanzania were better protected against village-level rainfall shocks. Reviews by Suri (2017) and Aron (2018) conclude that the strongest effects work through lower transaction costs and better risk sharing across distance. Mobile delivery of cash transfers can also reduce the costs recipients bear to collect payments (Aker et al., 2016). Digital credit offers a further channel, with evidence from Kenya that access to digital loans improved households' ability to cope with shocks (Suri et al., 2021).

Bangladesh contributes experimental evidence of its own. Lee et al. (2021) found that helping rural families and their migrant members in Dhaka to use mobile banking increased remittances and reduced extreme poverty among the rural households. A companion study is especially relevant to gender. Lee et al. (2022) found that training increased mobile banking adoption by 51 percentage points for women and 46 percentage points for men, nearly closing the adoption gap. However, men's digital remittances rose by about eleven times more than women's. Closing the adoption gap did not close the use gap.

2.4 Gender gaps in digital finance

Cross-country studies show that gender gaps in finance are not explained only by income and education. Ghosh and Vinod (2017) found that female-headed households in India were 8% less likely to access formal finance and 6% more likely to rely on informal finance, with social and political factors constraining use more than access. Reynolds et al. (2023), using survey data from eight low- and middle-income countries, found that gender ceased to predict mobile money adoption in mature East African markets once socioeconomic factors were controlled, but that meaningful gaps persisted in emerging markets including Bangladesh, where phone and bank access were more strongly associated with mobile money use for men than for women.

Recent Bangladesh studies point in the same direction. In rural northern Bangladesh, Islam et al. (2022) found a wife-to-husband ratio of 4:15 in mobile banking use and showed that wives whose education exceeded their husbands were more likely to adopt. Shen et al. (2026) found that, once education and income were held constant, the gender gap in access was almost entirely a mobile money gap: men had about twice the odds of holding and using a mobile wallet, while the bank account gap was not significant. Their decomposition attributed about two-thirds of the gap to education and income, leaving one-third unexplained. Hasan et al. (2021), using a sample of 852 respondents in Bangladesh, found that financial knowledge was significantly associated with access to banking, microfinance and fintech services. Klapper and Lusardi (2020) showed at global level that financial literacy is linked to financial resilience, although literacy alone cannot offset unsafe product design.

Earlier market research by the International Finance Corporation (IFC, 2018) documented the supply side of the gap in Bangladesh. Its 2016 survey found that 52% of female respondents preferred female agents but 97% transacted with male agents, that less than 1% of MFS agents were women, and that only 10% of female MFS users knew how to change their PIN. The data are dated, but they identify barriers that national statistics still do not measure.

2.5 Digital fraud and agent misconduct

Digital finance shifts some risk to users. Fraud, mistaken transfers and agent overcharging can wipe out the gains of low transaction costs, and their incidence may differ by gender. In Ghana, Annan (2022) found in a field experiment that mobile money vendors

were about 41% more likely to overcharge female customers than comparable male customers, and the amount overcharged was about 55% higher. In a related experiment, information campaigns aimed at both consumers and vendors reduced misconduct by 21 percentage points, a 72% decline, and increased market activity (Annan, 2025). Bangladesh-specific peer-reviewed evidence on gendered fraud exposure is thin, which is itself a gap that the scorecard proposed below is designed to fill. Service recovery and complaint handling also influence whether customers continue to trust a digital financial provider after a failure, a point developed for Islamic fintech by Zahid et al. (2025).

2.6 Theoretical lens

The paper combines Kabeer's (1999) resources–agency–achievements framework with a bargaining view of the household (Agarwal, 1997). The five stages of the proposed pathway map onto this lens. Access and activation concern resources: an individually held account, a phone and the skills to make a first transaction. Regular use and productive use concern agency: whether the woman initiates transactions and decides how funds are used. Resilience concerns protected achievements: whether gains survive shocks, fraud and errors. The bargaining view adds a prediction. Features that raise the privacy of a woman's balance and the control she has over her credentials should strengthen her position in household negotiation, as Field et al. (2021) and Riley (2024) found, whereas features that make her account visible or operable by others may weaken it.

3. METHODOLOGY

3.1 Design

The study uses a structured policy review combined with a secondary-data descriptive analysis. It does not collect primary data and makes no causal claim about any Bangladesh program. The aim is diagnostic: to describe the gender gap with verified data, to locate barriers along a staged pathway and to derive measurable indicators.

3.2 Data sources

Three groups of sources were used.

1. **Survey indicators.** Bangladesh indicators were retrieved from the World Bank's Global Findex database through its public data interface for the 2017, 2021 and 2024 survey waves (World Bank, 2025). The 2024 wave is published as the Global Findex 2025 (Klapper et al., 2025). We used indicators for account ownership, mobile money account ownership, mobile phone ownership, SIM registration in one's own name, ability to change a phone PIN without help, family rules on phone use, and receipt of calls or messages asking for money. All values are percentages of adults aged 15 and over, by sex.
2. **Administrative and regulatory documents.** We used Bangladesh Bank's MFS comparative summary for January and February 2025, the Quarterly Report on No-Frill Accounts for April–June 2026, the e-KYC guidelines issued in March 2026, the Bank's 2025 special publication on financial inclusion, and the NFIS-B 2021–2026 (Bangladesh Bank, 2025, 2026a, 2026b; Financial Institutions Division & Bangladesh Bank, 2021; Mohasin et al., 2025). Regional connectivity figures were taken from GSMA (2025).
3. **Research literature.** Peer-reviewed studies were identified through web and bibliographic searches (publisher sites, Crossref and RePEc) using combinations of the terms “mobile money”, “digital financial services”, “women”, “gender gap”, “intra-household”, “bargaining”, “fraud”, “misconduct” and “Bangladesh”. Priority was given to randomized and quasi-experimental studies on financial control and mobile money, and to Bangladesh-specific studies published from 2020 onward, together with foundational work on empowerment and household bargaining.

3.3 Inclusion criteria and verification

A study was retained if it (a) examined account ownership, mobile money, savings or credit with a gender or intra-household dimension, digital financial fraud, or the welfare effects of mobile money; (b) appeared in a peer-reviewed journal or was an official statistical, regulatory or multilateral publication; and (c) could be verified at the publisher, a DOI resolver or an official website. Working papers were used only where they provided unique evidence on gendered agent misconduct. Opinion pieces and unverifiable sources were excluded. The final corpus contains 45 sources: 32 peer-reviewed journal articles, 8 official statistical or regulatory publications and datasets, and 5 other reports, working papers and news items. Every figure reported in this paper was checked against its original source.

3.4 Analytical procedure

The analysis proceeded in three steps. First, survey and administrative indicators were tabulated by sex and year, and gaps were computed as the male value minus the female value in percentage points. Second, the evidence was coded against the five stages of the pathway and, within each stage, against four levels of constraint: individual capability, household constraint, provider design and regulatory protection. Third, candidate indicators were retained for the scorecard only if a provider or supervisor could define and measure them from operational data or short voluntary surveys, without collecting unnecessary sensitive information about households.

4. FINDINGS

4.1 What the data show

Table 1 summarizes the Global Findex indicators for Bangladesh. Three patterns stand out.

Table 1. Selected Global Findex indicators for Bangladesh, by sex (% of adults aged 15+)

Indicator	Year	Women	Men	Gap (men – women, pp)
Account (financial institution or mobile money)	2017	35.8	64.6	28.8
	2021	43.5	62.9	19.4
	2024	33.4	53.5	20.2
Mobile money account	2017	10.3	32.5	22.2
	2021	20.3	38.4	18.1
	2024	14.5	27.2	12.7
Owns a mobile phone	2024	73.7	91.3	17.6
SIM card registered in own name	2024	49.3	74.0	24.7
Can change phone PIN or password without help	2024	21.4	38.7	17.4
Family member sets rules for own phone use	2024	27.8	18.3	–9.5
Received call or SMS asking for money (past 12 months)	2024	6.0	15.0	9.0

Source: World Bank (2025), Global Findex Database 2025, indicators `account.t.d`, `mobileaccount.t.d` and `con1`, `con11`, `con19`, `con20` and `con21` (female and male series). The 2024 survey wave is reported in Klapper et al. (2025). Gaps computed by the authors.

First, the account gap is large and persistent. It narrowed sharply between 2017 and 2021 but did not narrow further by 2024. Women’s ownership in 2024 was below its 2017 level. The decline affected men as well, so it may reflect survey timing, changes in the counting of mobile money accounts, or economic conditions in 2024; the data do not allow us to separate these explanations. Bangladesh Bank’s staff publication also places the gender gap at about 20% (Mohasin et al., 2025).

Second, the mobile money gap narrowed in percentage points between 2021 and 2024, but this happened because men’s ownership fell faster than women’s. Women’s ownership was about 53% of men’s in both years. The narrowing is therefore not evidence of progress for women.

Third, the new connectivity indicators expose the conditions that sit behind the account gap. Fewer than half of women had a SIM card registered in their own name, against nearly three-quarters of men. Only about one woman in five could change a phone PIN or password without help. More women than men reported that a family member sets rules for their phone use. These indicators correspond closely to the concept of control used in this paper: a woman who does not hold her own SIM, cannot reset her own PIN and must follow family rules about her phone is unlikely to exercise independent control over a mobile wallet tied to that phone. The lower share of women reporting scam calls or messages should not be read as lower vulnerability. Women own fewer phones and use them under more restrictions, so they are less exposed to contact, not necessarily better protected when contacted. The evidence on agent overcharging in Ghana suggests that women may face higher rather than lower losses once they transact (Annan, 2022).

Table 2 sets these survey figures against Bangladesh Bank’s administrative series.

Table 2. Administrative indicators of women’s digital financial inclusion in Bangladesh

Indicator	Value	Source
Registered MFS accounts, female / male / total (Dec 2020)	47.60 m / 51.49 m / 99.34 m	Financial Institutions Division & Bangladesh Bank (2021)
Female share of MFS accounts (Dec 2019 → Dec 2023)	48.28% → 41.83%	Jahid (2024), citing Bangladesh Bank data
Registered MFS accounts, female / male / total (Feb 2025)	101.02 m / 137.88 m / 239.24 m	Bangladesh Bank (2025)
Female share of registered MFS accounts (Feb 2025)	42.2%	Computed from Bangladesh Bank (2025)
MFS accounts active in previous three months (Feb 2025; not disaggregated by sex)	87.15 m	Bangladesh Bank (2025)
MFS agents (Feb 2025)	1,856,190	Bangladesh Bank (2025)

Indicator	Value	Source
Female-owned bank deposit accounts (2019 → 2024)	33.45 m → 55.32 m	Mohasin et al. (2025)
Female loan accounts (2019 → 2024)	0.92 m → 2.15 m	Mohasin et al. (2025)
No-frill accounts, total (June 2026)	36.65 m	Bangladesh Bank (2026b)
Female share of student no-frill accounts (June 2026; no sex split published for other categories)	45.86%	Bangladesh Bank (2026b)

The administrative data show rapid growth. Registered MFS accounts more than doubled between December 2020 and February 2025, and female registrations more than doubled with them. But the female share fell from 48.28% of accounts in 2019 to 41.83% in 2023 (Jahid, 2024) and stood at 42.2% in February 2025. Fewer than four in ten registered MFS accounts had been used in the previous three months, and that activity figure is not published by sex. The no-frill account report, which covers products designed for farmers, social safety net recipients, the extreme poor and garment workers, provides a sex breakdown only for student accounts (Bangladesh Bank, 2026b).

The gap between the two sources answers RQ1. Administrative data count accounts, many of which are inactive, duplicated or operated by someone other than the registered holder. Survey data count individuals and their reported ownership. Neither source currently measures control, activity by sex, fraud by sex or complaint resolution by sex. These are exactly the conditions that determine whether an account produces agency.

4.2 Stage 1: Access

Access requires a phone, a SIM, a valid national identity document and a trusted point of service. In 2024, 26.3% of Bangladeshi women did not own a mobile phone, against 8.7% of men (World Bank, 2025). GSMA (2025) reports that women in South Asia were 18% less likely than men to own a mobile phone and 32% less likely to use mobile internet in 2024, compared with a 14% mobile internet gap across low- and middle-income countries as a whole. Handset cost is part of the explanation: an entry-level device costs about 24% of a woman's monthly income in low- and middle-income countries, against 12% of a man's (GSMA, 2025).

Identity requirements interact with phone ownership. MFS accounts in Bangladesh are linked to a mobile number, and a woman whose SIM is registered to a husband or father may find that the wallet linked to "her" phone is legally someone else's. Table 1 shows that this is the situation for roughly half of Bangladeshi women. Bangladesh Bank's March 2026 e-KYC guidelines, which take effect on 1 September 2026, provide for simplified e-KYC for low-risk products such as MFS, government transfer accounts and no-frill accounts, using biometric verification against the national identity database (Bangladesh Bank, 2026a). Simplified e-KYC lowers documentary barriers, but it does not address whether the SIM and handset used for onboarding belong to the customer. The point of service matters too. Women's mobility, care duties and exposure to harassment shape when and where they can transact. IFC's (2018) finding that women preferred female agents but almost all transacted with men, in a network where fewer than 1% of agents were women, points to a supply-side constraint that has not been re-measured since.

4.3 Stage 2: Activation

Activation means completing a first transaction independently and understanding core functions such as balance checks, PIN management and fee disclosure. Only 21.4% of women could change a phone PIN without help in 2024 (World Bank, 2025), and IFC (2018) found that only 10% of female MFS users knew how to change their MFS PIN. Assisted onboarding is often necessary, but when an agent or relative completes every step the woman may never learn to transact alone, and her credentials may be known to others from the first day.

Lee et al. (2022) show that activation can be supported. Their training raised women's adoption by 51 percentage points. Yet their finding that men's subsequent digital remittances rose far more than women's warns that a successful activation stage does not guarantee regular use. The scorecard therefore treats a self-initiated first transaction, rather than registration, as the activation milestone.

4.4 Stage 3: Regular use

Regular use depends on whether the service meets recurring needs. Bangladesh's MFS market remains dominated by cash-in, cash-out and person-to-person transfers. In February 2025, cash-out transactions were worth BDT 512 billion and person-to-person transfers BDT 418 billion, against BDT 69 billion of merchant payments (Bangladesh Bank, 2025). A woman who uses her wallet only to receive a transfer and immediately withdraw cash is included in registration statistics but gains little beyond a cheaper courier.

Household rules shape use. More than one in four Bangladeshi women reported that a family member sets rules for their phone use (World Bank, 2025). Where a wallet's balance and transaction history are visible to others on a shared phone, the woman's ability to save or spend privately is limited. Ashraf's (2009) evidence that financial choices change when they become observable to a spouse suggests that visibility itself can reduce use.

Shen et al. (2026) found that the unexplained portion of Bangladesh's gender gap is concentrated in mobile money rather than bank accounts. This is consistent with the possibility that the phone-linked design of mobile money, rather than financial services in general, carries the household constraints described here. Activity measured over 90 days, disaggregated by sex and by transaction type, would reveal whether women's accounts are used beyond receipt and withdrawal.

4.5 Stage 4: Productive use

Productive use links digital finance to savings, education, health, enterprise and other goals the woman sets. Bangladesh Bank reports that female loan accounts more than doubled between 2019 and 2024 (Mohasin et al., 2025), and the NFIS-B includes a target that women entrepreneurs receive at least 15% of credit to cottage, micro, small and medium enterprises, together with dedicated desks for women entrepreneurs in banks and financial institutions (Financial Institutions Division & Bangladesh Bank, 2021).

The literature suggests that the channel and control of funds matter as much as the volume. Riley (2024) found that delivering loans into women's mobile accounts raised business capital and profits because it helped them resist household pressure to share the funds. Field et al. (2021) showed similar effects for wages. The Bangladesh microcredit debate shows the risk of the opposite pattern: credit that is formally women's but controlled by male relatives (Goetz & Sen Gupta, 1996; Kabeer, 2001). Digital credit adds new risks, including rapid loan offers, opaque fees and aggressive collection. Suitability assessment and plain-language repayment information should therefore accompany any expansion of digital lending to women.

Islamic financial products are relevant in Bangladesh because a share of customers prefers Shariah-compliant services. Haque and Zahid (2026) analyze the jurisprudential basis of mobile banking in Bangladesh and argue that Shariah-compliant digital services can support inclusive development. For women's agency, the practical requirement is that contract structure (for example, murabahah cost-plus sale or mudarabah profit sharing) is explained in plain Bangla, with clear statements of who bears which risk. A religious label should not replace customer understanding.

4.6 Stage 5: Resilience

Resilience is the ability to prevent and recover from error, fraud and shocks. Three risks are prominent. The first is social engineering, including callers who pose as agents, officials or relatives and persuade users to disclose PINs or one-time passwords. Fifteen percent of Bangladeshi men and 6% of women reported receiving a phone call or SMS asking for money in the previous year (World Bank, 2025). The second is agent misconduct, which experimental evidence from Ghana shows falls disproportionately on women (Annan, 2022) but can be reduced through information directed at both customers and agents (Annan, 2025). The third is mistaken transfers, which are costly to reverse when complaint channels are slow.

Recovery depends on how quickly an account can be blocked, how easily a complaint can be lodged, how long resolution takes and whether funds are restored. Customer trust after a failure depends heavily on the quality-of-service recovery (Zahid et al., 2025). Resilience also has a wider meaning: the ability to cope with income shocks. Mobile money's main welfare effect in Kenya and Tanzania operated through risk sharing after shocks (Jack & Suri, 2014; Riley, 2018), and mobile platforms can also deliver Islamic social finance instruments such as zakat, sadaqah and waqf-funded relief more efficiently after disasters (Nipa et al., 2026). Women will benefit from these channels only if they control the accounts into which support is sent.

Table 3. Five-stage pathway: diagnostic questions, Bangladesh evidence and indicators

Stage	Diagnostic question	Bangladesh evidence of constraint	Illustrative indicator
Access	Can she open an account through a trusted channel with her own phone and SIM?	26.3% of women own no phone; 49.3% have a SIM in their own name (World Bank, 2025)	Completed onboarding as a share of attempts, by sex; share of female accounts linked to a SIM in the holder's name
Activation	Can she make a first transaction without surrendering her credentials?	21.4% of women can change a phone PIN unaided (World Bank, 2025); 10% of female MFS users knew how to change their MFS PIN (IFC, 2018)	First self-initiated transaction within 30 days, by sex
Regular use	Does the service meet recurring needs privately?	Activity data not published by sex; 27.8% of women face family rules on phone use (Bangladesh Bank, 2025; World Bank, 2025)	90-day active female accounts; transaction-type diversity
Productive use	Does finance support goals she chooses?	Female loan accounts grew from 0.92 m to 2.15 m, 2019–2024 (Mohasin et al., 2025); control of credit is not measured	Share of female accounts with savings, merchant or enterprise use; suitability-checked credit

Stage	Diagnostic question	Bangladesh evidence of constraint	Illustrative indicator
Resilience	Can she prevent and recover from fraud, error and shocks?	No sex-disaggregated complaint or fraud data published	Complaint resolution time and funds restored, by sex

5. PROPOSED FRAMEWORK: THE GENDER-RESPONSIVE DIGITAL FINANCE SCORECARD

5.1 Design principles

The scorecard follows four principles derived from the analysis.

1. **Pairing.** Every volume indicator is paired with a control or protection indicator. Growth in active female accounts accompanied by rising fraud losses or unresolved complaints is not counted as successful inclusion.
2. **Distribution, not averages.** Providers report medians and distributions, because a small group of intensive users can hide widespread dormancy.
3. **Minimal data.** Indicators rely on operational data that providers already hold, supplemented by short voluntary surveys. Sensitive household information is not collected for scorecard purposes and is never used as a credit-scoring feature.
4. **Comparability.** Definitions are standardized so that Bangladesh Bank can aggregate results across banks and MFS providers.

5.2 Dimensions and indicators

Table 4. Gender-Responsive Digital Finance Scorecard

Dimension	Core (volume) indicator	Paired safeguard indicator	Data source	Primary responsibility
Reach	Verified female customers; female share of new accounts	Failed onboarding attempts and reasons, by sex and district	Onboarding logs; e-KYC records	Banks, MFS providers
Activation	First self-initiated transaction within 30 days	Share of first transactions completed by agents on the customer's behalf	Transaction logs (channel flag)	Providers; agent managers
Use	90-day active female accounts; median transactions	Dormancy rate; share of accounts used only for cash-out	Transaction logs	Providers
Control	Share of female accounts on a SIM registered to the holder	Self-reported credential privacy and shared-device risk (voluntary survey)	SIM-account match; short survey	Providers; Bangladesh Bank
Product	Use beyond cash-in and cash-out (savings, merchant, bill, enterprise)	Fee comprehension; suitability checks on credit	Transaction logs; product reviews	Providers
Protection	Fraud and error complaints received, by sex	Resolution time, funds restored, repeat victimization	Complaint management systems	Providers; Bangladesh Bank
Outcomes	Savings balances and enterprise transactions over time	Over-indebtedness and collection complaints	Account data; complaint data	Providers; Bangladesh Bank

5.3 Using the scorecard

At provider level, the scorecard can be added to management dashboards and board reporting. Each stage has a diagnostic question and operational evidence, so management can see where customers leave the journey rather than launching a general awareness campaign. At supervisory level, Bangladesh Bank could add a small number of these indicators to the existing monthly MFS return and to the quarterly no-frill account report. The monthly MFS summary already separates registered accounts by sex and reports total active accounts (Bangladesh Bank, 2025). Reporting active accounts by sex, and complaints by sex, would require a modest change in existing returns. Figure 1 links the five stages, their binding constraints and the scorecard.

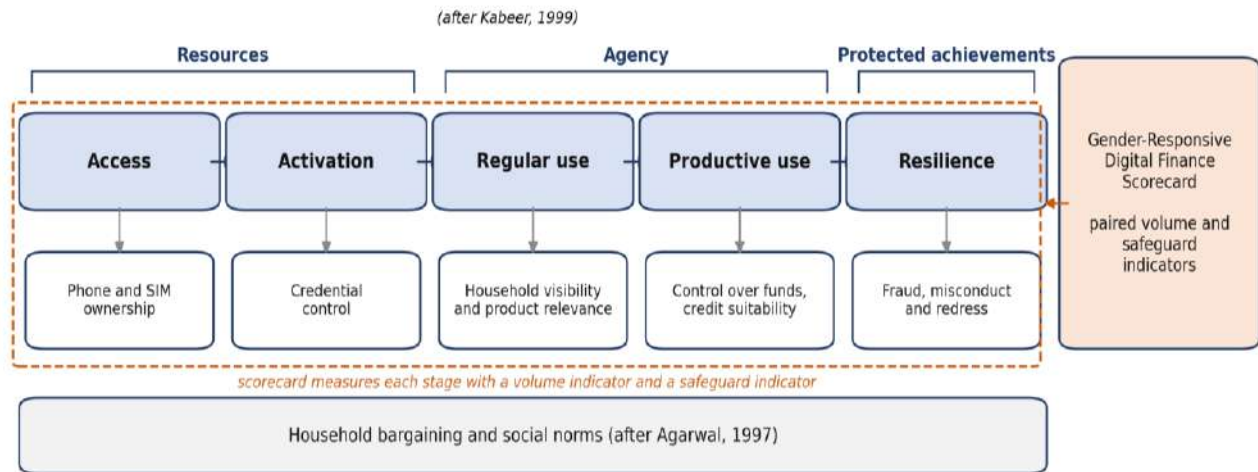


Figure 1. Five-stage pathway from registration to financial agency and the Gender-Responsive Digital Finance Scorecard
Source: Authors' own elaboration. ### 5.4 Safeguards in measurement

Measurement can create new risks. A product publicly labeled as being for women may expose balances or participation to family members. Providers should not infer gender from names, and survey modules on credential privacy should be voluntary, short and administered in ways that do not alert other household members. Aggregation at supervisory level preserves usefulness while reducing re-identification risk. Results should be interpreted with women's organizations and frontline staff, who can explain what the numbers miss.

6. DISCUSSION

The findings support the view that registration has become a weak proxy for inclusion in Bangladesh. Administrative data show women holding more than 100 million MFS accounts, while survey data show only one woman in seven reporting a mobile money account and one in three reporting any account (Bangladesh Bank, 2025; World Bank, 2025). The difference is partly technical, since one person may hold several accounts. But the new Findex connectivity indicators suggest that it is also substantive. Ownership of SIM cards and the ability to manage credentials are much lower among women, and these conditions plausibly explain why accounts registered in women's names do not translate into reported ownership or use.

This interpretation fits the intrahousehold literature. Bargaining models predict that the visibility and control of resources affect how they are used (Agarwal, 1997; Ashraf, 2009), and the experimental evidence from India and Uganda shows that routing money into accounts that women control changes their economic behavior (Field et al., 2021; Riley, 2024). The Bangladesh evidence that closing the adoption gap did not close the use gap (Lee et al., 2022), and that the unexplained gap is concentrated in mobile money (Shen et al., 2026), suggests that phone-linked design carries household constraints into the financial system. The microcredit debate of the 1990s reached a similar conclusion about loans (Goetz & Sen Gupta, 1996; Kabeer, 2001). The policy lesson is consistent: the name on the account matters less than who controls it.

The findings also qualify the optimistic reading of mobile money. The welfare gains documented in Kenya and Tanzania operated mainly through risk sharing and lower transaction costs (Jack & Suri, 2014; Riley, 2018; Suri & Jack, 2016). These gains require that the user can receive and keep funds. Where a woman's wallet is controlled by someone else, the risk-sharing channel may benefit the household but not necessarily her. Where agents overcharge women more than men (Annan, 2022), the lower-cost advantage is partly lost.

Financial literacy is part of the response but not the whole of it. Hasan et al. (2021) and Klapper and Lusardi (2020) link knowledge to access and resilience, and IFC (2018) documented low PIN knowledge among female users. Yet if literacy programs place the full burden on women to adapt to unsafe systems, they shift responsibility away from providers. The scorecard distributes responsibility: providers measure and redesign onboarding, credential management and complaint handling, and the supervisor standardizes and publishes the results.

The scorecard extends existing frameworks in a specific way. The NFIS-B already calls for gender-disaggregated data (Financial Institutions Division & Bangladesh Bank, 2021), and the AFI Denarau Action Plan commits central banks to gender-inclusive finance policy and data (Alliance for Financial Inclusion, 2022). What these documents do not specify is which indicators capture control and protection rather than reach. The pairing principle addresses this by making it impossible to report volume without reporting its quality.

7. IMPLICATIONS

7.1 Theoretical implications

The paper extends the access-use model of financial inclusion by adding control and remedy as distinct stages. It shows that Kabeer's (1999) resources–agency–achievements framework can be translated into operational indicators, and that bargaining theory generates testable predictions about digital product design: features that increase privacy and credential control should increase women's use, while features that increase visibility to other household members may reduce it. These predictions can be tested with provider data once the scorecard indicators are collected.

7.2 Practical implications for banks and MFS providers

Providers can design assisted but privacy-preserving onboarding in which agents guide but do not complete transactions, and in which the customer sets her own PIN. They can offer safe practice modes and confirmation screens that reduce fear of irreversible error. Recruiting female agents and staff where locally appropriate, without making them the only access route, addresses the preference documented by IFC (2018). State-owned banks such as Sonali Bank PLC, which serve government-payment and no-frill account holders, can link these accounts to savings and microenterprise services while monitoring dormancy. Product teams should test Bangla wording, icon comprehension and fee disclosure with women of different ages, education levels and locations. Islamic banks and windows can explain contract structures in plain language so that Shariah compliance supports rather than substitutes for understanding.

7.3 Policy implications for Bangladesh Bank

Bangladesh Bank can extend the monthly MFS return to report active accounts by sex and the quarterly no-frill account report to provide a sex breakdown for all account categories, not only student accounts. It can require providers to report fraud and error complaints, resolution times and funds restored by sex. Customer-protection rules can specify maximum acknowledgement and resolution times for fraud and mistaken transfers. Because the NFIS-B period ended in June 2026, the successor strategy offers an opportunity to set targets for women's active use and control, not only for account numbers. The implementation of simplified e-KYC from September 2026 is a natural point at which to begin recording whether the SIM used for onboarding is registered to the customer.

8. LIMITATIONS AND FUTURE RESEARCH

The paper relies on secondary sources and does not observe individual behavior. The Global Findex figures are survey estimates with sampling error, and the decline in account ownership between 2021 and 2024 may partly reflect survey or definitional factors that the published indicators do not reveal. Administrative MFS statistics count accounts rather than people, may include duplicate and inactive accounts, and record sex in binary categories that may not capture gender diversity or shared use. Some evidence on agent behavior and women's preferences comes from other countries (Annan, 2022, 2025) or from a 2016 Bangladesh survey (IFC, 2018) and needs to be updated. Bangladesh-specific peer-reviewed evidence on gendered exposure to digital fraud remains limited. The scorecard has not been piloted. Future research should validate it through representative user research across urban, rural, coastal and char communities. A controlled pilot could compare agent areas using the standard service model with areas receiving privacy-preserving assisted onboarding, redesigned Bangla interfaces and stronger fraud response, and measure onboarding completion, independent first use, 90-day activity, product diversity, complaints, loss recovery and customer confidence. Interviews should be conducted without household gatekeepers present where it is safe and culturally appropriate. Further studies could estimate the effects of SIM ownership, agent gender, faster dispute resolution and clearer explanations of Islamic contracts on women's sustained use.

9. CONCLUSION

Bangladesh's next financial inclusion challenge is to convert reach into agency. Registered MFS accounts in women's names now exceed 100 million, but only one-third of women report owning any account, fewer than half hold a SIM in their own name, and about one in five can manage their own phone credentials. The public statistics that guide policy count registrations but do not measure activity, control, fraud or redress by sex.

This paper has proposed a five-stage pathway, from access to resilience, and a Gender-Responsive Digital Finance Scorecard that pairs every volume indicator with a safeguard indicator. The framework draws on evidence that control over where money lands changes women's economic choices, and on Bangladesh studies showing that adoption gaps can close while use gaps remain. Applied by providers and standardized by Bangladesh Bank, it would allow the country to judge digital finance by whether women can use it safely and for their own purposes, rather than by the number of accounts opened in their names.

DECLARATIONS

Funding: The authors received no specific funding for this study.

Competing interests: The authors declare no competing interests.

Ethics approval: Not applicable. The study used publicly available documents and aggregate statistics and did not involve human participants or identifiable personal data.

Data availability: All data analyzed are publicly available. Global Findex indicators can be retrieved from the World Bank data interface using the indicator codes listed under Table 1. Bangladesh Bank documents are available at the URLs given in the reference list.

Author contributions: Niger Sultana: Conceptualization, Methodology, Formal analysis, Writing – original draft, Project administration. Md. Shahed Alamm: Methodology, Validation, Writing – review & editing, Supervision. Ummey Sumaiya: Investigation, Data curation, Writing – review & editing. Md. Baharul Hasan: Investigation, Visualization. Md. Aminul Islam: Investigation, Writing – review & editing. All authors read and approved the final manuscript.

Use of AI tools: During the preparation of this work, the authors used Claude (Anthropic), a generative AI tool, to assist with literature retrieval, reference checking, language editing and formatting. No data, results or references were generated by the tool without verification against the original sources. After using the tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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