ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.01 (2026)

BEYOND ACCESS: GENDER GAPS IN DIGITAL PAYMENT USE AMONG BANKED ADULTS

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Abstract
Digital payments have expanded rapidly across South Asia, yet gender differences in use remain substantial. Using microdata from the Global Findex Database 2024, this study examines digital payment adoption among banked adults in Bangladesh, India, Nepal, Pakistan, and Sri Lanka. Conditioning on account ownership isolates gender gaps in usage rather than access. Logistic regression results show that women are consistently less likely than men to make or receive digital payments, even after controlling for age, education, income, employment status, mobile phone ownership, internet use, and country fixed effects. Internet use and higher education increase adoption for both genders, but their effects are weaker for women. Interaction analyses further indicate wider gender gaps among internet users and in urban areas, while rural contexts partially moderate these disparities.
Keywords: *Gender gap; Digital payments; Financial inclusion; Digital access*

INTRODUCTION

Digital payments have become a key entry point into formal financial systems in low- and middle-income economies. Their use has increased steadily over the past decade. By 2024, nearly three-quarters of adults in these economies made or received a digital payment (Demirgüç-Kunt et al., 2021). Digital payments are now used by far more adults than formal saving or borrowing. This shift reflects their growing role in routine financial activity. South Asia, however, continues to lag behind. Only 57 percent of account holders in the region used digital payments in 2024. In other regions, usage exceeds 80 percent. Adoption within South Asia is also uneven. Nepal and India report relatively low usage, while Bangladesh and Pakistan show much higher rates, often from a smaller base of account ownership (Audi & Ali, 2017; Demirgüç-Kunt et al., 2021; Marc et al., 2022). These patterns suggest that access alone does not ensure active use.

Digital payments are also central to financial system modernization. They offer faster, safer, and more convenient transactions. Evidence from India shows that adoption of systems such as Unified Payments Interface depends on performance expectancy, effort expectancy, facilitating conditions, and perceived trust (Ali & Rehman, 2015; Shair et al., 2024; Vedala, 2025; Naeem et al., 2026). At the same time, limited digital literacy and awareness restrict effective use. Importantly, adoption differs across population groups. Gender has emerged as a key source of variation.

Gender-focused research consistently shows lower engagement by women. Studies based on the Technology Acceptance Model indicate that perceived usefulness and ease of use shape women's intentions to adopt fintech. Actual usage, however, depends on digital skills and financial autonomy (Ali, 2015; Asim et al., 2025, Shair et al., 2023; Majeed et al., 2026). These findings point to gaps between access, intention, and use. They also motivate closer examination of gender differences among banked adults.

Evidence from India highlights these disparities clearly. Kulkarni and Ghosh (2021) document a persistent gender gap in digital financial services. The gap remains even after accounting for regional development. They point to limited digital skills, restricted device access, and low confidence as key barriers. Mishra and Mohanty (2022) report similar patterns among women MSME entrepreneurs. They describe an "access–use" gap, where digital tools are available but rarely used for transactions due to language barriers, weak institutional support, and capability constraints.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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Another strand of research emphasizes behavioral factors. Trust and perceived risk play a central role. Chauhan et al. (2022) show that trust in mobile payment services is shaped by mobility, reputation, and social influence. Perceived risk reduces adoption intentions. Women appear more sensitive to both risk and social cues. Focusing on women users, Manrai et al. (2024) find that facilitating conditions and perceived credibility are the strongest drivers of adoption. Financial risk moderates these effects. Banerjee and Pradhan (2024) further show that trust, subjective norms, usefulness, and ease of use matter, but their influence varies by gender and education.

Evidence from informal and marginalized contexts reinforces these insights. Mathews and Bhosale (2021) find that Indian street vendors are open to digital payments but prefer cash due to limited awareness and skills. Batul et al. (2023) show that among women in urban slums, poor infrastructure and low digital capability limit the benefits of cashless systems. Firm-level evidence by Dutta et al. (2023) similarly stresses the importance of device access and connectivity.

Studies from Bangladesh and Pakistan point to comparable constraints. Javed et al. (2025) document high smartphone ownership among Pakistani women but low familiarity with digital financial transactions. Rasheduzzaman et al. (2025) show that gender significantly moderates attitudes toward mobile payment adoption in Bangladesh. Despite this growing evidence, most studies remain single-country. Few isolate gender gaps among banked adults. This gap motivates a cross-country analysis of digital payment use conditional on account ownership in South Asia.

This study examines gender gaps in digital payment use among banked individuals in South Asia, focusing on Bangladesh, India, Nepal, Pakistan, and Sri Lanka. By conditioning on account ownership, it isolates gender-based differences in usage rather than access. The analysis assesses whether women are less likely than men to make or receive digital payments after accounting for age, education, income, employment, and country effects. It further evaluates how mobile phone ownership and internet use shape adoption across genders and explores heterogeneity by rural residence and education, providing micro-level evidence on the mechanisms underlying gender disparities in digital finance.

ECONOMETRIC METHODOLOGY

The study focuses on gender disparities in the use of digital payments among adults in South Asia who are banked. The outcome variable, DP_i is a binary variable where the value is one when the individual (i) received or sent any digital payment last year via the mobile phone, card, or internet based platform and zero when not. Since the dependent variable is dichotomous, the empirical analysis applies the use of logistic regression models estimated on the subsample of individuals with a formal bank account.

The baseline model (Model 1) estimates the association between gender and digital payment use while controlling for age, education, income quintiles, employment status, mobile phone ownership, internet use, rural residence, and country fixed effects for South Asian economies. Education and income are included as indicator variables to capture nonlinear adoption patterns. Models 2–4 extend the baseline by introducing interaction terms to explore gender-specific mechanisms. Model 2 interacts gender with internet use, Model 3 with rural residence, and Model 4 with education levels, assessing whether digital access, spatial factors, and human capital differentially shape women's digital payment adoption. All specifications are estimated using logistic regression.

Let DP_i be a binary indicator equal to 1 if individual $i$made/received any digital payment in the past year (banked sample). The logit models are:

Model 1: Baseline

$$\Pr(DP_i = 1) = \Lambda(\beta_0 + \beta_1 Female_i + \beta_2 Internet_i + \beta_4 Age_i + \beta_5' \mathrm{Edu}_i + \beta_6' \mathrm{IncQ}_i + \beta_7 Workforce_i + \beta_8 Phone_i + \beta_9 Rural_i + \gamma' \mathrm{Country}_i)$$

Model 2: Gender × Internet use

$$\Pr(DP_i = 1) = \Lambda(\beta_0 + \beta_1 Female_i + \beta_2 Internet_i + \beta_3 (Female_i \times Internet_i) + \beta_4 Age_i + \beta_5' \mathrm{Edu}_i + \beta_6' \mathrm{IncQ}_i + \beta_7 Workforce_i + \beta_8 Phone_i + \beta_9 Rural_i + \gamma' \mathrm{Country}_i)$$

Model 3: Gender × Rural residence

$$\Pr(DP_i = 1) = \Lambda(\beta_0 + \beta_1 Female_i + \beta_2 Rural_i + \beta_3 (Female_i \times Rural_i) + \beta_4 Age_i + \beta_5' \mathrm{Edu}_i + \beta_6' \mathrm{IncQ}_i + \beta_7 Workforce_i + \beta_8 Phone_i + \beta_9 Internet_i + \gamma' \mathrm{Country}_i)$$

Model 4: Gender × Education

$$\Pr(DP_i = 1) = \Lambda(\beta_0 + \beta_1 Female_i + \beta_2' \mathrm{Edu}_i + \beta_3' (Female_i \times \mathrm{Edu}_i) + \beta_4 Age_i + \beta_5' \mathrm{IncQ}_i + \beta_6 Workforce_i + \beta_7 Phone_i + \beta_8 Internet_i + \beta_9 Rural_i + \gamma' \mathrm{Country}_i)$$

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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Where $\Lambda(z) = \frac{e^z}{1+e^z}$. $\text{Edu}_i$are education dummies (Secondary, Tertiary; Primary as reference). IncQ_i are income-quintile dummies (Q2–Q5; Q1 reference). Country_i are country fixed effects (one omitted as reference). The definition of the variables used in the study is presented in Table 1.

Table 1. Definition of variables

Variable name	Description
Digital payment use (any dig payment)	Binary indicator equal to 1 if the respondent made or received any digital payment in the past year using a mobile phone, card, or internet-based platform, and 0 otherwise. The study limited to those individuals having a bank account.
Gender (Female)	Binary variable equal to 1 if the respondent is female, and 0 if male.
Age	Age of the respondent in completed years at the time of the survey.
Education (ordinal)	Ordinal categorical variable capturing the highest level of education attained by the respondent, coded as: primary education or less, secondary education, and tertiary education or more.
Income quintile (ordinal)	Ordinal categorical variable indicating the respondent's household income position, coded into five ordered quintiles ranging from the poorest (Q1) to the richest (Q5).
Employment status	Binary indicator equal to 1 if the respondent is employed or engaged in income-generating activities (in the workforce), and 0 otherwise.
Mobile phone ownership	Binary indicator equal to 1 if the respondent personally owns a mobile phone, and 0 otherwise.
Internet use	Binary indicator equal to 1 if the respondent used the internet within the past three months, and 0 otherwise.
Residence (rural)	Binary indicator equal to 1 if the respondent resides in a rural area, and 0 if urban.
Country (multinomial)	Multinomial categorical variable indicating the respondent's country of residence: Bangladesh, India, Nepal, Pakistan, or Sri Lanka. Country fixed effects are included in the regression analysis.

DATA AND DESCRIPTIVE ANALYSIS

DATA SOURCE

The empirical analysis is based on individual-level data drawn from the Global Findex Database 2024, compiled and publicly released by the World Bank. The sample is restricted to South Asia and includes respondents from Bangladesh, India, Nepal, Pakistan, and Sri Lanka. The ultimate analytical sample will include 4,648 individuals who are banked and have full information about digital payment behavior as well as covariates. The use of digital payments is determined by responding to the question of whether a respondent received or made any digital payment within the last year. The data of Global Findex were retrieved through the official site of the World Bank and gives country representative data on access to finances, use of digital finance, and personal socioeconomic states.

DESCRIPTIVE STATISTICS

Table 2 provides the descriptive statistics of the entire sample of banked people as well as women and men. In general, 58.1 percent of surveyed individuals said that they had completed or received at least one digital payment during the last year, which means that the use of digital payments is prevalent but not omnipresent even among users with an account. There is a distinct gender difference in the use of digital payments: less than half of females (49.8 percent) made such payments, versus two-thirds of males (66.6 percent), which indicates significant disparities in the use of digital payments based on access.

The respondents are aged between 39.4 on average, and women are a bit younger on average than men (38.6 and 40.3 years respectively). There are very significant gender differences in educational attainment. Almost half of the entire sample (49 percent) is at the primary education level or below, with the proportion of women (53.7 percent) being higher than that of men (43.6 percent). Men on the other hand tend to have had secondary (46.1 percent) and tertiary education (10.3 percent) more than women (40.3 percent and 6.0 percent, respectively). These trends indicate that there is a gender disparity in human capital which can be translated into digital financial potential. Gender inequalities are also manifested in income distribution. Women are found to be more

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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concentrated about the lowest 2 quintiles whereas men are found to be overrepresented within the richest quintile. As an example, 17.1 percent of women are in the poorest quintile compared with 14.5 percent of men, 28.4 percent of men are in the richest quintile, compared with 25.0 percent of women. One of the most striking differences is in employment status: just 40.5 percent of women are employed, versus 75.1 percent of men, and this indicates the presence of significant gender disparities in the labor market.

Disparities in online connectivity are also intense. Although the entire sample (79.0 percent) is notable in owning a mobile phone, ownership is significantly low in women (70.8 percent) as compared to men (87.4 percent). On the same note, recent internet use is indicated by 52.1 percent of respondents in general, however only 44.5 percent of women against 60.0 percent of men. Conversely, rural residence is generally comparable across gender meaning that spatial location is not the sole factor that can justify gender differences.

Lastly, the count of nations reveals that India (58.0 percent), Sri Lanka (17.7 percent), Nepal (13.5 percent), Bangladesh (6.2 percent) and Pakistan (4.6 percent) comprise the largest part of the sample. Gender differences across countries are modest, though women are relatively more represented in Sri Lanka and Nepal, while men are more prevalent in Pakistan. Taken together, these descriptive patterns point to substantial gender disparities in education, employment, and digital access that are likely to underlie observed differences in digital payment use.

Table 2. descriptive statistics

Variable	Category	Full sample mean	Std. dev.	Min	Max	Female sample mean	Male sample mean
Digital payment use	Any digital payment	0.581	0.494	0	1	0.498	0.666
Gender	Female	0.509				1.000	
Age (years)		39.40	15.92	15	100	38.55	40.28
Education	Primary or less	0.488	0.499	0	1	0.537	0.436
	Secondary	0.431	0.495	0	1	0.403	0.461
	Tertiary or more	0.081	0.273	0	1	0.060	0.103
Income quintile	Poorest (Q1)	0.158	0.365	0	1	0.171	0.145
	Q2	0.175	0.380	0	1	0.189	0.161
	Q3	0.190	0.392	0	1	0.187	0.192
	Q4	0.210	0.407	0	1	0.203	0.218
	Richest (Q5)	0.267	0.442	0	1	0.250	0.284
Employment status	In the workforce	0.575	0.491	0	1	0.405	0.751
	Out of workforce	0.425	0.491	0	1	0.595	0.249
Mobile phone ownership	Yes	0.790	0.407	0	1	0.708	0.874
Internet use	Yes	0.521	0.500	0	1	0.445	0.600
Residence	Rural	0.673	0.469	0	1	0.676	0.669
Country	Bangladesh	0.062	0.241	0	1	0.056	0.068
	India	0.580	0.494	0	1	0.578	0.582
	Nepal	0.135	0.342	0	1	0.142	0.128
	Pakistan	0.046	0.211	0	1	0.020	0.074
	Sri Lanka	0.177	0.381	0	1	0.204	0.148

REGRESSION ANALYSIS

BASELINE REGRESSION MODEL

Table 3 presents a sequence of logistic regression estimates examining digital payment use among banked individuals in South Asia. Model 1 begins with a parsimonious specification including gender only, while Models 2–4 progressively introduce demographic, socioeconomic, digital access, spatial controls, and country fixed effects. This step-by-step design enables evaluation of the alteration in estimated gender gap given that observable attributes are considered. Over the specifications, age, education, income, employment status, and digital access variables are found to be strong predictors of digital payment usage. There are evident human capital and economic gradients between higher education and income levels, which are consistently related to higher adoption. The labor

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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market attachment is significant since being out of the workforce lowers the significant chances of using digital payments. Variables of digital infrastructure are central: deficiency of mobile phone ownership substantially decreases adoption and recent internet use strongly increases the same. The country fixed effects display significant cross-country heterogeneity, which is why national digital ecosystems are important beyond the attributes of individuals.

Table 3. Estimates of logistic regression model on Gender and Digital payment use

Variables	Model 1	Model 2	Model 3	Model 4
Female	-0.697***	-0.557***	-0.396***	-0.271***
	(0.061)	(0.063)	(0.068)	(0.070)
Age		0.005**	0.005**	0.014***
		(0.002)	(0.002)	(0.002)
Secondary education		0.744***	0.637***	0.377***
		(0.071)	(0.074)	(0.079)
Tertiary education or more		1.422***	1.257***	0.926***
		(0.140)	(0.143)	(0.148)
Income quintile = 2			0.203*	0.184*
			(0.106)	(0.108)
Income quintile = 3			0.109	0.039
			(0.105)	(0.107)
Income quintile = 4			0.532***	0.395***
			(0.104)	(0.107)
Income quintile = 5			0.853***	0.616***
			(0.103)	(0.109)
Out of the workforce			-0.521***	-0.473***
			(0.068)	(0.070)
Mobile phone (=No)				-0.337***
				(0.085)
Internet use (= Yes)				0.791***
				(0.082)
Rural				0.103
				(0.074)
India		-0.410***	-0.487***	-0.557***
		(0.138)	(0.141)	(0.144)
Nepal		-0.638***	-0.778***	-1.005***
		(0.156)	(0.159)	(0.163)
Pakistan		1.030***	0.863***	0.840***
		(0.248)	(0.253)	(0.257)
Sri Lanka		-0.500***	-0.484***	-0.512***
		(0.152)	(0.154)	(0.157)
Constant	0.691***	0.394**	0.268	-0.251
	(0.044)	(0.172)	(0.189)	(0.206)
Observations	4,648	4,647	4,647	4,647

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 3 indicates the observed estimated log-odds based on whether one is a female on the probability of using digital payments. In Model 1, the coefficient of -0.697 means that women, as compared to men, are significantly less likely to make or receive a digital payment. On exponentiating the coefficient, there is a likelihood of approximately 50 percent difference in odds of the women using digital payments as compared to men. The larger the number of controls added, the smaller is the magnitude of the female coefficient but, nonetheless, it is negative and statistically significant in all the models. In Model 2, the coefficient of -0.557 implies that women were 43 percent less likely to use digital payment in comparison to men. In Model 3, the estimate of -0.396 suggests a 33

ISSN E: 3006-1466
ISSN P: 3006-1458
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percent lowering in the odds whereas in the full-fledged Model 4, the coefficient of -0.271 suggests that the chances of women using digital payments are approximately 24 percent lower than the men have.

The fact that the coefficient decreases progressively implies that a portion of the apparent gender gap may be attributed to the variation in education, income, employment, and access to digital devices. Nevertheless, that there is a negative and statistically significant effect that persists even in the most extensive specification suggests that there are observable attributes that do not explain the lower use of digital payment by women, suggesting that there is still an element of behavioral, informational, or normative constraints.

The regression results show a clear and persistent gender gap in digital payment use among banked adults in South Asia. Across all model specifications, the coefficient on the female indicator is negative and statistically significant. This indicates lower log-odds of digital payment use for women relative to men. The size of the coefficient declines after controlling for education, income, employment, and digital access. This pattern suggests that part of the gap reflects observable socioeconomic and digital differences. However, the female penalty remains even in the fully specified model, pointing to additional constraints such as lower confidence, trust deficits, social norms, and intra-household barriers. Digital connectivity and education help narrow the gap but do not eliminate it. Internet use and higher education are strongly associated with adoption and reduce the female disadvantage. Yet the persistence of the gap implies deeper frictions. Policies focused only on access are therefore unlikely to be sufficient.

Table 3 shows the estimates of the logits in log-odds format, which represents the change in the log-odds of the use of digital payments by banked adults in South Asia due to individual characteristics. In all of the specifications, the Female coefficient is negative and statistically significant, which means that there is still a gender gap. The coefficient of -0.697 of the female in Model 1 means that the log-odds of using the digital payments among women decrease by 0.697 as compared to the men. With more controls in place, the value of this penalty decreases to -0.557 in Model 2, -0.396 in Model 3, and -0.271 in Model 4, indicating that the variation in digital access, education, income, and employment is one of the factors that explain but not all of the observed gender gap.

The age starts positively after inclusion with coefficients of 0.005 in Models 2 and 3 and 0.014 in Model 4, which means that each addition year of age increases the log-odds of using digital payment as a slight positive factor. The education level has a robust and monotonic relationship: Compared to primary or less, the secondary education increases the log-odds by 0.744 in Model 2, and 0.377 in Model 4, and tertiary education increases the log-odds by 1.422 in Model 2 and 0.926 in Model 4. The income effects are also graded and the higher quintiles, Q4 and Q5, have large positive changes in log-odds, though the Q3 is small and insignificant.

The absence of the workforce significantly decreases the adoption by approximately 0.52 in Model 3 and 0.47 in Model 4, which is the log-odds. One of the best correlates again is digital access variables: absence of a mobile phone decreases the log-odds by 0.337, whereas recent use of internet enhances the log-odds by 0.791. Rural residence shows a small and insignificant coefficient once controls are included. Finally, country fixed effects reveal pronounced heterogeneity, with India, Nepal, and Sri Lanka exhibiting lower log-odds than the reference country, while Pakistan shows markedly higher log-odds of digital payment use.

HETEROGENEITY IN GENDER GAPS

Table 4 reports logit coefficients (log-odds) for digital payment use among banked adults. In the baseline model, the coefficient on Female is negative and highly significant (-0.271), indicating that women have lower log-odds of using digital payments than men, holding other covariates constant. Internet use is strongly positive and significant (0.791), implying that recent internet users have substantially higher log-odds of making or receiving digital payments. Rural residence is small and statistically insignificant (0.103), suggesting no meaningful rural–urban difference once controls are included.

In the Female × Internet specification, the main female effect becomes statistically insignificant (-0.081), but the interaction term Female×Internet is negative and significant (-0.393). This indicates that while internet use increases digital payment adoption for both genders, the internet-related boost is weaker for women than for men. In other words, connectivity improves adoption overall, but it does not translate into equally large gains for women, consistent with remaining gender-specific barriers such as lower digital confidence, limited autonomy in phone/internet use, or higher perceived risk. Rural residence remains insignificant, reinforcing that gendered differences are more strongly linked to digital capability and usage channels than to location alone.

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ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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Table 4. Logistic regression estimates of digital payment use with gender interactions

Variables	Baseline model	Female*Internet	Female*Rural	Female*Education
Female	-0.271***	-0.081	-0.621***	-0.113
	(0.070)	(0.094)	(0.121)	(0.093)
Internet use (= Yes)	0.791***	1.012***	0.797***	0.789***
	(0.082)	(0.111)	(0.082)	(0.082)
Female* Internet use		-0.393***		
		(0.131)		
Rural	0.103	0.102	-0.175	0.101
	(0.074)	(0.074)	(0.109)	(0.074)
Females*rural			0.504***	
			(0.142)	
Secondary education	0.377***	0.374***	0.382***	0.528***
	(0.079)	(0.079)	(0.079)	(0.106)
Tertiary education or more	0.926***	0.913***	0.930***	1.288***
	(0.148)	(0.148)	(0.148)	(0.215)
Females* Secondary education				-0.284**
				(0.135)
Females* Tertiary education or more				-0.711**
Age	0.014***	0.015***	0.015***	0.014***
	(0.002)	(0.002)	(0.002)	(0.002)
Income quintile = 2	0.184*	0.181*	0.171	0.184*
	(0.108)	(0.108)	(0.108)	(0.108)
Income quintile = 3	0.039	0.032	0.031	0.042
	(0.107)	(0.107)	(0.107)	(0.107)
Income quintile = 4	0.395***	0.388***	0.392***	0.392***
	(0.107)	(0.108)	(0.108)	(0.108)
Income quintile = 5	0.616***	0.608***	0.605***	0.610***
	(0.109)	(0.109)	(0.109)	(0.109)
Out of the workforce	-0.473***	-0.468***	-0.467***	-0.471***
	(0.070)	(0.069)	(0.070)	(0.070)
Mobile phone (=No)	-0.337***	-0.349***	-0.344***	-0.345***
	(0.085)	(0.085)	(0.085)	(0.085)
India	-0.557***	-0.580***	-0.556***	-0.567***
	(0.144)	(0.144)	(0.144)	(0.144)
Nepal	-1.005***	-1.029***	-1.017***	-1.023***
	(0.163)	(0.163)	(0.163)	(0.164)
Pakistan	0.840***	0.788***	0.816***	0.814***
	(0.257)	(0.258)	(0.258)	(0.258)
Sri Lanka	-0.512***	-0.530***	-0.523***	-0.511***
	(0.157)	(0.156)	(0.157)	(0.157)
Constant	-0.251	-0.355*	-0.068	-0.322
	(0.206)	(0.208)	(0.213)	(0.207)
Observations	4,647	4,647	4,647	4,647
N	4647	4647	4647	4647
Pseudo_R2	0.114	0.116	0.116	0.116

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 4 presents logit estimates examining whether the gender gap in digital payment use differs by place of

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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residence. In the baseline model, the coefficient on Female is negative and statistically significant (-0.271), indicating that women have lower log-odds of using digital payments than men, conditional on other covariates. Internet use remains strongly positive and significant (0.791), reaffirming the central role of digital connectivity in facilitating digital payment adoption. The coefficient on Rural residence is small and statistically insignificant (0.103), suggesting no systematic rural–urban difference once individual characteristics and digital access are controlled for.

When the Female × Rural interaction is introduced, the main effect of Female becomes more negative (-0.621), reflecting the gender gap in urban areas (the reference category). The interaction term Female×Rural is positive and highly significant (0.504), indicating that the gender penalty in digital payment use is attenuated in rural areas relative to urban areas. In other words, the percentage of the use of digital payment by women is smaller than that of men in general, but less in rural regions and more in urban ones. The Internet use still has a significant positive impact (0.797) and the rural standalone effect is statistically insignificant. Such findings imply that gender differences in online payment usage are determined more by gender-specific barriers in urban settings including occupational segregation or intensity of use than by rural residence itself.

Table 4 provides logit estimates that examine the hypothesis that the gender difference in the use of digital payments is dependent on the level of education. The coefficient on Female in the baseline model is negative and statistically significant (-0.271) and the digital payment use is therefore less likely in women as compared to men. The use of internet is also very positive (0.791) whereas the residence of rural area is relatively small and not significant meaning that location does not determine adoption independently of control variables. This gradient is significant in education: compared to primary education or beyond, secondary education augments the log-odds, 0.377 and tertiary education or further augments the log-odds, 0.926, which reinforces the significance of human capital in digital financial activity.

As there is an introduction of gender-education interaction, the principal female effect turns out to be statistically negligible (-0.113) indicating that the differences in gender at the lowest level of education are mostly incorporated through educational attainment. The terms of interaction are negative and considerable: Female× Secondary education (-0.284) and Female x Tertiary education or more (-0.711). These coefficients specify that women have lower gains in the level of education usage in digital payments as compared to men. Although higher education raises adoption for both genders, women benefit less from secondary and especially tertiary education in terms of increased log-odds of digital payment use. This pattern implies that education alone does not equalize digital financial behavior across genders and that complementary factors, such as labor market opportunities, digital confidence, and control over financial tools, likely constrain women's ability to translate educational advantages into active digital payment use.

PREDICTED PROBABILITY OF GENDER GAP

Table 5 shows the expected digital payment usage tendency by gender and internet use as a result of interaction logit model. In the non-internet users, the likelihood of digital payments is relatively stable between men (0.499) and women (0.481), so when there is no connection, the gap between the sexes is quite minimal. The opposite of this is true as, internet use significantly increases adoption among both sexes although the increase is considerably higher in males. The expectation of male internet users is 0.717 in relation to 0.620 to the female internet users. This means that there is a difference of approximately 10 points of gender gap between digitally connected people. The findings are that although internet access is a strong facilitator of the use of digital payments in general, it does not equally enhance adoption gains among women. Rather, connectivity seems to increase the gender disparity in usage implying that women have even more limitations such as of less confidence in digital devices, even less trust, or disparate control of digital devices that would restrict their capacity to make full use of internet access to digital financial transactions.

Table 5. Predicted probabilities of digital payment use by gender and internet use

Gender	Internet use	Predicted probability	Std. error	z-statistic	p-value	95% CI
Male	No internet	0.499	0.017	28.76	<0.001	[0.465, 0.533]
Male	Internet user	0.717	0.014	51.14	<0.001	[0.689, 0.744]
Female	No internet	0.481	0.015	32.62	<0.001	[0.452, 0.510]
Female	Internet user	0.620	0.015	40.18	<0.001	[0.590, 0.650]

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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The use of digital payment by men and women and by residents of various locations is predicted by the gender and place of residence, which is reported in Table 6 and indicates the importance of the spatial context on the gender gap. Digital payment frequency is also more frequent in urban locations (0.636) than rural locations (0.601), which means that there is a slight urban premium. However, the other pattern is that of women. Although the predicted probability of the use of digital payments is significantly less among urban women (0.506) than among urban men, the predicted probability is higher among rural women (0.576) than it is among their urban female counterparts. Consequently, gender gap is the greatest in the city (about 13 percentage points) and significantly smaller in the countryside, where female and male likelihoods are close to each other. These findings indicate that gender disadvantages can be partially compensated by rural settings, which might coincide with the increased dependence on shared or need-driven digital transactions, communal consumption, or inclusion effort. In general, the evidence suggests that spatial variables and gender do not affect each other in a linear manner and that the policies that could address the existing gender disparities in digital payments should consider the varying dynamics in urban and rural populations instead of presuming the existence of high inclusion in urban environments.

Table 6. Predicted Probabilities of Digital Payment Use by Gender and area

Gender	Residence	Predicted probability	Std. error	z-statistic	p-value	95% CI
Male	Urban	0.636	0.019	33.99	<0.001	[0.600, 0.673]
Male	Rural	0.601	0.012	49.44	<0.001	[0.577, 0.624]
Female	Urban	0.506	0.017	29.50	<0.001	[0.472, 0.539]
Female	Rural	0.576	0.012	49.44	<0.001	[0.553, 0.599]

Table 7 shows the predicted likelihood of using digital payment by gender and education level, and the result shows the existence of an education gradient and gender disparities. Both men and women have a greater probability of using digital payments with higher education, which means that human capital plays an important role in digital financial adoption. Predicted probabilities among men increase by 0.545 among men of primary education or less to 0.795 among men with tertiary education or more. The same trend is evident among women and their figures are rising as high as 0.520 at the lowest level of education and 0.645 among tertiary education levels.

These gains notwithstanding, a gender gap still exists in education at all levels of education. The difference is comparatively low between the individuals who have primary education but increases with the level of higher education. Interestingly, even female education has a significant negative impact on the probability of using digital payments as compared to that of male education (0.645 vs 0.795). This trend indicates that although education may greatly improve the rate of women using digital payments, it does not completely reduce the disparity of the gender. It seems to have structural and behavioral constraints (differences in digital autonomy, risk perceptions, or financial decision-making power) that prevent the closeness of the gender gap in digital payments adoption only to education.

Table 7. Predicted probabilities of digital payment use by gender and education

Gender	Education level	Predicted probability	Std. error	z-statistic	p-value	95% CI
Male	Primary or less	0.545	0.016	34.60	<0.001	[0.514, 0.576]
Male	Secondary	0.658	0.016	41.61	<0.001	[0.627, 0.689]
Male	Tertiary or more	0.795	0.031	25.75	<0.001	[0.734, 0.855]
Female	Primary or less	0.520	0.014	36.17	<0.001	[0.492, 0.548]
Female	Secondary	0.574	0.016	35.04	<0.001	[0.542, 0.606]
Female	Tertiary or more	0.645	0.039	16.36	<0.001	[0.568, 0.723]

Figure 1 shows gender disparities in estimated likelihoods of using digital payments in terms of internet usage, area, and education. Internet use substantially increases adoption for both genders, but the gain is larger for men, resulting in a wider gender gap among internet users. By residence, the gender gap is pronounced in urban areas but narrows in rural settings, where female probabilities are relatively higher. Education raises digital payment use for all individuals; however, gender gaps persist and widen at higher education levels, with highly educated women remaining less likely to use digital payments than comparable men.

ISSN E: 3006-1466
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CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.01 (2026)

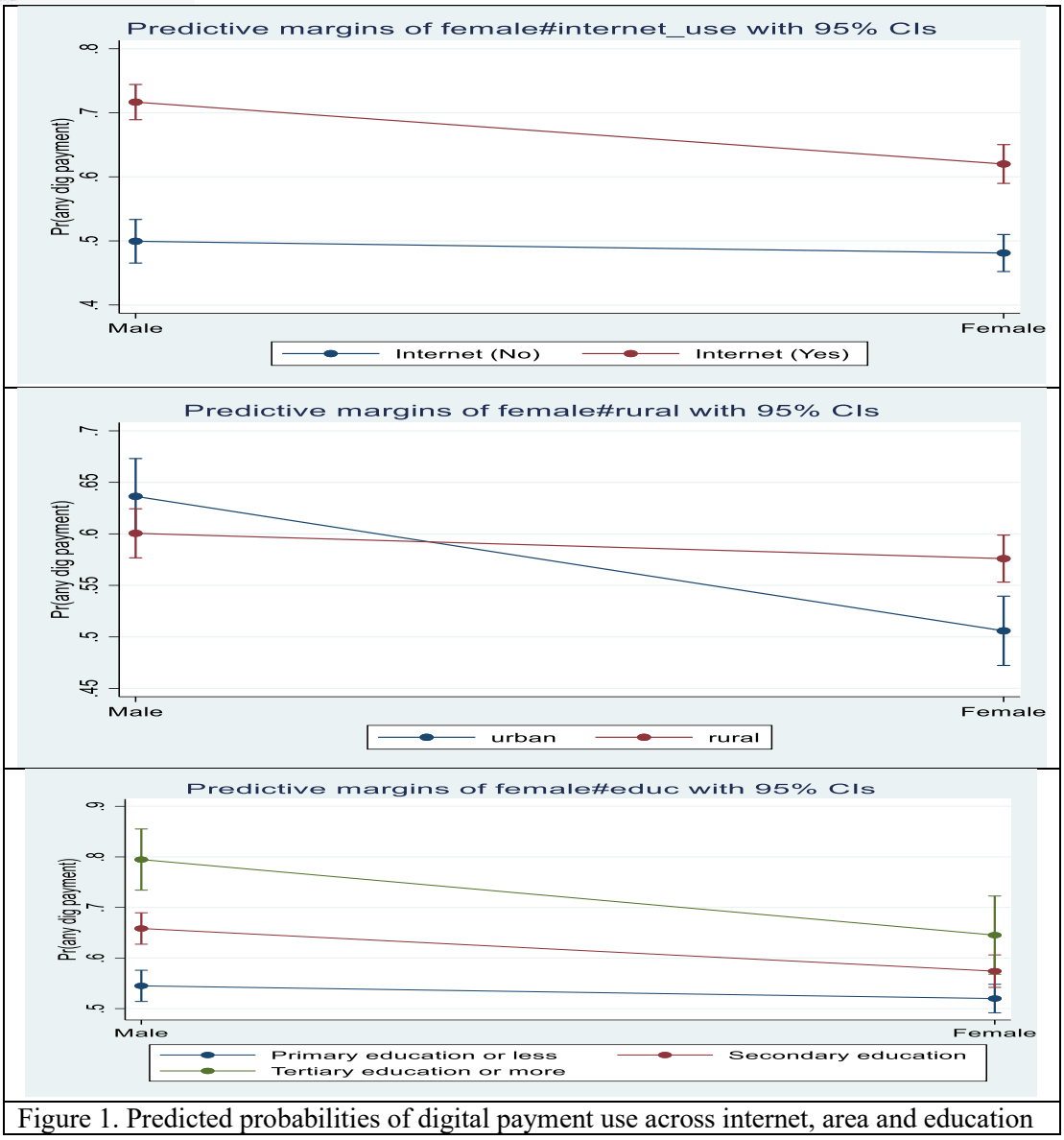


Figure 1. Predicted probabilities of digital payment use across internet, area and education

CONCLUSION

This study provides micro-level evidence on gender gaps in digital payment use among banked adults in South Asia, covering Bangladesh, India, Nepal, Pakistan, and Sri Lanka. By conditioning on account ownership, the analysis focuses on differences in usage rather than access. The results show that women are consistently less likely than men to make or receive digital payments. Part of this gap reflects differences in education, income, employment, and digital access. However, a significant gender penalty remains even after accounting for these factors. Internet use and higher education increase adoption for both genders, but the gains are larger for men. The analysis also shows spatial variation. Gender gaps are wider in urban areas and narrower in rural settings, highlighting uneven patterns of digital exclusion. These findings have clear policy implications. Expanding account ownership and digital infrastructure is necessary but not sufficient. Women continue to face behavioral and institutional barriers that limit effective use, including gaps in digital skills, trust, and control over financial tools. Policies should therefore move beyond access. Gender-sensitive digital literacy, user-friendly platform design, and measures that strengthen confidence and security are essential. Integrating gender concerns into digital finance strategies can help ensure that digital payments support inclusive financial development in South Asia rather than deepen existing inequalities.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
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CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.01 (2026)

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