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A Study on Digital Payments, Customer Convenience and Sales Growth of Small Vendors

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Abstract - The rapid diffusion of Unified Payments Interface (UPI) and related digital payment instruments across India's informal economy has opened up fresh avenues for investigating how technology adoption shapes business outcomes at the micro level. This paper examines the interplay between digital payment adoption, customer convenience, and sales growth among sixty small vendors operating in the Pitam Pura commercial district of North Delhi. Drawing on structured survey data and grounding the analysis in the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), the study operationalises five adoption drivers — Perceived Ease of Use, Perceived Usefulness, Perceived Risk, Trust and Security, and Social Influence — and tests their effects on a carefully constructed Customer Convenience construct and on Sales Growth. Multiple regression and Baron-Kenny mediation analysis reveal that Customer Convenience is the single strongest predictor of Sales Growth ($\beta = 0.791$, $p < 0.001$) and partially mediates the adoption-performance relationship. Perceived Usefulness and Trust and Security emerge as the dominant positive drivers, while Perceived Risk exerts a significant negative influence on convenience perceptions. All seven hypotheses proposed by the study find empirical support. The findings carry concrete implications for vendors, payment technology providers, financial institutions, and policymakers seeking to deepen digital financial inclusion in India's large informal sector.

Keywords: *UPI, digital payments, small vendors, customer convenience, sales growth, TAM, UTAUT, financial inclusion, informal economy, India*

1. Introduction

India's payments landscape has undergone a striking transformation over the past decade. What began as a cash-dominated economy — where a rupee note changed hands for everything from a cup of tea to an autorickshaw fare — has evolved into one of the world's most active digital-payment ecosystems. Central to this shift has been the Unified Payments Interface (UPI), launched in 2016 by the National Payments Corporation of India (NPCI) under the combined direction of the Reserve Bank of India (RBI) and the Indian Bankers Association (IBA). By enabling real-time, interoperable bank-to-bank transfers through nothing more than a mobile phone and a virtual payment address, UPI demolished many of the entry barriers that had historically kept small, informal traders outside the formal financial fold.

The scale of this penetration is remarkable. By the early 2020s, UPI was processing billions of monthly transactions, with street vendors, food-stall operators, and neighbourhood shopkeepers increasingly appearing among its registered merchants. Government programmes — Demonetisation (2016), Digital India, and Jan Dhan Yojana — accelerated adoption further by forcing both merchants and customers to seek alternatives to cash. For small vendors who had long relied on physical currency owing to limited banking access and low digital literacy, the transition was at once an opportunity and a challenge.

Against this backdrop, it becomes important to understand whether digital payment adoption actually translates into better business outcomes for the smallest and most marginal segment of the vendor community. Existing research has largely focused either on consumer-side adoption behavior or on macro-level financial inclusion metrics. Very little empirical work has examined the vendor-level experience — specifically, whether offering digital payment options enhances the convenience customers perceive and, crucially, whether that convenience improvement drives measurable sales growth. This study attempts to fill that gap by collecting primary data from sixty small vendors in Pitam Pura, North Delhi, and subjecting those data to a rigorous analytical framework rooted in TAM and UTAUT.

The remainder of the paper is structured as follows. Section 2 situates the study within the existing literature. Section 3 elaborates the research methodology. Section 4 presents and interprets the empirical results. Section 5 offers conclusions and evidence-based recommendations, and Section 6 acknowledges limitations while identifying directions for future inquiry.

2. Literature Review

2.1 Evolution of Digital Payment Systems in India

India's journey from cash-centric commerce to digital transactions spans roughly two decades of institutional development. The RBI's establishment of NEFT in 2005 and RTGS provided the first electronic fund-transfer rails, yet these remained largely confined to interbank settlements and were inaccessible to informal traders. The formation of NPCI in 2008 under the Payment and Settlement Systems Act, 2007, marked a decisive institutional turning point: NPCI was mandated to integrate all retail electronic payment channels and build a scalable, inclusive payment infrastructure (Sahun, 2026). The launch of UPI in 2016 operationalised that mandate at the grassroots level, allowing any smartphone user to push or pull funds across banks in real time without disclosing account details.

Kurniawan et al. (2024) confirm, through a systematic review of global evidence, that affordable digital infrastructure combined with widespread smartphone penetration has allowed micro-businesses to enter the digital economy. Their review specifically highlights the Indian context, where declining mobile data costs have sharply lowered barriers to e-payment adoption. Sahun (2026) corroborates this for the SME segment, finding that UPI's zero-transaction-fee model and minimal hardware requirements make it the dominant choice among small merchants. Demonetisation served as an unplanned but powerful accelerant: the abrupt withdrawal of high-denomination notes forced merchants and customers alike to seek cashless alternatives almost overnight, compressing what might have been a decade-long adoption curve into a matter of months.

2.2 Digital Payments and Customer Convenience

In the digital-payment literature, convenience is treated as a multi-dimensional construct encompassing transaction speed, accessibility, payment flexibility, and the perceived security and reliability of the platform (Sutar & Chabukswar, 2025). Singh and Tyagi (2024), studying Western Uttar Pradesh, find that ease and convenience are primary drivers of consumer preference for digital payment methods, with customers actively gravitating towards vendors who eliminate the need to carry exact change. Kaur and Arora (2023) extend this to small retail settings, documenting that faster checkout speeds and reduced cash-handling friction increase purchase frequency and generate positive word-of-mouth.

Security perceptions constitute a particularly important dimension of convenience. Mishra and Prasad (2023) show that consumer confidence in the safety of a transaction directly conditions their willingness to use digital payment systems and their satisfaction with the purchasing experience. When customers trust that their financial data will not be compromised, the overall convenience evaluation improves substantially, creating a reinforcing cycle of adoption and satisfaction. The World Bank (2022) reinforces this point at the macro level, noting that digital payment systems reduce transaction friction and increase financial transparency in ways that reconfigure competitive dynamics even for the smallest merchants.

2.3 Adoption of Digital Payments by Small Vendors

Research into vendor-side adoption has consistently highlighted customer pressure as the primary trigger. Shetty et al. (2024), working with micro-businesses in Mysore, find that most vendors adopted UPI in direct response to customers requesting or expecting the option — not because of any proactive technology strategy on the vendor's part. Rao (2021) adds a social-learning dimension, demonstrating that observing peer vendors succeed with digital payments reduces hesitancy and accelerates diffusion through informal commercial networks. This dynamic aligns with UTAUT's emphasis on social influence as a predictor of adoption behaviour.

Post-adoption outcomes are equally well-documented. Devi (2025) reports that UPI usage among informal businesses improves transaction transparency, aids financial self-management, and — critically — generates a de-facto transaction history that vendors can later leverage when applying for formal credit. Bansal and Sharma (2022) identify an unexpected reputational dividend: vendors accepting digital payments are perceived as more professional and legitimate by their customers, which in turn supports retention. Reddy and Kumar (2023) quantify operational efficiency gains in South India, finding that shorter transaction times allow digitally-enabled vendors to serve significantly more customers during peak periods without any additional capital investment.

2.4 Impact of Digital Payments on Sales Growth

The link between digital payment adoption and sales performance has attracted growing empirical attention. Chaudhary et al. (2024), studying MSMEs in Tier-II Indian cities, document significantly higher transaction volumes among digital-payment-accepting businesses than among cash-only counterparts, attributing the difference to reduced payment friction and broader customer reach. Agarwal (2023) adds a per-transaction effect: urban food vendors accepting digital payments record marginally higher average ticket sizes, plausibly because the absence of cash-management friction nudges customers towards slightly larger purchases.

Ravikumar et al. (2025) provide longitudinal evidence that vendors who improved customer

satisfaction through digital payment adoption reported meaningful sales increases within six to twelve months. Their causal path — adoption to satisfaction to growth — offers strong empirical grounding for the mediation framework tested in the present study. Verma and Singh (2024) extend the argument to resilience: during the COVID-19 disruption, vendors with digital payment infrastructure recovered pre-pandemic sales levels faster than their cash-only peers, suggesting that the performance benefits of adoption extend beyond routine operations to crisis-period recovery.

2.5 Challenges and Research Gaps

The literature also surfaces persistent obstacles to adoption. Network instability remains the most frequently cited operational challenge, with connectivity failures causing transaction errors that damage vendor reputations and erode customer trust (Shetty et al., 2024). Fear of cybersecurity threats and fraud deters adoption, particularly among older vendors with limited technology exposure. A subtler but structurally significant barrier is the concern that digital transaction records attract tax scrutiny: many informal vendors value the opacity of cash precisely because it insulates them from regulatory attention (Sahun, 2026).

From a scholarly standpoint, most existing research either examines adoption behaviour in isolation or evaluates business performance at the aggregate level. Very few studies conceptualise customer convenience as a mediating variable connecting adoption to sales outcomes. The informal sector — street vendors, food stalls, corner-shop operators — is systematically under-represented relative to its economic weight. And primary, micro-level evidence from specific urban commercial districts remains scarce, limiting the actionability of findings for practitioners and policymakers. The present study directly addresses these gaps.

3. Research Methodology

3.1 Research Design and Study Area

The study adopts a descriptive-cum-analytical cross-sectional design. Pitam Pura, a densely commercialised district in North Delhi, was chosen as the study area because it hosts a diverse concentration of small vendors — street hawkers, food stalls, retail shops, and micro-service providers — who exhibit heterogeneous levels of digital payment adoption, making it well suited for investigating the adoption-convenience-growth nexus.

3.2 Sample and Data Collection

A convenience sample of 60 small vendors was drawn from Pitam Pura's main commercial zones. Convenience sampling is standard practice in informal-sector fieldwork, where no reliable sampling frame exists and participants must be approached in person. To enhance representativeness within the sample, respondents were deliberately sought from all four vendor categories (street vendors, retail shopkeepers, food-stall operators, and micro-service providers) and from a range of age groups and levels of digital experience. The researcher administered the questionnaire directly to each respondent to minimise non-response bias and to assist participants with lower literacy levels.

3.3 Instrument and Variables

Data were collected through a structured questionnaire comprising four sections: (a) demographic and business-profile information; (b) digital payment usage patterns; (c) perceptual statements measured on five-point Likert scales; and (d) self-reported sales-growth indicators. The instrument was reviewed for content validity by the supervising faculty member prior to fieldwork.

Five independent variables capture the adoption environment: Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Perceived Risk (PR), Trust and Security (TS), and Social Influence (SI) — derived from TAM (Davis, 1989) and UTAUT (Venkatesh et al., 2003). Customer Convenience (CC) serves as the mediating variable, and Sales Growth (SG) is the dependent variable.

3.4 Analytical Techniques

Descriptive statistics (means, standard deviations, frequency distributions) characterise the sample. Pearson correlations examine bivariate relationships among constructs. Multiple linear regression models estimate (i) the effect of the five independent variables on CC and (ii) the effect of CC on SG. Mediation analysis follows the Baron and Kenny (1986) stepwise procedure, testing whether CC accounts for a significant portion of the adoption-sales relationship. Significance is assessed at the 5% level throughout.

3.5 Hypotheses

Seven sets of hypotheses, nested within the conceptual framework, guide the analysis:

- H1 / H1a / H1b: PEOU positively influences digital payment adoption, CC, and — via CC — SG.
- H2 / H2a: PU positively influences adoption and affects SG through CC.
- H3 / H3a / H3b: PR negatively affects adoption and indirectly reduces SG via lower CC.
- H4 / H4a / H4b: TS positively influences adoption and SG through enhanced CC.
- H5 / H5a: SI positively influences adoption and contributes to SG through increased customer demand.
- H6: CC has a significant positive direct effect on SG.
- H7: CC partially mediates the digital payment adoption–SG relationship.

4. Data Analysis and Results

4.1 Demographic Profile

Table 1 summarises the sample composition. The age distribution skews towards younger and middle-aged vendors: the 26–35 cohort accounts for 36.7% of respondents, followed by 36–45 (26.7%) and 18–25 (23.3%). Vendors above 45 years represent only 13.3%, consistent with the widely reported observation that older individuals face steeper digital adoption barriers. Male vendors predominate (73.3%), though the female proportion (23.3%) is non-negligible and reflects rising female participation in Delhi's informal vendor economy. Small retail shopkeepers form the largest business-type category (33.3%), followed by street vendors (30.0%), food-stall operators (23.3%), and micro-service providers (13.3%). Most respondents (63.3%) have been in business for three or more years, lending credibility to their self-reported assessments of pre- and post-adoption performance.

4.2 Digital Payment Usage

UPI-based applications (Google Pay, PhonePe, Paytm, BHIM) are used by 86.7% of vendors — a decisive

plurality that reflects UPI's near-zero infrastructure requirement and no-transaction-fee model. QR-code scanning follows closely at 76.7%, while mobile wallets (36.7%), POS card readers (16.7%), and internet banking (6.7%) are considerably less prevalent. Usage frequency is high: 50.0% of respondents accept digital payments several times daily, and 30.0% do so at least once or twice daily, meaning that 80% of the sample has fully integrated digital payments into routine operations rather than treating them as an occasional supplement to cash.

Variable	Category	Frequency (n)	Percentage (%)
Age Group	18–25 years	14	23.3
	26–35 years	22	36.7
	36–45 years	16	26.7
	Above 45 years	8	13.3
Gender	Male	44	73.3
	Female	14	23.3
	Prefer not to say	2	3.3
Business Type	Street Vendor	18	30.0
	Small Retail Shopkeeper	20	33.3
	Food Stall Operator	14	23.3
	Micro-service Provider	8	13.3
Years in Business	< 1 year	6	10.0
	1–3 years	16	26.7
	3–5 years	20	33.3
	> 5 years	18	30.0

4.3 Descriptive Statistics of Key Variables

Table 2 presents descriptive statistics for the six Likert-scale constructs. Customer Convenience records the highest mean (M = 4.35, SD = 0.54), followed by Perceived Usefulness (M = 4.28, SD = 0.57) and Perceived Ease of Use (M = 4.12, SD = 0.63). These elevated scores signal that vendors regard digital payments as both operationally advantageous and conducive to a positive customer transaction experience. Trust and Security also scores strongly (M = 3.91), indicating broadly positive platform-level confidence. Social Influence sits at a moderately high level (M = 3.68), suggesting that peer and customer pressure, while meaningful, is not the dominant motivator. Perceived Risk records the lowest mean (M = 2.74, SD = 0.89), confirming that concerns about fraud, errors, and regulatory exposure exist but have not overwhelmed the overall positive assessment. Sales Growth (M = 3.87, SD = 0.81) reflects clear self-reported improvements in business performance, albeit with notable inter-vendor variation.

Variable	Mean	Std. Dev.	Min	Max	Interpretation
Perceived Ease of Use	4.12	0.63	2	5	High – intuitive usage
Perceived Usefulness	4.28	0.57	2	5	Very High – strong operational benefits
Perceived Risk	2.74	0.89	1	5	Moderate – fraud and error concerns
Trust and Security	3.91	0.72	2	5	High – platform-level confidence
Social Influence	3.68	0.77	1	5	Moderately High – peer pressure present
Customer Convenience	4.35	0.54	3	5	Very High – positive experience
Sales Growth	3.87	0.81	2	5	High – positive impact perceived

4.4 Correlation Analysis

The Pearson correlation matrix (Table 3) highlights several patterns worth noting. Perceived Usefulness exhibits the strongest positive correlation with Customer Convenience ($r = 0.74$, $p < 0.01$), which implies that vendors who see tangible operational benefits from digital payments also report markedly better customer transaction experiences. Trust and Security ($r = 0.65$) and PEOU ($r = 0.68$) also correlate strongly with CC. As anticipated, Perceived Risk is negatively and significantly associated with both CC ($r = -0.52$) and Sales Growth ($r = -0.47$): vendors who harbour deeper security anxieties report lower convenience outcomes for their customers and weaker sales impacts. The strongest bivariate correlation with Sales Growth belongs to Customer Convenience ($r = 0.76$, $p < 0.01$), providing compelling preliminary support for the mediation hypothesis.

Variable	PEOU	PU	PR	TS	SI	CC	SG
PEOU	1.00	0.71**	−0.39**	0.62**	0.53**	0.68**	0.54**
PU	0.71**	1.00	−0.44**	0.59**	0.61**	0.74**	0.63**
PR	−0.39**	−0.44**	1.00	−0.57**	−0.31*	−0.52**	−0.47**
TS	0.62**	0.59**	−0.57**	1.00	0.49**	0.65**	0.58**
SI	0.53**	0.61**	−0.31*	0.49**	1.00	0.56**	0.51**
CC	0.68**	0.74**	−0.52**	0.65**	0.56**	1.00	0.76**
SG	0.54**	0.63**	−0.47**	0.58**	0.51**	0.76**	1.00

4.5 Regression Analysis

Model 1 regresses Customer Convenience on all five independent variables (Table 4). The model explains 68.1% of the variance in CC (Adjusted $R^2 = 0.655$; $F = 23.47$; $p < 0.001$). Perceived Usefulness emerges as the strongest positive predictor ($\beta = 0.312$, $p < 0.001$), followed by Trust and Security ($\beta = 0.241$, $p < 0.005$) and PEOU ($\beta = 0.218$, $p < 0.004$). Social Influence contributes positively but modestly ($\beta = 0.156$, $p < 0.05$). Perceived Risk, as predicted, exerts a significant negative effect ($\beta = -0.189$, $p < 0.004$). These results confirm that vendors' perceptions of the usefulness and trustworthiness of their payment platforms are the primary levers through which digital payment adoption translates into improved customer experiences.

Model 2 regresses Sales Growth on Customer Convenience alone, yielding an R^2 of 0.671 and a standardised coefficient of $\beta = 0.791$ ($p < 0.001$). This single variable accounts for roughly two-thirds of the variance in SG, underscoring that the customer transaction experience is the dominant proximate driver of sales performance for these vendors.

Predictor	β	Std. Error	t-value	p-value	Significance
Constant	0.621	0.284	2.19	0.032	Significant
Perceived Ease of Use (PEOU)	0.218	0.074	2.95	0.004	Significant
Perceived Usefulness (PU)	0.312	0.081	3.85	< 0.001	Significant
Perceived Risk (PR)	−0.189	0.063	−3.00	0.004	Significant
Trust and Security (TS)	0.241	0.082	2.94	0.005	Significant
Social Influence (SI)	0.156	0.077	2.03	0.047	Significant

4.6 Mediation Analysis

Following the Baron and Kenny (1986) four-step procedure, Table 5 reports the mediation results. In Step 1, the independent variables collectively predict Sales Growth significantly (β range: 0.41–0.63), satisfying the first condition for mediation. Step 2 confirms that the same independent variables significantly predict Customer Convenience (β range: 0.156–0.312). Step 3 establishes that CC is a strong and significant predictor of SG ($\beta = 0.791$, $p < 0.001$). In Step 4, the direct effects of the independent variables on SG diminish meaningfully (β range: 0.21–0.29) when CC enters the model, yet remain statistically significant. This pattern is definitively indicative of partial mediation: Customer Convenience accounts for a substantial share of the adoption-to-performance pathway, but the independent variables retain residual direct effects on SG. Hypothesis H7 is thus supported.

Step	Path	Beta (β)	p-value	Outcome
Step 1	IVs → Sales Growth (without CC)	0.41–0.63	< 0.05	Condition (a) met
Step 2	IVs → Customer Convenience	0.156–0.312	< 0.05	Condition (b) met
Step 3	CC → Sales Growth	0.791	< 0.001	Condition (c) met
Step 4	IVs → Sales Growth (with CC)	0.21–0.29 (reduced)	< 0.05	Partial Mediation confirmed

4.7 Hypothesis Testing Summary

Table 6 consolidates the hypothesis testing outcomes. All seven hypothesis sets find empirical support, confirming the internal consistency and predictive validity of the proposed conceptual framework.

Hypothesis	Statement	Result
H1 / H1a / H1b	PEOU positively drives adoption, CC, and SG (via CC)	Supported (β = 0.218, p < 0.01)
H2 / H2a	PU positively drives adoption and SG via CC	Supported (β = 0.312, p < 0.001)
H3 / H3a / H3b	PR negatively affects adoption, CC, and SG	Supported (β = −0.189, p < 0.01)
H4 / H4a / H4b	TS positively drives adoption, CC, and SG	Supported (β = 0.241, p < 0.01)
H5 / H5a	SI positively influences adoption and SG	Supported (β = 0.156, p < 0.05)
H6	CC significantly predicts SG	Supported (β = 0.791, p < 0.001)
H7	CC partially mediates the adoption–SG relationship	Supported (Partial Mediation)

4.8 Discussion

Several findings merit specific interpretation. First, the dominance of Perceived Usefulness over all other adoption drivers suggests that small vendors in the informal economy are ultimately pragmatic technology adopters: they embrace digital payments because they observably improve operational workflow — faster transactions, reduced cash-handling risks, and better record-keeping — rather than out of peer pressure or novelty. This has direct implications for how digital payment systems should be marketed and designed for this segment.

Second, the pronounced negative effect of Perceived Risk on Customer Convenience — and, indirectly, on Sales Growth — underlines that security perceptions are not a secondary concern but a direct constraint on business performance. For vendors whose customer base includes individuals equally anxious about digital fraud, a failed or error-prone transaction can translate into lasting reputational damage. Platform providers who invest in visible, easy-to-understand security features will not only improve adoption rates but will also generate downstream sales benefits for their vendor users.

Third, the magnitude of the Customer Convenience coefficient (β = 0.791) in the sales-growth regression is notable. No other variable in the model approaches this predictive power, reinforcing the theoretical proposition that it is the quality of the payment experience — not the mere availability of digital technology — that drives vendor performance. Vendors who ensure seamless, reliable, and multi-option payment environments for their customers can expect meaningfully better commercial outcomes than those who offer digital payments as a grudging concession to customer demand.

Finally, the partial mediation finding is theoretically significant. The fact that the independent variables retain direct effects on SG even after controlling for CC implies that digital payment adoption contributes to business performance through channels beyond convenience alone — including financial formalisation, credit-history building, and enhanced vendor credibility — channels that the present study's scope does not fully capture but that future research could productively explore.

5. Conclusions and Recommendations

5.1 Conclusions

This study provides robust empirical evidence that digital payment adoption positively and significantly influences both customer convenience and sales growth among small informal vendors in urban India. The TAM-UTAUT framework proves well-suited to the context, capturing the interplay between cognitive perceptions (ease of use, usefulness, risk), interpersonal dynamics (trust, social influence), and business outcomes. Several conclusions flow from the analysis.

Digital payments have transitioned from novelty to operational necessity for the majority of Pitam Pura's small vendor community, with UPI serving as the dominant instrument owing to its low barriers to entry. The primary motivation for adoption is utilitarian: vendors adopt and sustain digital payment use because they experience direct operational benefits, not primarily because their peers do so. Customer Convenience is the most powerful determinant of Sales Growth, establishing that the returns to digital payment adoption are mediated by the quality of the customer transaction experience. Perceived Risk, while not disabling adoption at the aggregate level, continues to constrain convenience perceptions and must be addressed through education and platform design. And digital payment adoption provides a pathway — however nascent — into formal financial services, with implications that extend beyond day-to-day sales performance.

5.2 Recommendations

For small vendors, the most actionable recommendation is to prioritise the reliability and breadth of their digital payment offering: maintaining a backup internet connection, displaying clearly visible QR codes, and accepting multiple payment methods (UPI, mobile wallets, and cards where feasible) will maximise the convenience that customers experience and, by extension, sales performance. Vendors still relying exclusively on cash should be reassured that entry costs are minimal and that the evidence strongly favours adoption.

For digital payment technology providers, the findings highlight the need for robust, low-latency platforms with transparent security communication. Offline or low-bandwidth payment modes would address the network-instability challenge that ranks as the most common operational grievance among vendor-users. Multilingual interfaces and simple iconography would extend usability to vendors with limited literacy.

For policymakers and government bodies, the persistent concern about tax scrutiny associated with digital transaction records represents a structural barrier that technology design alone cannot resolve. Clear, credible, and accessible communication about the tax treatment of small vendors' digital receipts — combined, where warranted, with simplified compliance mechanisms for micro-entrepreneurs — would remove a significant psychological deterrent to adoption. Existing incentive schemes (cashback programmes, RuPay promotions) should be continued and deepened. Investment in mobile-network infrastructure in high-density commercial areas is equally essential, given that connectivity failures are the most frequently cited operational challenge.

For financial institutions, the digital transaction histories that vendors accumulate through UPI and related instruments represent an underutilised asset. Banks that develop simplified credit-assessment products drawing on this data — rather than requiring conventional collateral or multi-year formal financial statements — can simultaneously expand their lending

book and accelerate vendors' progression from informality to formal financial participation.

6. Limitations and Future Research

The study's geographic restriction to a single commercial district in North Delhi constrains the generalisability of findings to other metropolitan areas, let alone to semi-urban or rural contexts where digital infrastructure and vendor demographics may differ substantially. Convenience sampling, while standard for informal-sector fieldwork, does not permit the statistical representativeness that probability sampling would afford. Self-reported sales data are susceptible to social-desirability bias, and the cross-sectional design provides a snapshot rather than a longitudinal picture of adoption dynamics. The sample of 60 vendors, though appropriate for an undergraduate dissertation, limits the power available for advanced multivariate techniques.

Future research should address these limitations by employing longitudinal designs that track actual (rather than self-reported) sales and transaction data before and after adoption, enabling causal claims that the present study can only approach through mediation analysis. Comparative studies across North and South India, or across urban and rural settings, would substantially enrich understanding of contextual moderators. Incorporating the customer's perspective — their experience of vendor-side digital payment quality — would complete the vendor-customer framework that this study partially constructs. Scholars might also explore the downstream financial-inclusion pathway more explicitly, examining whether digital payment adoption durably improves vendors' access to formal credit and insurance products.

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