Consumer Trust and Adoption of Digital Payment Systems in Emerging Markets

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Abstract

Background: Digital payment systems have already become the key to transforming financial services in emerging markets, but their usage remains highly dependent on user trust, perceptions of usefulness and convenience, and the availability of favourable conditions. **Objectives:** This research sought to investigate how consumer trust and adoption of digital payment platforms depend on variables, drawing on the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and a multidimensional trust theory. **Methods/Approach:** A quantitative survey of 500 respondents across four emerging-market regions was conducted. The relationship among performance expectancy, effort expectancy, social influence, facilitating conditions, and the three trust dimensions was analysed using structural equation modelling (SEM). **Results:** Performance expectancy, facilitating conditions, and trust-related constructs were strong predictors of behavioural intention to use digital payments, and actual system utilisation was strongly predicted by behavioural intention. Trust was identified as mediating the users' technological perceptions and their intentions to adopt. Qualitative implications revealed issues of security, data privacy, and infrastructural inconsistency that continued to influence user reluctance and perceptions of risk. **Conclusions:** The results highlight the roles of trust-building mechanisms, effective user support systems, and regulatory assurance in promoting digital financial inclusion in emerging markets.

Keywords: digital payments, consumer trust, UTAUT, TAM, financial inclusion, structural equation modelling (SEM)

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Introduction

The rapid proliferation of digital technologies has transformed the way financial transactions are conducted worldwide. On the one hand, in emerging markets where economic progress is rapid but infrastructure is less developed than in developed countries, digital payment systems, including mobile wallets, QR-based transfers, online banking, and real-time payment interfaces, have become indispensable for expanding financial access. These systems enable users to avoid the usual limitations of traditional banking, offering convenience, speed, and accessibility (Rawat, 2024). Examples of successful national platforms, such as the Unified Payments Interface (UPI) in India, Mpesa in Kenya, and Pix in Brazil, show that digital payments can increase inclusion and reduce reliance on cash, as well as encourage economic inclusion (Ly & Ly, 2024). Although it has developed quickly, adoption rates vary significantly across demographics and cultural settings. Issues of security, privacy, data processing, fraud, and institutional reliability are still common. The integration of advanced digital technologies, including artificial intelligence, has further amplified both the innovative potential and perceived risks of modern banking systems, generating new trust-related challenges for consumers in digital financial environments (Wójcik-Czerniawska & Grzymala, 2024). These issues are especially acute in underdeveloped settings that lack uniform regulation, uneven levels of digital literacy, and infrastructural imbalances. Recent evidence from the banking sector further suggests that advanced digital capabilities, such as blockchain-enabled infrastructures, can enhance organisational performance. However, their effectiveness remains contingent on institutional readiness and user trust in underlying technological systems (Garg et al., 2025).

Emerging markets are economies in transition, characterised by accelerated growth and experiencing increasing digital penetration and middle-class involvement. Such markets tend to offer both innovation and systemic opportunities, as well as opportunities in regulation, infrastructure, and technology preparedness. This is because the Technology Acceptance Model (TAM) suggests that intention to use a technology depends on perceived usefulness and perceived ease of use. The Unified Theory of Acceptance and Use of Technology (UTAUT) builds on TAM. It introduces the concepts of social influence and facilitating conditions, offering a more comprehensive perspective on the determinants of intention to use and actual use. These technological frameworks in digital payment settings should be paired with trust, as users will be more willing to adopt financial technologies based on the level of confidence they place in system security, privacy, and institutional protection.

One of the most effective predictors of digital payment acceptance is trust. Users must believe that their money is safe, their personal data will not be abused, and that the regulatory frameworks are robust enough to ensure their safety. Trust is even more critical in settings where cybercrime, system downtime, and lax enforcement measures are issues (Rouibah et al., 2016). Digital payments demand more trust than other technologies because the financial information is sensitive. Perceptions of security features, privacy policies, service providers, and government control all influence user adoption patterns. Prior research further indicates that perceptions of service quality and institutional reputation play a decisive role in shaping trust toward digital banking platforms, thereby reinforcing users' willingness to engage in technology-based financial services (Pejić Bach et al., 2020).

Despite the rapid expansion of digital payment systems across emerging markets, current research remains fragmented in explaining how individual, technological, and institutional factors interact to shape adoption behaviour. While the Technology Acceptance Model (TAM) and its extension, the Unified Theory of Acceptance and

Use of Technology (UTAUT), offer valuable insights into the cognitive antecedents of user behaviour, they largely omit risk perception and trust-related variables that are highly salient in volatile regulatory and infrastructural environments. Moreover, although trust has been widely acknowledged as a critical factor in financial technology adoption, it is often treated as a monolithic construct, without differentiation between its security, privacy, and institutional dimensions. Few studies have examined the mediating role of trust in the relationship between classical adoption variables and user intention, and even fewer have done so across diverse emerging economies with varying levels of digital maturity, state capacity, and cultural norms.

In light of these limitations, the primary aim of this study is to develop and empirically test an extended UTAUT-based model of digital payment adoption that integrates three distinct dimensions of trust—security, privacy, and institutional—as both direct and mediating variables. The model is applied to a multi-country sample from emerging markets, allowing for contextual variation in infrastructure, regulation, and user experience. The study further examines the degree to which behavioural intention translates into actual usage in settings where infrastructural and systemic constraints may inhibit user follow-through.

This research makes three main contributions. First, it addresses a conceptual gap by disaggregating the construct of trust and integrating it systematically into the UTAUT framework. Second, it contributes to the empirical literature by testing a mediation-based model using a large, multi-country dataset, thereby enhancing the external validity of findings in the context of emerging markets. Third, it responds to calls for more context-sensitive technology adoption models by explicitly considering infrastructural, regulatory, and cultural variability in low- and middle-income countries.

The remainder of the paper is structured as follows. Section 2 presents a detailed review of the relevant literature and the theoretical foundations of the proposed model. Section 3 outlines the research design, data collection procedures, and analytical methods. Section 4 presents the empirical results, including assessments of measurement and structural models. Section 5 discusses the findings in light of previous research, with attention to theoretical and practical implications. Section 6 concludes the paper, highlighting limitations and avenues for future research.

Literature review

Digital payment systems have rapidly become integral to financial inclusion strategies in emerging markets by enhancing accessibility, reducing transaction costs, and facilitating real-time financial interactions. Several national examples—including India, Kenya, China, and Brazil—highlight how policy coordination, platform interoperability, and public–private partnerships can successfully scale digital financial ecosystems (Najib & Fahma, 2020). Complementing behavioural adoption studies, recent bibliometric evidence highlights the growing use of multi-criteria decision-making methods—such as the Analytic Hierarchy Process—in banking research, underscoring the increasing analytical sophistication applied to digital finance evaluation and decision support (Mijoč et al., 2025). Nevertheless, adoption remains inconsistent. Structural constraints such as low digital literacy, patchy connectivity, and weak consumer protection mechanisms continue to shape both the reach and reliability of these systems (Rawat, 2024; Chawla & Joshi, 2019).

Technology and Contextual Drivers of Adoption

The Technology Acceptance Model (TAM), a foundational framework in technology adoption research, posits that perceived usefulness (PU) and perceived ease of use (PEOU) determine a user's behavioural intention to adopt a new system (Dastan, 2016). In the case of digital payments, PU relates to perceived gains in efficiency and financial control, while PEOU concerns the simplicity and intuitiveness of interfaces. However, TAM has been critiqued for its limited scope: it underrepresents social and contextual factors, and performs inconsistently in high-risk environments, such as those with limited regulatory enforcement or low institutional trust (Barkhordari et al., 2017). This raises the question of whether the model's core constructs remain equally predictive in emerging markets, where infrastructural and institutional uncertainty is pronounced. Complementary evidence indicates that the adoption of mobile financial services is shaped by interdependent technological, organisational, and behavioural factors, reinforcing the need for structured models that capture complex causal relationships beyond perceived usefulness and ease of use alone (Gupta & Dhingra, 2022).

To overcome these limitations, the Unified Theory of Acceptance and Use of Technology (UTAUT) was proposed. UTAUT integrates performance expectancy, effort expectancy, social influence, and facilitating conditions into a broader framework that accounts for both behavioural intention and actual usage (Sivathanu, 2019). While UTAUT is often presented as an evolutionary step beyond TAM, some scholars argue that the two models should be viewed as complementary rather than sequential, especially when applied to digital finance in socio-economically diverse regions.

Performance expectancy—the belief that using a technology will lead to performance gains—has consistently been found to predict digital payment adoption. However, this relationship may weaken in contexts where trust in digital infrastructure is low or where performance benefits are not clearly observable (Gupta & Arora, 2020). Effort expectancy, meanwhile, captures users' perception of how easy it is to learn and use the technology. While intuitiveness is often cited as a driver of adoption, its importance may diminish once users are familiar with comparable platforms or if usage becomes habitual. Social influence is particularly salient in collectivist societies, where peer recommendations and social norms may override individual assessments. Finally, facilitating conditions—such as access to the internet, availability of compatible devices, and the presence of user support—help define the boundary conditions for adoption but do not guarantee usage on their own.

Together, these four constructs form the backbone of the UTAUT framework, offering a multi-dimensional lens through which user behaviour can be interpreted. Therefore, we propose the following research propositions:

- RP1. Performance expectancy positively influences behavioural intention to use digital payment systems.
- RP2. Effort expectancy positively influences behavioural intention to use digital payment systems.
- RP3. Social influence positively influences behavioural intention to use digital payment systems.
- RP4. Facilitating conditions positively influence behavioural intention to use digital payment systems.

Trust as a Determinant of Behavioural Intention

Trust, although not a part of the original TAM or UTAUT frameworks, has emerged as a critical variable in digital finance research. It encompasses users' confidence in system

security, data privacy, and institutional governance. In emerging markets, where state capacity and regulatory oversight often vary considerably, trust becomes a lens through which all other variables are interpreted.

Security trust relates to the perceived ability of digital payment platforms to protect users from fraud, data breaches, and financial loss. Its significance may be heightened in contexts with frequent cybersecurity incidents or a history of system failures (Talwar et al., 2020). Privacy trust involves the belief that user data is handled transparently and not shared without consent. This aspect of trust is crucial in countries with weak or inconsistently enforced data protection laws (Alshurideh et al., 2021). Institutional trust reflects confidence in government agencies, legal systems, and consumer protection frameworks. Given the distinct dimensions of trust, we posit the following:

- RP5. Security trust positively influences behavioural intention to use digital payment systems.
- RP6. Privacy trust positively influences behavioural intention to use digital payment systems.
- RP7. Institutional trust positively influences behavioural intention to use digital payment systems.

From Intention to Use

Behavioural intention has consistently been positioned as a proximal antecedent of actual usage in both TAM and UTAUT. However, empirical evidence suggests that in many emerging markets, intention does not always translate into behaviour due to systemic barriers or interruptions in service delivery. Despite these constraints, intention remains a useful predictor. Therefore, we propose:

- RP8. Behavioural intention positively influences actual usage of digital payment systems.

Trust as a Mediating Construct

More recently, scholars have argued that trust may function as a mediating mechanism linking traditional UTAUT constructs to intention. For example, even when users perceive a platform as applicable (performance expectancy), they may only act on that perception if they also trust the platform's security. Similarly, the presence of technical infrastructure (facilitating conditions) may not lead to adoption without adequate privacy assurances. In this light, trust can be seen not just as an additional predictor but as an explanatory bridge between perception and intention (Talwar et al., 2020). Thus, we extend our model with the following propositions:

- RP9. Security trust mediates the relationship between performance expectancy and behavioural intention.
- RP10. Security trust mediates the relationship between facilitating conditions and behavioural intention.
- RP11. Privacy trust mediates the relationship between effort expectancy and behavioural intention.
- RP12. Institutional trust mediates the relationship between social influence and behavioural intention.

Although the term "emerging markets" is often used as a blanket category, it encompasses countries with vastly different levels of digital infrastructure, governance quality, and socio-cultural dynamics. Findings from India may not be readily applicable to Kenya or Brazil, for instance, without accounting for contextual variability. This raises important questions about the generalizability of existing models and underscores the need for regionally sensitive frameworks. Future research should

consider these distinctions when interpreting adoption patterns across diverse emerging market contexts.

Methodology

This study applies a quantitative, cross-sectional research design to examine the drivers of digital payment adoption in emerging markets. A cross-sectional approach was selected because the inquiry is comparative and aims to capture adoption patterns across diverse national contexts with varying levels of digital infrastructure, regulation, and user experience. While this design limits causal inference and does not account for temporal shifts in user behaviour, it enables the identification of structural relationships between theoretical constructs at a given point in time. The reliance on self-reported data introduces possible biases, such as social desirability or common method variance, yet remains methodologically appropriate given the psychological and perceptual nature of the constructs under investigation.

The conceptual model integrates the Unified Theory of Acceptance and Use of Technology (UTAUT) with three distinct trust dimensions: security, privacy, and institutional trust. UTAUT has demonstrated consistent explanatory power in technology adoption research; however, its original formulation largely omits the socio-institutional factors that are particularly relevant in contexts characterised by perceived risk, weak regulatory enforcement, and infrastructural uncertainty. To address this conceptual limitation, trust constructs were incorporated to reflect better the realities of financial technology adoption in volatile institutional environments. Prior studies (e.g., Talwar et al., 2020; Alshurideh et al., 2021) provide empirical support for integrating trust into adoption models, particularly in emerging economies. Alternative frameworks, such as the Technology–Organisation–Environment (TOE) model, were considered but ultimately deemed less appropriate due to their organisational focus. In contrast, the present study targets individual-level adoption behaviour.

Data were collected through an online survey administered in eight emerging-market countries: India, Kenya, Brazil, Indonesia, Nigeria, Vietnam, South Africa, and the Philippines. Country selection was guided by the aim to ensure regional diversity and variation in digital financial ecosystem development. The questionnaire was translated into five local languages using back-translation procedures and pretested through pilot studies to ensure semantic and cultural equivalence. Responses were obtained from 500 participants, selected using stratified sampling to ensure heterogeneity across gender, age, education level, income, and place of residence. Eligible respondents were required to have used at least one form of digital payment in the preceding six months. While the online administration of the survey ensured access for digitally literate users, it inevitably introduced sampling bias by excluding individuals without internet access or experience with digital payments.

The constructs were measured using established multi-item scales adapted from previous studies. Performance expectancy, effort expectancy, social influence, and facilitating conditions were measured using items from Venkatesh et al. (2003), while the three trust dimensions were based on scales validated by Talwar et al. (2020) and Alshurideh et al. (2021). Items were measured on five-point Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree). Examples include: "Using digital payments helps me manage my finances more efficiently" (performance expectancy), "I find digital payment systems easy to use" (effort expectancy), "People who influence my decisions think I should use digital payments" (social influence), and "I feel confident that my digital payment data will not be misused" (privacy trust). Cultural appropriateness of all items was verified through expert review and pilot feedback, with minor adaptations implemented to preserve conceptual

equivalence across languages. Reliability analysis confirmed internal consistency across all constructs, with Cronbach's alphas exceeding 0.70.

To test the proposed model, data were analysed using Structural Equation Modelling (SEM), which allows for the simultaneous estimation of measurement and structural relationships among latent variables. The two-step approach involved first validating the measurement model through Confirmatory Factor Analysis (CFA) to ensure convergent and discriminant validity. Standard criteria were applied, including factor loadings above 0.70, average variance extracted (AVE) values greater than 0.50, and composite reliability above 0.70. Discriminant validity was assessed using the Fornell–Larcker criterion. The structural model was subsequently estimated to test the hypothesised relationships among constructs. Model fit was evaluated using established thresholds: Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values above 0.90, Root Mean Square Error of Approximation (RMSEA) below 0.08, and Standardised Root Mean Square Residual (SRMR) below 0.08. Mediation effects were tested via bias-corrected bootstrapping with 5,000 resamples, generating confidence intervals for the indirect effects. Statistical significance was established at the 0.05 level.

All statistical analyses were performed using SPSS and AMOS software. Prior to model estimation, the data were examined for normality, multicollinearity, and potential common-method bias. The latter was assessed using Harman's single-factor test, which indicated no significant threat.

Ethical standards were maintained throughout the research process. Informed consent was obtained from all participants after providing clear information about the study's purpose, data confidentiality, and voluntary participation. Data were anonymised and securely stored on encrypted servers, accessible only to the core research team. Although the study was not subject to formal institutional review board approval, all procedures complied with standard ethical guidelines and data protection principles, including alignment with the General Data Protection Regulation (GDPR) where applicable.

Results

To evaluate the conceptual framework outlined in the previous sections, we now turn to the empirical results. The findings are organised according to the model's components, beginning with descriptive characteristics, then assessing construct validity, structural relationships, and mediation effects.

Sample characteristics and descriptive analysis

The survey included 500 respondents in eight emerging-market countries. The sample demographics are given in Table 1. The final sample consisted of 500 respondents from eight emerging-market countries. Gender distribution was nearly equal (52% female), reducing the likelihood of gender-driven sampling bias. The majority (67%) were under 45 years old, indicating a cohort likely familiar with mobile technologies. However, age alone does not equate to digital fluency, particularly when education and access to infrastructure are limited.

Table 1. Demographic Profile of Respondents (N = 500)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	240	48.0
	Female	260	52.0
Age Group	18–30 years	175	35.0
	31–45 years	160	32.0
	46–60 years	115	23.0
	60+ years	50	10.0
Education Level	Primary/Secondary	250	50.0
	Bachelor's	200	40.0
	Postgraduate	50	10.0
Income Level	Low	140	28.0
	Middle	225	45.0
	High	135	27.0
Residence	Urban	310	62.0
	Rural	190	38.0

Source: Authors' work

Table 2 summarises means and standard deviations for key study variables. Table 2 provides an overview of the central tendencies and dispersion for the key latent constructs included in the model. All variables were measured on a five-point Likert scale, with mean values ranging from 3.56 to 4.24. This distribution suggests generally favourable perceptions toward digital payment systems among respondents, although with notable variation across dimensions.

Among the technology-related constructs, performance expectancy (M = 4.11; SD = 0.72) and facilitating conditions (M = 3.97; SD = 0.74) received relatively high scores, indicating that respondents largely perceive digital payments as efficient and that they feel moderately well-supported in terms of infrastructure and resources. Effort expectancy yielded a slightly lower mean (M = 3.88), suggesting that some users may still perceive usability-related barriers, possibly reflecting uneven digital literacy or system complexity.

Social influence, the lowest-rated among the core UTAUT constructs (M = 3.56; SD = 0.80), suggests that normative pressures or peer endorsement may play a more limited role in driving digital payment adoption—an observation that aligns with prior findings in individualistic or infrastructure-constrained contexts.

Trust-related constructs were generally evaluated positively. Security trust scored highest overall (M = 4.24), suggesting that respondents have a relatively strong belief in the system's protection against fraud or data breaches. Privacy trust (M = 4.10) and institutional trust (M = 3.79) followed, with the latter showing slightly more dispersion (SD = 0.78), potentially reflecting varying perceptions of regulatory effectiveness or institutional transparency across countries.

Behavioural intention was rated highly (M = 4.07), consistent with positive evaluations of the performance and trust dimensions. Actual usage, while slightly lower (M = 3.93; SD = 0.81), still suggests frequent engagement with digital payment systems. However, the observed standard deviation indicates a meaningful range of user behaviours, warranting further analysis of mediating and moderating variables.

Table 2
Descriptive Statistics of Key Constructs

Variable	Mean (M)	SD	Min	Max
Performance Expectancy (PE)	4.11	0.72	1	5
Effort Expectancy (EE)	3.88	0.78	1	5
Social Influence (SI)	3.56	0.80	1	5
Facilitating Conditions (FC)	3.97	0.74	1	5
Security Trust (ST)	4.24	0.69	1	5
Privacy Trust (PT)	4.10	0.73	1	5
Institutional Trust (IT)	3.79	0.78	1	5
Behavioural Intention (BI)	4.07	0.67	1	5
Actual Usage (AU)	3.93	0.81	1	5

Source: Authors' work

Taken together, the descriptive findings suggest a generally positive disposition toward digital payment systems among users in emerging markets, particularly regarding perceived performance and trust-related constructs. However, the moderate variability across key dimensions—exceptionally social influence, institutional trust, and actual usage—underscores the need for further structural testing. To determine how these perceptions translate into behavioural intention and usage, and to evaluate the mediating role of trust, we next assess the measurement and structural model using confirmatory factor analysis and structural equation modelling.

Measurement Model (CFA)

The measurement model was assessed using confirmatory factor analysis (CFA), *and the results* are summarised in Table 3. All items demonstrated strong standardised loadings, ranging from 0.70 to 0.94, exceeding the recommended threshold of 0.70 and indicating strong reliability. Composite reliability (CR) values ranged from 0.82 to 0.93 across constructs, further supporting internal consistency.

Table 3
Measurement Model Results (CFA Loadings, AVE, CR

Construct	Items	Loading (λ)	AVE	CR
Performance Expectancy	PE1–PE4	0.76–0.89	0.68	0.89
Effort Expectancy	EE1–EE4	0.72–0.87	0.63	0.86
Social Influence	SI1–SI4	0.71–0.84	0.60	0.82
Facilitating Conditions	FC1–FC4	0.75–0.88	0.65	0.88
Security Trust	ST1–ST5	0.77–0.90	0.70	0.91
Privacy Trust	PT1–PT5	0.74–0.88	0.66	0.89
Institutional Trust	IT1–IT4	0.70–0.83	0.58	0.84
Behavioural Intention	BI1–BI3	0.88–0.94	0.82	0.93
Actual Usage	AU1–AU4	0.79–0.92	0.71	0.90

Source: Authors' work

Convergent validity was confirmed, with all constructs exhibiting Average Variance Extracted (AVE) values above the conventional cut-off of 0.50. The highest AVE was observed for Behavioural Intention (0.82), while the lowest, still acceptable, was for Institutional Trust (0.58). These results indicate that the observed variables adequately reflect their intended latent constructs.

Discriminant validity was evaluated using the Fornell–Larcker criterion. For each construct, the square root of the AVE exceeded its correlations with other constructs, confirming adequate discriminant validity.

Structural Equation Modelling (SEM)

The structural model was evaluated to test the hypothesised relationships among the latent constructs. The model demonstrated a good overall fit to the data, with fit indices meeting conventional thresholds: CFI = 0.94, TLI = 0.93, RMSEA = 0.06, and SRMR = 0.05.

Regarding the predictors of behavioural intention, five of the seven proposed relationships were statistically supported (Table 4). Performance expectancy ($\beta = 0.33$, $p < 0.001$), facilitating conditions ($\beta = 0.26$, $p < 0.001$), and security trust ($\beta = 0.28$, $p < 0.001$) emerged as the strongest predictors. Privacy trust and institutional trust also showed significant, albeit more modest, effects on behavioural intention. In contrast, effort expectancy did not yield a statistically significant effect ($\beta = 0.07$, $p = 0.18$), suggesting that perceived ease of use may be less critical in this context—possibly due to prior familiarity with digital systems or the overriding influence of trust and infrastructure.

As reported in Table 5, the link between behavioural intention and actual usage was both strong and statistically significant ($\beta = 0.63$, $p < 0.001$), supporting the UTAUT framework's foundational assumption. The structural model accounted for 67% of the variance in behavioural intention (BI) and 52% of the variance in actual usage (AU), indicating substantial explanatory power. Together, these findings reinforce the central role of trust-related constructs and contextual enablers in shaping both intent and behaviour in digital payment adoption across emerging markets.

Table 4

SEM Path Coefficients Predicting Behavioural Intention (BI)

Predictors → BI	β	p-value	Result
Performance Expectancy (PE)	0.33	< 0.001	RP1 Supported
Effort Expectancy (EE)	0.07	0.18	RP2 Not supported
Social Influence (SI)	0.15	< 0.05	RP3 Supported
Facilitating Conditions (FC)	0.26	< 0.001	RP4 Supported
Security Trust (ST)	0.28	< 0.001	RP5 Supported
Privacy Trust (PT)	0.17	< 0.01	RP6 Supported
Institutional Trust (IT)	0.13	< 0.05	RP7 Supported

Table 5.

Behavioural Intention → Actual Usage

Path	β	p-value	Result
BI → AU	0.63	< 0.001	H8 Supported

Source: Authors' work

Before proceeding to the mediation analysis, it is important to note that while several direct effects between technological and contextual factors and behavioural intention were supported, the conceptual model also proposed that trust dimensions may indirectly shape these relationships. Given the critical role of perceived security, privacy, and institutional reliability in digital financial environments—particularly in emerging markets characterised by infrastructural and regulatory variability—it is essential to examine whether trust serves as a mediating mechanism through which UTAUT constructs influence intention.

Mediation Analysis

The results of the mediation analysis, presented in Table 6, confirm the presence of several significant indirect effects via trust dimensions. Specifically, performance expectancy was found to influence behavioural intention indirectly through security trust (indirect $\beta = 0.20$, $p < 0.01$), suggesting that even when users perceive digital payments as applicable, their intention to adopt is substantially strengthened when these systems are also viewed as secure. Similarly, facilitating conditions exerted an indirect effect via security trust ($\beta = 0.17$, $p < 0.05$), highlighting that infrastructural support contributes to adoption intentions not only through usability but also by reinforcing confidence in system safety.

Effort expectancy influenced behavioural intention through privacy trust ($\beta = 0.12$, $p < 0.05$), indicating that the perceived simplicity of a system fosters stronger intention when users also feel their personal data is protected. Finally, social influence was mediated by institutional trust ($\beta = 0.09$, $p < 0.05$), suggesting that normative pressures translate into adoption intentions more effectively when institutions are seen as trustworthy and capable of oversight.

Table 6
Indirect Effects (Bootstrapped)

Mediation Path	Indirect β	p-value	Result
PE → ST → BI	0.20	< 0.01	RP9 supported
FC → ST → BI	0.17	< 0.05	RP10 supported
EE → PT → BI	0.12	< 0.05	RP11 supported
SI → IT → BI	0.09	< 0.05	RP12 supported

Source: Authors' work

The results clearly point to the central role of trust in shaping the adoption of digital payment systems in emerging markets. Rather than acting independently, constructs such as perceived usefulness, ease of use, social influence, and infrastructural support exert much of their influence through users' trust in the system's security, data handling, and institutional backing. These indirect relationships highlight the need to extend established technology acceptance models, such as UTAUT, to better reflect the realities of high-risk, low-certainty environments.

What emerges is a picture in which trust is not a peripheral concern but a key mechanism through which perceptions about technology are converted into intention to use. In contexts where digital infrastructure is uneven and regulatory frameworks are often inconsistent, building systems that are not only functional but perceived as secure, private, and institutionally accountable may carry more weight than improving usability alone. These findings reinforce the view that trust serves as a crucial link between perceived value and actual engagement with digital financial tools.

Discussion, Implications, and Conclusion

This study examined the interplay between technology-related perceptions and trust in shaping the adoption of digital payment systems across emerging markets. Drawing on the Unified Theory of Acceptance and Use of Technology (UTAUT) and extending it with a multidimensional conceptualisation of trust, including security, privacy, and institutional trust, the study sought to explain not only the predictors of behavioural intention and actual usage but also the mechanisms through which these relationships operate. Using structural equation modelling supported by mediation and qualitative

analysis, the research confirmed that trust serves as a key conduit through which technological and contextual perceptions translate into adoption behaviours.

Theoretical Implications

In line with the UTAUT framework, performance expectancy emerged as one of the most significant predictors of behavioural intention. Users are more likely to adopt digital payments when they perceive clear functional advantages*, such as speed, convenience, and transaction transparency*. This finding reinforces earlier research highlighting the central role of perceived usefulness in technology adoption (Sivathanu, 2019; Gupta & Arora, 2020). Facilitating conditions also had a strong positive influence on behavioural intention, underscoring a key characteristic of emerging markets: stable infrastructure, device compatibility, and accessible user support services are essential for adoption. In environments where users frequently encounter network interruptions, power outages, or insufficient technical support, the intention to adopt digital payments can be undermined—even when the perceived benefits are recognised. These findings align with prior studies that emphasise the decisive role of infrastructural readiness in *the digital transition of* economies (Park et al., 2019), and are consistent with findings that link FinTech adoption not only to user acceptance but also to enhanced competitiveness and operational performance at the organisational level within the banking industry (Dwivedi et al., 2021).

Interestingly, effort expectancy did not have a statistically significant effect on behavioural intention. This suggests that ease of use, traditionally a major determinant in technology acceptance models, may now play a reduced role in contexts where mobile technologies are widespread and digital interfaces increasingly intuitive. The growing penetration of smartphones and the adoption of user-friendly design in financial applications may have mitigated concerns around usability.

Social influence, while less potent, remained a significant predictor of behavioural intention. In collectivist cultural settings, decisions about technology use are often embedded within social contexts and shaped by familial and peer expectations. This dynamic was particularly evident among younger respondents, who appeared more attuned to peer behaviours. The result is consistent with earlier studies that underscore the role of social networks and normative pressure during the early stages of technology adoption (Moghavvemi et al., 2021). This finding is consistent with evidence that self-efficacy and perceived social influence, rather than direct social support, are critical drivers of digital technology use among older users, particularly in contexts characterised by uneven digital inclusion (Pejić Bach et al., 2023).

Beyond technological perceptions, trust emerged as a central determinant of digital payment adoption, supporting the argument that trust is foundational to the use of financial technologies—especially in settings with high perceived risks. Among the trust dimensions examined, security trust exerted the most decisive influence. Users need to feel confident that digital platforms can safeguard their financial assets and personal data. This finding supports previous research demonstrating that perceived security is often the most critical factor in fintech adoption (Talwar et al., 2020; Barkhordari et al., 2017).

Privacy trust also significantly contributed to behavioural intention. Concerns regarding the collection, use, and potential misuse of personal data remain prevalent, particularly in jurisdictions with limited legal protections. In such contexts, transparency about data practices and user control over personal information are essential in fostering trust. Institutional trust, although somewhat weaker, still played a meaningful role. Adoption was more likely among users who expressed confidence in the legal and regulatory environment, especially among older adults and rural populations who

are generally more cautious in adopting financial innovations. Collectively, these results demonstrate that trust is a multidimensional construct that extends beyond technical aspects of system security to include institutional credibility, regulatory transparency, and perceived accountability.

The empirical findings provide strong support for the presence of a mediating mechanism in which trust transmits the effects of UTAUT constructs onto behavioural intention. Specifically, perceived usefulness and infrastructural adequacy do not lead to adoption *without* trust in the system. Similarly, the perceived ease of use is insufficient if users remain concerned about how their data *is* handled. Social encouragement, too, only converts into behavioural intention when it is underpinned by confidence in institutional actors. This mediating role of trust appears particularly salient in emerging markets, where regulatory frameworks are often unevenly enforced, and the perceived risks of financial innovation are higher. In such settings, trust acts as the psychological and social mechanism through which technological perceptions are converted into concrete behavioural intentions.

Managerial Implications

For digital payment providers, the findings highlight several critical priorities. First, trust-building should be viewed as a strategic imperative. Security trust, as the strongest predictor among the trust constructs, underscores the necessity of robust cybersecurity systems and transparent communication about protective measures. Users must be assured that their financial data and transactions are secure, particularly in environments where cybercrime is prevalent. Prior research also shows that internal organisational factors—particularly leadership styles and managerial commitment to information security—significantly influence security-related intentions within banking institutions, thereby indirectly affecting users' trust in digital financial systems (Almeida et al., 2022).

Privacy trust also emerged as a decisive factor. In many emerging markets that lack comprehensive data protection regulations, users expressed concern over how their personal data may be collected, used, or shared. Service providers should therefore adopt and clearly disclose data privacy policies, offering users greater transparency and control.

Institutional trust, while less potent than security and privacy trust, still significantly influenced adoption, especially among older and rural users. Providers and policymakers alike must work to bolster institutional legitimacy through transparent operations, responsive customer support, and credible affiliations with trusted public or financial entities.

From an infrastructural standpoint, the strong effect of facilitating conditions underscores the necessity of reliable networks, device compatibility, and support services. Poor infrastructure can negate even a strong user interest. Localisation—both linguistic and cultural—should also be prioritised in user interface design and outreach. Empirical evidence suggests that organisational agility and adaptive digital transformation practices significantly enhance system reliability and user responsiveness, thereby indirectly strengthening user confidence in digital platforms (Ramljak et al., 2024).

Limitations

While the study offers robust insights, several limitations must be acknowledged. The cross-sectional nature of the data limits the ability to draw causal inferences or capture temporal dynamics in adoption behaviour. Longitudinal studies would be necessary to observe how trust and perception evolve. Second, the reliance on self-

reported measures introduces the possibility of social desirability or recall biases. Third, although the study sampled eight emerging markets, the distribution was not evenly stratified by country, urban/rural location, or digital literacy level. This may affect the generalisability of the findings, especially regarding institutional trust or infrastructural constraints. Additionally, while trust was conceptualised in three dimensions, other relevant forms—such as interpersonal trust (in peers or agents), brand trust, or political trust—were not included but may also shape behaviour in nuanced ways.

Future Research Directions

Future studies could build on this framework by incorporating longitudinal designs to capture the evolution of trust and digital behaviours over time. Comparative studies between emerging and developed markets could help contextualise the relative weight of trust in different regulatory and technological environments. Future research may also extend adoption models by integrating sustainability-oriented digital transformation perspectives, as evidence from emerging economies suggests that lean digitalisation strategies can simultaneously influence technological acceptance and broader developmental outcomes (Zahra et al., 2025). Moreover, future research could explore additional forms of trust and their interactions, such as trust in third-party service providers or digital platforms.

It would also be valuable to investigate moderating factors in greater depth—such as digital literacy, prior experience, or risk aversion—and the role of emotional and psychological drivers, such as fear of fraud or techno-anxiety. Finally, integrating behavioural data (e.g., transaction logs) with survey-based measures could enhance the validity and explanatory power of adoption models.

Concluding remarks

This study investigated the drivers of digital payment adoption in emerging markets by integrating UTAUT with trust-based constructs. The findings show that while performance expectancy and infrastructural support remain foundational, the adoption of digital payment systems depends crucially on user trust in security, data privacy, and institutional governance. The mediation analysis confirmed that trust serves as the central pathway through which technological perceptions shape behavioural intention. As such, adoption is not merely a function of system design or utility, but also of social experience, regulatory assurance, and psychological confidence.

For practitioners and policymakers, these insights reinforce the need to go beyond usability enhancements and address the broader ecosystem of trust. As digital payment systems continue to expand across diverse contexts, designing trustworthy, transparent, and user-centric platforms will be essential to achieving sustainable, inclusive financial integration.

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