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UNDERSTANDING GENERATION X'S ADOPTION OF DIGITAL PAYMENT SYSTEMS: AN INTEGRATED UTAUT–ToE PERSPECTIVE

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ABSTRACT: This study examines Generation X's intention to adopt digital payment systems by integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) with the Technology–Organization–Environment (ToE) framework. It contributes to the fintech adoption literature by explicitly disentangling individual-level behavioral drivers from organizational and environmental constraints, thereby clarifying why adoption among Generation X remains uneven despite widespread technological diffusion. Using survey data from 200 Generation X respondents and analyzing the model with PLS-SEM, we find that UTAUT constructs, including performance expectancy, effort expectancy, social influence, facilitating conditions, and trust, significantly predict adoption intention. In contrast, ToE-related factors exhibit weaker explanatory power, suggesting limited salience of organizational and environmental conditions for this cohort. These findings imply that policies and managerial strategies aimed at accelerating fintech adoption among Generation X should prioritize behavioral alignment and digital confidence rather than structural or institutional interventions.

Keywords: Generation X; Digital Payment Adoption; Fintech Behavior; UTAUT; Technology–Organization–Environment (ToE)

INTRODUCTION

Contemporary technology advancements have transformed numerous facets of human existence (Shaikh & Amin, 2024). Technology facilitates operational activity across multiple sectors of the Company. The deployment of technology is intrinsically linked to human attitudes and understanding of the technology's complexity (Ratna et al., 2024). Familiarity with digital tools undoubtedly guides people toward increased productivity. One financial application of the digital era is also indispensable (Aloulou et al., 2024). The majority of financial transactions are now conducted digitally across many sorts of financial activities (Bouteraa, 2024).

Moreover, financial technology (Fintech) has emerged as a crucial component of digital transformation within the financial sector, providing expedited, more accessible services (Ebubedike et al., 2022), and enhanced affordability (Dilla et al., 2024). The implementation of Fintech, including digital payments, peer-to-peer loans, and digital investing, has enhanced the efficiency of financial transactions across many societal strata (Koloseni & Mandari, 2024). While Fintech adoption is primarily linked to the younger demographic, it is crucial to comprehend the determinants affecting Generation X's interest in using Fintech, as this cohort possesses significant financial resources and proficiency in digital technology (Dubosson et al., 2022).

Additionally, to comprehend the desire to utilize Fintech within Generation X, the Unified Theory of Acceptance and Use of Technology (UTAUT) model and the Technology-Organization-Environment (ToE) framework can offer extensive insights. UTAUT highlights individual elements, including performance expectations, business expectations, social influences, and facilitating conditions that affect an individual's decision to accept new technology (Shin & Lee, 2021). Conversely, the ToE model is more comprehensive as it considers environmental factors influencing technology adoption from both organizational and regulatory viewpoints, encompassing technological preparedness and competitive pressures (Mouakket & Aboelmaged, 2022).

In the context of Generation X, the simplicity of technology usage, perceived substantial benefits, and faith in system security are critical determinants of their desire to utilize Fintech (Shaikh & Amin, 2024). This generation has not matured in the digital age but has experienced significant technological development, resulting in varying degrees of technology adaptability (Srivastava et al., 2024). Consequently, organizational and environmental issues, including government legislation pertaining to data security and infrastructure preparedness, must also be considered (Adade & de Vries, 2024).

This study aims to examine the interaction of elements outlined in UTAUT and ToE in influencing Generation X's preference for using Fintech (Salimon et al., 2023). This will significantly enhance the formulation of marketing strategies and the advancement of Fintech services that fulfill the demands and attributes of this generation (Koloseni & Mandari, 2024). This research is significant for multiple relevant reasons from both academic and practical perspectives, particularly with the evolution of financial technology (Wang, 2024) and the consumer behavior of Generation X. Generation X (born 1965–1980) possesses established literacy and is in a productive age characterized by considerable financial security. They are a demographic with substantial purchasing power and engage in significant financial decision-making (Namahoot & Jantasri, 2023), including investing, credit, and asset management. Consequently, comprehending how Generation X embraces financial technology, including Fintech, is crucial for developing services that respond to their requirements.

Secondly, numerous Fintech marketing research and methods predominantly target the younger demographic (Shaikh & Amin, 2024), particularly millennials and Generation Z (Srivastava et al., 2024), who exhibit more adaptability to digital technologies. Generation X is frequently neglected, despite their significant potential as Fintech users, particularly in managing funds for retirement and familial obligations (Bouteraa, 2024). This study elucidates the distinct requirements of Generation X, which may diverge from those of other demographics, enabling Fintech to broaden its target market (Aloulou et al., 2024). Generation X did not experience the digital age during their upbringing as millennials did, however they have observed and responded to significant technological transformations. They are generally more discerning in embracing new technologies, as they emphasize safety, trust, and the worth of benefits in their decision-making (Koloseni & Mandari, 2024).

This research aims to investigate the determinants influencing Generation X's intention to use Fintech, particularly using the UTAUT framework (which evaluates individual characteristics) (Shin & Lee, 2021) and the ToE framework (which examines environmental and organizational aspects) (Low et al., 2022). This study identifies the elements influencing Generation X's tendency to utilize Fintech, enabling service providers to formulate strategies that align with this demographic's features. If the study's results indicate that security and usability are critical issues, the service company can implement features that enhance trust and user comfort (Wang, 2024). This will influence the enhancement of Fintech uptake and utilization among Generation X. This study considerably enhances the academic literature on technology adoption by integrating two robust models, UTAUT and ToE. The approach evaluates both individual and external factors, including technological preparedness and competitive pressures in the environment (Salimon et al., 2023). Therefore, this study enhances the comprehension of Fintech adoption from the viewpoint of a relatively underexplored generation. This research is significant as it addresses the lack in the literature, offers practical insights for the Fintech sector, and facilitates increased access to and utilization of financial technology among Generation X.

THEORETICAL REVIEW

This study develops its conceptual framework by integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) with the Technology–Organization–Environment (ToE) model to explain Generation X's intention to adopt financial technology. UTAUT, originally synthesized by Venkatesh (2000) from foundational adoption theories such as the Theory of Reasoned Action, the Theory of Planned Behavior, and the Technology Acceptance Model, offers a parsimonious explanation of technology acceptance by emphasizing individual cognitive and social evaluations (Ebubedike et al., 2022). Subsequent extensions of UTAUT demonstrate that its core constructs remain robust across technological contexts, including mobile services and digital finance, making it particularly relevant for understanding fintech adoption among Generation X, a cohort characterized by pragmatic technology use rather than early adoption tendencies (Blut et al., 2022; Venkatesh et al., 2012).

Within this framework, performance expectancy captures the extent to which individuals believe that using fintech will enhance transactional efficiency, accuracy, and financial control. Prior studies consistently show that perceived performance gains are a dominant driver of adoption intentions across information systems and mobile technologies (Venkatesh, 2000; Venkatesh et al., 2012; Blut et al., 2022). In the fintech context, this belief translates into expectations of faster payments, reduced transaction costs, and improved financial management, all of which have been empirically linked to higher adoption propensity, including in mobile payment settings (Hussain et al., 2019). Effort expectancy complements this logic by emphasizing perceived ease of use, which becomes increasingly salient for older cohorts who tend to be more sensitive to cognitive and usability costs. Venkatesh (2000) argues that lower perceived effort reduces psychological barriers to adoption, a claim supported by empirical evidence showing that ease of use significantly influences mobile banking and fintech adoption among older users and mature consumers (Moya et al., 2018; Chen et al., 2023).

Social influence further extends the individual-level explanation by recognizing that technology adoption is embedded within social contexts. Individuals often rely on cues from family members, colleagues, and peers when evaluating unfamiliar technologies, particularly when perceived risks are nontrivial. Venkatesh et al. (2016) demonstrate that social endorsement plays a meaningful role in shaping adoption intentions, a finding that is especially relevant for Generation X, who tend to value experiential validation from trusted social networks. Empirical studies confirm that social factors significantly affect technology adoption decisions across both professional and domestic settings (Salah & Ayyash, 2024), and this influence is particularly pronounced among older users in digital payment environments (Nick, 2019). Facilitating conditions complete the UTAUT perspective by focusing on perceived infrastructural and technical support. When users believe that adequate resources, devices, and assistance are available, their likelihood of sustained technology use increases (Blut et al., 2022). Prior research on mobile banking and fintech adoption highlights that access to supportive infrastructure and

positive experiences with technological availability significantly reinforce usage intentions (Oliveira et al., 2016; Malaquias & Hwang, 2016).

While UTAUT provides a strong behavioral foundation, it remains primarily individual-centric. To address this limitation, the Technology–Organization–Environment model introduced by Tornatzky and Fleischer (1990) broadens the analytical lens by incorporating contextual factors that shape adoption decisions beyond personal perceptions. The ToE framework posits that technology adoption is simultaneously influenced by technological readiness, organizational support, and environmental conditions, offering a more comprehensive explanation of fintech adoption dynamics. Technological readiness reflects the availability of devices, systems, and technical competencies required to adopt new technologies. Prior studies identify technological readiness as a critical determinant of e-commerce and mobile banking adoption, both at the organizational and user levels (Zhu et al., 2006; Martins et al., 2019), underscoring its relevance in assessing Generation X's capacity to engage with fintech services.

Organizational factors further shape adoption by influencing access, encouragement, and legitimacy. Organizational size, resource availability, and managerial commitment have been shown to significantly affect information technology adoption decisions (Ramdani & Kawalek, 2007). For Generation X, organizational endorsement, such as workplace policies supporting digital payments or institutional encouragement of fintech usage, may reinforce individual intentions. Empirical evidence suggests that organizational resources and managerial support are particularly influential in technology adoption within structured environments, including public sector and research organizations (Bouteraa, 2024). Environmental factors complete the ToE framework by accounting for external pressures such as regulatory frameworks, competitive dynamics, and security concerns. Regulatory clarity, data protection, and perceived transaction security have been identified as significant predictors of digital banking and fintech adoption across regions (Cavalcanti et al., 2022). Similarly, uncertainty arising from regulatory and environmental conditions has been shown to shape adoption intentions in emerging technologies, including blockchain-based systems (Zhang et al., 2018).

By integrating UTAUT and ToE, this study adopts a multilevel perspective that captures both individual behavioral drivers and contextual constraints influencing Generation X's intention to use fintech. Prior research suggests that variables from both frameworks can directly affect adoption intentions (Rahi et al., 2019), yet their relative salience may differ across demographic cohorts. This integrated approach enables a more nuanced understanding of how personal attitudes, organizational support, and environmental conditions jointly shape fintech adoption behavior, thereby offering a comprehensive theoretical foundation and hypotheses for examining Generation X's engagement with digital financial technologies.

H1: Performance Expectations have a positive effect on Generation X's intention to use Fintech. Where, the greater the perception of the benefits obtained, the higher the intention to use Fintech.

H2: Effort Expectation has a positive effect on Generation X's intention to use Fintech. Where, the easier Fintech is to use, the greater the intention to use it.

H3: Social Influence has a positive effect on Generation X's intention to use Fintech. Where, Support or influence from friends, family, and colleagues increases the likelihood of Fintech adoption.

H4: Facilitating Conditions have a positive effect on Generation X's intention to use Fintech. Where, the availability of adequate technical support and infrastructure encourages the intention to use Fintech.

H5: Technological Readiness has a positive effect on Generation X's intention to use Fintech. Where, the more technologically ready an individual is (access to devices and the internet), the greater the intention to adopt Fintech.

H6: Organizational Factors have a positive effect on Generation X's intention to use Fintech. Where, support from organizations or companies can encourage Fintech adoption among Generation X.

H7: Environmental Factors have a positive effect on Generation X's intention to use Fintech. Where, government policies, data security, and market competition will affect the level of Fintech adoption.

RESEARCH METHOD

Research Design

This research employs a quantitative methodology through a survey to investigate the elements influencing Generation X's intention to use financial technology (Fintech). This study integrates the Unified Theory of Acceptance and Use of Technology (UTAUT) (Shin & Lee, 2021) (Blut et al., 2022) with the Technology-Organization-Environment (ToE) framework (Adade & de Vries, 2024) to ascertain the primary drivers influencing Fintech usage intentions among Generation X. Assessing the degree of Generation X's adaption to financial technology advancements and their responses to these technologies is crucial.

Sampling Techniques

The research population comprises persons from Generation X (born between 1965 and 1980) residing in Makassar, who are employed in corporations and government institutions. The employed sampling technique is purposive sampling (Sharma et al., 2023), in which the sample is chosen according to certain criteria pertinent to the research aims. The sample consists of 200 individuals from Generation X who possess access to digital technology and the capacity to utilize Fintech services. Purposive sampling is employed to guarantee that the chosen respondents have adequate experience to furnish meaningful data concerning the purpose to utilize Fintech.

Data Collection

Data collection was conducted through an online questionnaire, designed specifically to assess respondents' perceptions of the variables inside the UTAUT and ToE models. Each topic in the questionnaire was assessed on a 5-point Likert scale, with 1 indicating "strongly disagree" and 5 denoting "strongly agree". The questionnaire comprises multiple sections that encompass the variables to be evaluated. The initial variable in UTAUT comprises five measuring indicators (Venkatesh et al., 2016): Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Technological Readiness. The ToE variable is structured around three primary indicators (Adade & de Vries, 2024): Organizational Factors, Environmental Factors, and Intention to adopt fintech. The Intention to Use variable in this study denotes the degree to which respondents plan to utilize Fintech technology in their financial activities. The assessment of Intention to Use often relies on an individual's view of their inclination to utilize technology in the imminent or distant future. This research, situated within the Fintech domain and informed by various studies on technology adoption, employs the following measurement criteria: (1) Regular Use Intentions, (2) Near-Future Use Intentions, (3) Primary Financial Tool Intentions, (4) Exploratory Use Intentions, and (5) Recommendation Intentions.

Data Analysis

The acquired data was evaluated using Structural Equation Modeling (SEM), processed with SMART-PLS 4. Structural Equation Modeling (SEM) was selected because to its capacity for concurrent investigation of interactions among latent variables and its ability to describe intricate causal relationships (Edeh et al., 2023). Secondly, PLS was selected due to its capacity to manage small to medium sample sizes and non-normally distributed data. SEM analytical protocols encompass: Assessment of Validity and Reliability: This is utilized for convergent and discriminant validity assessments to guarantee each construct is accurately measured (Sarstedt et al., 2021). Additionally, reliability is assessed by Cronbach's Alpha and Composite Reliability. Subsequently, the Structural Model Test, upon establishing validity and reliability, the structural model is evaluated to assess the causal relationships among variables. Path coefficients evaluate the strength of links between constructs, while R-squares measure the extent to which an independent variable account for the dependent variable (Hair et al., 2017). This aims to evaluate the indicators of each hidden variable to confirm that the indicator accurately represents the variable. The hypothesis will ultimately be evaluated by statistical tests applied to the path coefficient produced by SMART-PLS. The hypothesis will be accepted if the t-statistic exceeds 1.96 (at a 5% significance level) and the p-value is less than 0.05.

RESULTS

Initially, we provided testing to the cross-loading section in Table 1, which illustrates the amount to which the indicators of each variable are correlated in accordance with the proposed model. The convergent validity of the UTAUT variable is highly evident in the high loading values (0.7) of indicators such as EE (Effort Expectancy), EF (Environmental Factors), EUI (Ease of Use Intention), and PE (Performance Expectancy). In general, the EE figure is 0.885, the EF figure is 0.802, and the MFTI figure is 0.900. In other terms, Generation X has a highly favorable response to attitudes and knowledge about Fintech. Additionally, the outer loadings section displays the extent to which each indicator contributes to the measured model. In other words, the indicator's value is directly proportional to the strength of the relationship between the indicator and the proposed model. For instance, the Effort Expectancy in UTAUT is 0.885. Subsequently, the organizational factor in the Technology of Education (ToE) exhibits a value of 0.897, while the MFTI regarding the intention to use displays a figure of 0.900. The outer loadings' values suggest that the proposed model has a robust correlation with each of the indicators.

Table 1. Cross Loading

Indicator	Intention to Use	ToE	UTAUT
EUI	0.890	0.721	0.819
MFTI	0.900	0.703	0.847
N-FUI	0.928	0.701	0.713
RI	0.823	0.617	0.673
RUI	0.997	0.576	0.382
IUF	0.524	0.826	0.492
OF	0.603	0.897	0.562
EF	0.817	0.802	0.837
EE	0.822	0.672	0.885
FC	0.597	0.528	0.921
PE	0.762	0.660	0.941
SI	0.746	0.622	0.827
TR	0.750	0.772	0.957

Source: Adapted Smartpls 4 Output (2025)

Before assessing the structural relationships, the measurement model was evaluated to ensure the reliability and validity of the constructs. This step is essential to confirm that the indicators adequately represent their underlying latent variables and that subsequent hypothesis testing is not biased by measurement error. Following established PLS-SEM guidelines, internal consistency reliability was examined using Cronbach's alpha and composite reliability, while convergent validity was assessed through the average variance extracted (AVE) as Table 2. These criteria provide a robust basis for evaluating construct quality in models that integrate behavioral and contextual factors, such as UTAUT and ToE, within fintech adoption research.

Table 2. Reliability and Validity

Constructs/Measures	Cronbach's alpha	CR (rho_a)	CR (rho_c)	AVE
Intention to Use	0.872	0.913	0.910	0.678
ToE	0.803	0.823	0.880	0.710
UTAUT	0.884	0.901	0.918	0.695

Source: Adapted Smartpls 4 Output (2025)

The results indicate satisfactory internal consistency and convergent validity across all constructs. Cronbach's alpha values exceed the recommended threshold of 0.70, confirming acceptable reliability for Intention to Use, ToE, and UTAUT. Composite reliability values based on both ρA and ρC further support construct reliability, with all values well above the minimum criterion of 0.70. Convergent validity is established as the average variance extracted (AVE) for each construct exceeds 0.50, indicating that the constructs explain more than half of the variance in their respective indicators. Overall, the measurement model demonstrates adequate reliability and convergent validity, justifying progression to the structural model analysis.

The multicollinearity concern between the dependent and independent variables is indicated by the VIF (Variance Inflation Factor) part. The VIF value for ToE and UTAUT regarding intention to use is 2.616, as indicated by the Table 3. This value is still within a reasonable range, as it is less than 5. This implies that the VIF values in the table are not indicative of any issues with multicollinearity. Additionally, the intention to use (Fintech) among Generation X is elucidated by the UTAUT and ToE variables, which are the two primary models. Although both variables exert an influence, their correlation is insufficient to induce significant multicollinearity. In other words, the independent variable provides a variety of contributions to the dependent variable.

Table 3. Variance Inflation Factor (VIF)

Corresponding Constructs	VIF
ToE -> Intention to Use	2.616
UTAUT -> Intention to Use	2.616

Source: Adapted Smartpls 4 Output (2025)

This study also presents the finding or correlation as in Table 4. The proportion of variance in the dependent variable that can be accounted for by the independent variable is quantified by R-square. The intention to use variable in the R-square test subsection has a value of 0.852, which suggests that the UATUT and ToE variables can account for 85.2% of the variation in intention to use. In other words, this value suggests a substantial influence, and the proposed model is of exceptional quality. In the meantime, the adjusted R-square value (0.849) indicates that the R-square was adjusted to account for the number of predictors in the model or to provide a more conservative estimate. Overall, these findings offer robust empirical evidence that UTAUT and ToE are the primary models or factors that influence the intention to use technology, with the models accounting for the majority of the variance in that intention. In between, the 14.8% of the unexplained variance suggests that there are additional factors that could potentially affect the intention to use technology but are not considered for in this model, see Figure 1, for model specification.

Table 4. R-square Findings

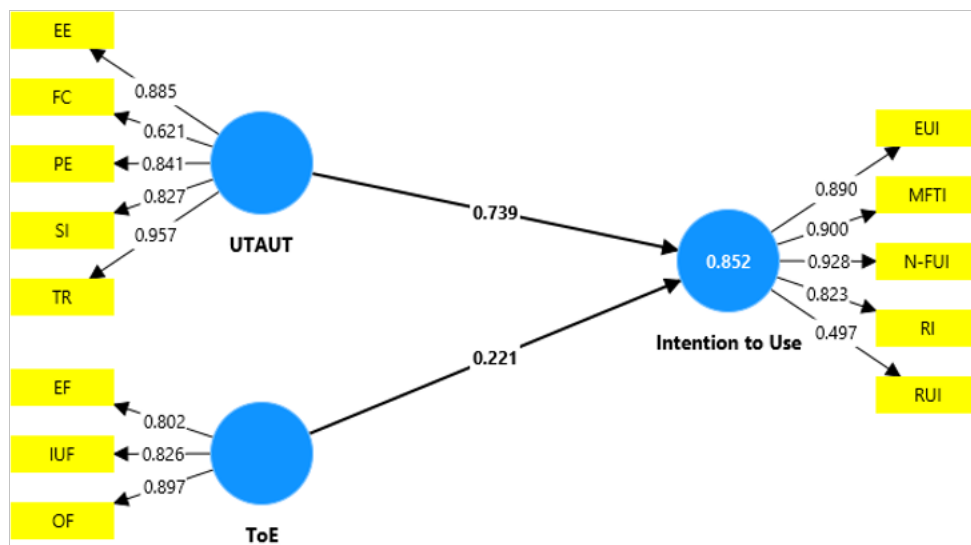| Path to	R-square	R-square adjusted
Intention To Use	0.852	0.849

Source: Adapted Smartpls 4 Output (2025)

Figure 1. Path Coefficient Presentation
Source: Smartpls 4 Path

The proposed model is a latent variable in the UTAUT variable, as evidenced by the image, and is influenced by five indicators. In this context, the loading factor for Effort Expectancy is

0.885, while the loading factor for Facilitating Conditions is 0.621. Performance Expectancy is 0.841, Social Influence is 0.827, and Trust has the highest value of all indicators at 0.957. Additionally, these loading values denote the extent to which each indicator contributes to the UTAUT variable. It can be inferred that all indicators make a solid contribution when their values exceed 0.6.0.739 is the path coefficient of UTAUT, which has a significant direct impact on the intention to use. This also suggests that the UTAUT variables are a substantial predictor of the intention to use fintech among Generation X. Additionally, the ToE variables exhibit a substantial contribution from the loading values of each indicator, analogous to UTAUT. Innovation Usefulness contributes 0.826, the Environmental Factors indicator contributes 0.802, and the Organizational Factors indicator has a loading value of 0.897. Nevertheless, the ToE variable has a significantly lesser direct impact on Intention to Use, with a path coefficient value of only 0.221. This indicates that the ToE variable continues to have a positive impact; however, it is not as effective or significant as the UTAUT variable in predicting the intention to use fintech among X. The constructs within the Intention to Use variable contain a variety of indicators that reflect the intentions of consumers toward financial technology or fintech. The loading value of the Ease-of-Use Intention is 0.890, while the Motivation for Fintech Intention is 0.900. The Need for Using Intention has the maximum loading value at 0.928, risk intention is 0.823, and readiness to use intention is 0.497. This variable contains six indicators. (This value is higher than that of other indicators). In other words, the majority of these indicators substantially contribute to measuring the intention to use fintech, as all indicators except RUI have loading values above 0.8. Nevertheless, the intention to use is not as well explained by RUI as it is by the other indicators. In general, both models (UTAUT and ToE) are capable of elucidating the relationship between a variety of factors that influence the intention to use fintech. However, UTAUT is the more significant main predictor in explaining the intention to use fintech among Generation X than ToE.

DISCUSSION

The findings of this study demonstrate that the Unified Theory of Acceptance and Use of Technology (UTAUT) exerts a strong and statistically significant influence on Generation X's intention to use fintech services. This result reinforces the central role of individual-level cognitive and social evaluations in shaping technology adoption decisions. Specifically, the core UTAUT constructs—Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), and Trust (TR)—collectively explain a substantial proportion of the variance in fintech usage intention. Among these dimensions, Trust, Effort Expectancy, and Performance Expectancy emerge as the most influential drivers, indicating that Generation X users place particular emphasis on transactional security, system reliability, and the perceived efficiency gains associated with fintech usage. These findings suggest that fintech adoption within this cohort is not merely a function of technological availability but is fundamentally anchored in confidence, usability, and tangible performance outcomes.

The dominance of UTAUT is consistent with prior empirical evidence demonstrating its robustness across a wide range of digital adoption contexts (Bouteraa, 2024). Previous studies similarly report that perceived usefulness and ease of use remain primary determinants of behavioral intention, especially when new technologies alter established transactional routines or introduce unfamiliar decision environments (Shaikh & Amin, 2024). In this respect, fintech adoption among Generation X reflects a pragmatic evaluation process in which perceived benefits must clearly outweigh cognitive and operational costs. Social Influence also retains explanatory relevance, aligning with Hussain et al. (2019), who argue that peer endorsement and social validation continue to shape technology-related decisions among users navigating later stages of digital adaptation. The present findings reinforce this perspective by showing that Generation X adoption behavior is influenced not only by individual assessments of functionality but also by normative expectations and shared experiences within their social networks. Taken together, these results position UTAUT as the most comprehensive framework for explaining fintech adoption intention among Generation X.

In contrast, the Technology–Organization–Environment (ToE) framework exhibits a positive but comparatively weaker relationship with fintech usage intention. While ToE-related factors contribute to explaining adoption behavior, their predictive strength is notably lower than that of UTAUT. This pattern suggests that organizational and environmental conditions—such as

innovation climate, technological readiness, and managerial support—play a more limited role in shaping fintech adoption decisions for Generation X (Low et al., 2022; Li et al., 2021). Rather than responding primarily to institutional structures or external pressures, Generation X users appear to rely more heavily on personal evaluations of technology attributes and perceived individual benefits.

The relatively weaker influence of ToE aligns with the findings of Adade and de Vries (2024), who observe that Generation X tends to prioritize intrinsic assessments of usefulness, ease of use, and reliability over organizational directives or environmental signals. Although organizational readiness and supportive infrastructure remain relevant, particularly in workplace-related fintech applications, their overall contribution to adoption intention is secondary. This indicates that contextual enablers may function more as boundary conditions than as primary motivators in the fintech adoption process for this cohort.

Overall, while the ToE framework adds contextual depth to the analysis, the results underscore the primacy of individual-level cognitive factors captured by UTAUT in explaining fintech adoption among Generation X. For practitioners, this suggests that organizational investments in infrastructure and policy alignment should be complemented by strategies that enhance user trust, simplify system interaction, and clearly communicate performance benefits. From a theoretical standpoint, the findings reaffirm the explanatory superiority of behavioral adoption models in contexts where technology use is voluntary and individually driven, particularly within digitally mature but pragmatically oriented user groups such as Generation X.

CONCLUSION AND FURTHER STUDY

This study provides empirical evidence on the determinants of fintech adoption among Generation X by integrating the UTAUT and Technology–Organization–Environment frameworks. The findings indicate that individual-level factors embedded in UTAUT, including performance expectancy, effort expectancy, social influence, and facilitating conditions, play a dominant role in shaping intention to use fintech, whereas organizational and environmental elements exert a comparatively weaker influence. These results suggest that fintech adoption among Generation X is primarily driven by perceived usefulness, ease of use, and social reinforcement rather than by structural or institutional conditions alone.

Several limitations should be acknowledged. First, the sample size is limited to 200 Generation X respondents, which may restrict the generalizability of the findings. Second, the use of a quantitative, cross-sectional design prevents the examination of changes in adoption intention over time. Third, the study focuses exclusively on the UTAUT and ToE frameworks, which limits the exploration of other potentially relevant factors, such as risk perception and deeper dimensions of trust. Future studies could extend this research by incorporating additional psychological and behavioral variables, including trust, risk perception, and financial literacy, to provide a more comprehensive explanation of fintech adoption. Demographic factors such as income, education, and geographic location may also be examined to capture heterogeneity within Generation X. Cross-cultural research would further enrich understanding by exploring how institutional and cultural differences shape fintech adoption across regions. Finally, future work could investigate the interaction between fintech and adjacent digital ecosystems, such as e-commerce platforms, to reflect the increasingly integrated nature of digital financial services.

The findings offer important implications for fintech providers and policymakers. From a managerial perspective, fintech developers should prioritize user-friendly interfaces, clear functional benefits, and adequate support mechanisms to reduce perceived effort among Generation X users. Emphasizing tangible advantages, such as transaction speed, efficiency, and integrated financial services, can further strengthen adoption intentions. Social influence also plays a meaningful role, indicating that referral strategies and peer-based promotion may be effective. From a policy perspective, regulatory clarity, data security, and transparency are critical in fostering trust among Generation X, particularly older users. Government involvement through protective regulations, incentives, and targeted educational programs can create a safer and more supportive environment for fintech adoption.

ETHICAL DISCLOSURE

All participants provided written informed consent prior to participation. They were informed about the study's purpose, their voluntary participation, the right to withdraw at any time, and the confidentiality of their responses.

CONFLICT OF INTERESTS

The authors declare no conflict of interest.

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