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The Role of Financial Inclusion and Financial Technology in Shaping Public Engagement with Paylater Services

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ABSTRACT

The rapid growth of Buy Now, Pay Later (BNPL) services has intensified scholarly interest in the determinants of digital credit adoption, particularly in emerging economies. Existing studies predominantly explain Paylater adoption through technology-centered perspectives emphasizing convenience, ease of use, and platform functionality. However, limited attention has been given to the structural role of financial inclusion (FI) in shaping readiness for participation in digital credit ecosystems, especially in regions characterized by uneven financial infrastructure. This study examines the direct effects of FI and financial technology (FT) on public interest (PI) in using Paylater services and further evaluates the moderating role of FI within the relationship between FT and PI. A quantitative survey was conducted among productive-age digital payment users in Simalungun Regency and Pematangsiantar City, North Sumatra, Indonesia. Using purposive sampling, 368 valid responses were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings indicate that FI has a positive and significant effect on PI in using Paylater services, whereas FT exhibits a positive but statistically insignificant effect. Furthermore, the moderating effect of FI on the relationship between FT and PI was found to be statistically insignificant. These findings suggest that FI functions primarily as a direct structural determinant rather than as a significant conditioning mechanism of FT effectiveness. The study contributes to the digital finance and BNPL literature by challenging technology-centered adoption assumptions and emphasizing the importance of structural financial access in shaping digital credit participation within emerging regional contexts. The findings also highlight the importance of strengthening FI, financial literacy, and consumer protection frameworks to support sustainable and responsible digital financial development.

1. INTRODUCTION

The rapid expansion of digital financial services has fundamentally transformed consumer finance across emerging economies. Among the most prominent innovations is the rise of Paylater, or Buy Now, Pay Later (BNPL), as a form of short-term digital credit that enables consumers to defer payments without relying on conventional banking instruments such as credit cards or personal loans [1, 2]. In many developing countries, Paylater services are promoted as tools to expand access to credit, stimulate consumption, and accelerate participation in the digital economy. However, their increasing diffusion has also raised critical concerns regarding consumer over-indebtedness, weak repayment discipline, data privacy risks, and the long-term sustainability of digitally mediated credit systems [3, 4].

Despite the growing body of research on BNPL and digital credit adoption, existing studies are predominantly technology-centered. Within this framework, adoption is largely explained by the functional attributes of financial technology (FT), including convenience, speed, efficiency, interface quality, and platform integration [5, 6]. This perspective implicitly assumes that technological sophistication alone is sufficient to drive public engagement with digital credit services. While such assumptions may hold in financially mature and institutionally robust environments, they are less applicable in contexts where access to formal financial services remains uneven, financial capability is limited, and institutional trust is still developing [7]. Consequently, the current literature may overestimate the role of fintech development while underestimating the structural conditions necessary for sustainable and responsible participation in digital credit systems. In particular, limited attention has been given to whether financial inclusion (FI) merely acts as an independent determinant or whether it conditions the effectiveness of fintech in encouraging digital credit adoption.

This limitation is further reflected in the mixed empirical evidence on Paylater adoption. Several studies report that fintech-related attributes, such as perceived usefulness, ease of

use, and transaction efficiency, exert a positive and significant influence on users' adoption intentions [8, 9]. In contrast, other studies find that these effects become weak or statistically insignificant once broader institutional and behavioral factors, including financial literacy, trust, consumer protection, and perceived risk, are taken into account [10]. These inconsistencies suggest that the literature has yet to reach a consensus on whether digital credit adoption is primarily driven by technological innovation or fundamentally shaped by underlying structural conditions. This unresolved issue is particularly salient in emerging-market contexts, where rapid fintech expansion often coexists with persistent disparities in access to formal financial systems [11]. Taken together, this gap highlights the need to reconsider digital credit adoption beyond technology-centered models by incorporating the structural dimensions of FI.

From a sustainable development and planning perspective, FI should be understood not merely as an outcome of fintech diffusion but as a foundational condition that enables responsible and inclusive participation in digital financial systems [12, 13]. Access to regulated financial services, familiarity with formal payment mechanisms, and institutional trust enhance individuals' financial capability and readiness to engage with digital credit. Without adequate FI, the expansion of Paylater services may generate short-term consumption benefits while increasing the risk of financial vulnerability and systemic instability [14].

Indonesia provides a particularly relevant context for examining these dynamics. Although the country has experienced rapid growth in fintech and digital payment systems, the distribution of FI remains uneven across regions. Outside major metropolitan areas, many communities continue to face limited access to formal financial institutions, uneven digital capability, and varying levels of trust in modern financial services [9]. North Sumatra, particularly Simalungun Regency and Pematangsiantar City, represents a non-metropolitan context where digital financial platforms are increasingly available, yet the supporting infrastructure of FI remains heterogeneous. This setting offers a valuable opportunity to reassess the determinants of Paylater adoption beyond the assumptions embedded in technology-dominant adoption models.

Unlike prior studies that predominantly position FI as a complementary outcome of fintech expansion, this study reconceptualizes FI as a foundational structural determinant of digital credit adoption. The study extends the existing BNPL literature by examining not only the direct effects of FI and FT on public interest (PI) in using Paylater services, but also the moderating role of FI within the relationship between FT development and digital credit adoption.

This study offers a novel structural perspective by challenging the dominance of technology-centered explanations commonly adopted in fintech and BNPL research. Rather than assuming that technological sophistication alone is sufficient to encourage adoption, this study argues that structural access conditions, particularly FI, remain essential in shaping readiness for participation in digital financial ecosystems. In doing so, the study introduces a more context-sensitive understanding of Paylater adoption by emphasizing the interaction between institutional financial access and technological development.

Furthermore, this study contributes empirically by focusing on non-metropolitan regions in Indonesia, namely Simalungun Regency and Pematangsiantar City, where fintech expansion coexists with uneven financial infrastructure and heterogeneous levels of digital capability. This contextual focus extends the applicability of digital finance adoption theory beyond highly urbanized and financially mature environments that have dominated prior research. Consequently, the findings contribute to a broader understanding of sustainable and inclusive digital credit adoption within emerging-market contexts.

Against this background, this study examines the roles of FI and FT in shaping PI in using Paylater services in North Sumatra, Indonesia. Unlike prior studies that treat FI as a complementary factor, this study conceptualizes FI as an important structural determinant of digital credit engagement and further examines whether it moderates the relationship between FT and PI in using Paylater services. Specifically, this study contributes to the literature by challenging the dominance of technology-centered explanations in the BNPL adoption literature and by emphasizing the structural role of FI. It also offers policy-relevant insights for designing more inclusive and sustainable digital financial systems, particularly in non-metropolitan contexts where financial access remains uneven.

2. LITERATURE REVIEW

FI and FT are widely recognized as key drivers of inclusive economic development and digital transformation. Both constructs play important roles in expanding access to financial services and shaping consumer behavior in adopting digital credit systems, particularly Paylater services. However, their roles are not always symmetrical, and their interaction remains subject to ongoing debate. Accordingly, this study examines how FI and FT jointly influence PI in using Paylater services, with particular attention to their structural and behavioral implications.

2.1 Financial inclusion

FI refers to the availability and accessibility of affordable financial products and services for all segments of society, empowering individuals to engage in economic activities actively [15]. It functions as a critical enabler of equitable development by bridging the gap between formal financial institutions and underserved populations [13].

The emergence of digital FI, supported by advances in mobile technology and internet connectivity, has expanded access to banking, savings, and credit services, particularly in developing economies [16]. This transformation has made short-term digital credit instruments, such as BNPL, increasingly accessible to those who were previously unbanked or underbanked.

Nevertheless, these benefits are accompanied by challenges, including over-indebtedness, data privacy issues, and asymmetric information, particularly in societies with low financial literacy and weak consumer protection. Therefore, FI should not only focus on expanding access but also on strengthening financial capability and safeguarding consumers' well-being through education and responsible governance [12].

2.2 Financial technology

FT refers to the use of digital innovation to deliver financial services more efficiently, conveniently, and inclusively [17]. Fintech applications, such as e-wallets, peer-to-peer lending, and BNPL systems, reduce transaction costs, accelerate service delivery, and expand access to financial services for underbanked populations [18]. In addition, fintech development has enhanced efficiency in financial intermediation through technologies such as mobile payments, digital wallets, and algorithmic credit scoring [19].

In Indonesia, fintech services have grown rapidly, particularly in urban areas, but their adoption remains uneven across regions. Rural and less developed areas often experience limitations in financial access and technological awareness [9]. This suggests that while fintech provides a functional platform for digital transactions, its effectiveness depends on the level of FI and financial literacy in a given community.

2.3 Paylater services

Paylater, commonly referred to as BNPL, is a short-term digital credit option that allows consumers to purchase goods or services and defer payment. This system offers convenience and flexibility, appealing particularly to younger consumers with limited access to credit cards [20].

The increasing popularity of Paylater services reflects a shift in consumer preferences toward instant yet manageable credit solutions. However, adoption patterns vary across demographic and regional groups. Previous studies [21] found that consumer trust, perceived benefits, and repayment convenience significantly influence the intention to use Paylater services.

2.4 Relationship between financial inclusion, financial technology, and consumer interest

The relationship between FI and FT development has been widely discussed in the literature, with two dominant perspectives emerging. On the one hand, FT and FI are viewed as mutually reinforcing components of the digital financial ecosystem. FT can act as a catalyst for FI by expanding access to financial services, while FI, in turn, strengthens FT adoption by enhancing user trust and financial capability [22].

First, the complementarity perspective argues that FT supports FI by reducing access barriers and expanding service outreach. Digital platforms enable financial services to reach underserved populations more efficiently than traditional banking institutions [23].

Second, the substitution perspective suggests that FT can bypass traditional financial systems by providing alternative channels for unbanked individuals to access credit and payment services without formal banking integration [24].

In practice, however, the interaction between FI and FT is highly context-dependent. In regions with strong financial infrastructure, FT innovations tend to scale rapidly and deepen financial engagement. In contrast, in areas with limited financial penetration, FT adoption may remain superficial or risk-prone due to insufficient institutional support and low levels of financial literacy [25].

Therefore, digital credit adoption should not be analyzed solely from a technological perspective. Instead, it requires a more integrated approach that treats FI as a structural condition shaping the effectiveness of FT in influencing consumer behavior.

2.5 Financial inclusion as a structural conditioning factor

In emerging-market contexts, the effectiveness of FT innovation may depend on the degree of FI within society. Individuals with greater access to formal financial systems tend to possess higher levels of financial capability, institutional trust, and familiarity with digital financial services. These conditions may strengthen the effectiveness of FT development in encouraging participation in digital credit systems.

Conversely, in communities with limited FI, technological advancement alone may not be sufficient to stimulate stronger public engagement with Paylater services. Therefore, FI may function not only as an independent determinant but also as a structural conditioning factor influencing the relationship between FT development and digital credit adoption.

2.6 Conceptual framework

Based on the theoretical review and empirical findings discussed in the previous sections, this study develops a conceptual framework that integrates FI and FT as key determinants influencing PI in using Paylater services. The framework illustrates the hypothesized relationships among these variables, in which FI provides the foundation for access and capability. In contrast, FT offers efficiency, innovation, and convenience in the adoption of digital credit. The combined effect of both constructs is expected to enhance consumer participation in Paylater usage within the digital financial ecosystem, as depicted in Figure 1.

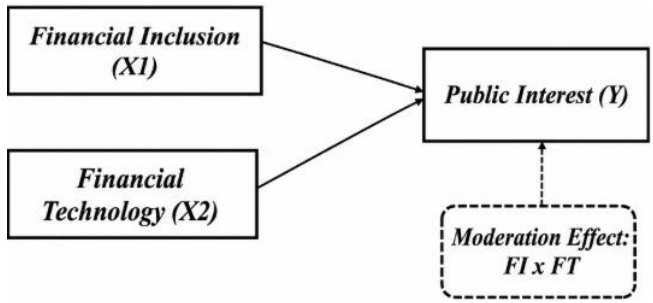

Figure 1. Conceptual framework

2.7 Hypotheses development

FI and FT development are two interrelated forces driving consumer participation in digital financial ecosystems. Enhanced access to formal financial services increases individuals' confidence and capacity to adopt new financial innovations, including Paylater services [26]. Likewise, FT advancement, characterized by convenience, transaction speed, and integration with e-commerce platforms, positively influences users' behavioral intentions by simplifying access to credit and improving user experience [27]. However, adoption decisions are also shaped by trust and perceived security, which moderate the effectiveness of inclusion and technological innovation [22]. Drawing on the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB), this study proposes that both FI and FT development significantly and positively influence consumer adoption of Paylater services in the digital economy.

Accordingly, this study proposes that FI positively influences PI in adopting Paylater services.

H1: *FI has a positive and significant effect on consumer adoption of Paylater services*.

H2: *FT development has a positive and significant effect on consumer adoption of Paylater services*.

H3: *FI positively moderates the relationship between FT and PI in using Paylater services*.

3. RESEARCH METHODOLOGY

This study employs a quantitative survey approach to empirically examine the influence of FI and FT on PI in using Paylater services. The research design, location, subjects, instruments, and data analysis techniques are described as follows.

A purposive sampling technique was used to ensure respondents had adequate knowledge and exposure to digital financial services. The inclusion criteria required respondents to (1) be at least 18 years of age, (2) actively use digital payment systems, and (3) have awareness of or prior experience with Paylater services. This approach was adopted to enhance the relevance and validity of responses concerning digital credit engagement.

Data were collected through online distribution channels, including professional networks and digital communication platforms. The data collection process was conducted from July to November 2025. A total of 420 questionnaires were distributed, of which 368 valid responses were retained after screening for completeness and consistency, yielding a response rate of 87.6%. Each response was carefully examined to ensure accuracy and eliminate incomplete or inconsistent entries before statistical analysis.

Contemporary research in digital finance and behavioral economics increasingly requires analytical techniques capable of modeling complex relationships among latent variables. Conventional statistical approaches, such as multiple regression or correlation analysis, present methodological limitations: (1) they typically assess a single dependent variable at a time; (2) they rely on strict assumptions regarding data normality and homoscedasticity; and (3) they do not adequately account for latent constructs measured indirectly through multiple indicators.

Given that the principal constructs in this study, FI, FT, and PI in using Paylater services are conceptualized as latent variables, Structural Equation Modeling (SEM) was deemed the most appropriate analytical method.

Among the two predominant SEM approaches, namely Covariance-Based SEM (CB-SEM) and Partial Least Squares SEM (PLS-SEM), PLS-SEM was selected for several methodological and theoretical reasons. First, PLS-SEM is particularly suitable for predictive and exploratory research models. Second, it performs effectively with small to medium sample sizes and does not require strict assumptions of multivariate normality. Third, PLS-SEM allows for simultaneous assessment of the measurement model (outer model) and structural model (inner model). Fourth, it is well-suited for complex behavioral models commonly used in digital finance and management research.

By integrating measurement and structural assessment within a single analytical framework, PLS-SEM enables comprehensive evaluation of both construct validity and hypothesized causal relationships.

3.1 Measurement model specification

All latent variables were operationalized using reflective indicators measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The constructs were measured as follows:

FI: measured using six indicators reflecting access to formal financial services, usage intensity, financial literacy exposure, affordability, perceived accessibility, and the ability to effectively utilize financial products and services.

FT: measured using eight indicators capturing perceived technological advancement, ease of use, system reliability, transaction efficiency, system security, platform accessibility, service integration, and overall digital performance.

PI: measured using five indicators representing intention to use, preference for Paylater over alternative payment methods, likelihood of continued use, willingness to recommend the service, and overall interest in adopting Paylater services.

3.2 Assessment of reliability and validity

The measurement model was evaluated through several statistical criteria to ensure reliability and validity.

Indicator reliability was assessed through outer loadings (λ). Indicators with loadings greater than 0.70 were considered acceptable, indicating that each item sufficiently represents its corresponding construct.

Internal consistency reliability was evaluated using the Composite Reliability (CR) statistic. CR values above 0.70 indicate satisfactory internal consistency and stability of the measurement instrument.

Convergent Validity was examined using the Average Variance Extracted (AVE). An AVE value exceeding 0.50 confirms that a construct explains more than half of the variance of its indicators.

Discriminant Validity was assessed using both the Fornell–Larcker criterion and the heterotrait–monotrait ratio (HTMT). HTMT values below 0.85 indicate adequate discriminant validity, confirming that the constructs are empirically distinct.

The results of these tests demonstrated that all constructs satisfied the recommended thresholds, indicating that the measurement model possesses adequate reliability and validity for structural analysis.

3.3 Structural model evaluation

After confirming the adequacy of the measurement model, the structural model was evaluated to assess the magnitude and statistical significance of the hypothesized relationships between FI, FT, and PI in using Paylater services.

A bootstrapping procedure with 5,000 resamples was conducted to generate standard errors, t-values, and p-values. This non-parametric resampling technique enhances robustness and reduces bias in the presence of non-normal data distributions.

Hypotheses were evaluated based on the following significance criteria:

- t-value greater than 1.96 at a 5% significance level
- p-value less than 0.05

The explanatory power of the model was assessed using the coefficient of determination (R^2), which indicates the proportion of variance in the endogenous construct explained by the exogenous variables. Additionally, effect size (f^2) was

calculated to determine the relative contribution of each independent variable, and predictive relevance (Q^2) was assessed using the blindfolding procedure.

This multi-stage analytical approach ensures that the structural model is evaluated not only in terms of statistical significance but also in terms of predictive strength and theoretical coherence.

3.4 Moderation analysis

To further examine the structural conditioning role of FI, this study incorporates a moderation analysis within the PLS-SEM framework by constructing an interaction term between FI and FT (FI × FT). The interaction effect was evaluated using a bootstrapping procedure with 5,000 resamples to ensure robust estimation of the path coefficients and significance levels.

The moderation effect was estimated using the two-stage approach in SmartPLS, which is considered appropriate for reflective constructs and effective in minimizing multicollinearity issues in interaction estimation. In the first stage, latent variable scores for the main constructs were obtained from the measurement model estimation. In the second stage, these latent variable scores were used to construct the interaction term representing the moderating effect of FI on the relationship between FT and PI in using Paylater services.

This analytical approach enables the study to assess whether FI functions as a structural conditioning factor that strengthens or weakens the influence of FT development on PI in using Paylater services within the context of digital credit adoption.

3.5 Methodological limitations

Despite the methodological rigor applied in this study, several limitations should be acknowledged. First, the cross-sectional research design limits the ability to establish definitive causal relationships among the variables examined. Second, the study relies on self-reported data, which may be subject to perceptual bias and individual response tendencies. Third, the study was conducted within the Indonesian context, particularly in North Sumatra, which may limit the generalizability of the findings to other regions or countries with different levels of digital maturity, financial infrastructure, and socio-economic conditions.

Furthermore, since respondents were purposively selected from active digital payment users with prior awareness of Paylater services, the findings may primarily reflect digitally connected populations rather than the broader general public. Consequently, the results should be interpreted within the context of digitally engaged communities that already possess a certain level of familiarity with FT and digital financial services.

Future research is encouraged to adopt longitudinal approaches, incorporate objective behavioral measures, and include more diverse demographic groups to enhance external validity and strengthen causal interpretation.

3.6 Common method bias assessment

Given that all constructs in this study were measured using self-reported questionnaires collected from the same respondents, the potential presence of common method bias (CMB) was carefully evaluated using both procedural and statistical remedies.

From a procedural perspective, several preventive measures were implemented during the questionnaire design and data collection process. Respondents were assured of anonymity and confidentiality to minimize evaluation apprehension and social desirability bias. In addition, the questionnaire items were carefully structured using clear, concise, and unambiguous wording to reduce common scale effects and minimize respondents' tendency to provide patterned or socially desirable responses.

From a statistical perspective, Harman's single-factor test was conducted by loading all measurement items into an exploratory factor analysis. The results indicate that the first unrotated factor accounted for less than 50% of the total variance, suggesting that CMB is unlikely to pose a serious threat to the validity of the findings.

Furthermore, full collinearity variance inflation factor (VIF) values were assessed following the recommendations for PLS-SEM analysis. The results demonstrate that all latent constructs exhibited VIF values below the recommended threshold value of 3.3, namely FI (1.034), FT (1.095), and the interaction construct FI × FT (1.076). These findings confirm that the model is free from substantial CMB and multicollinearity issues.

4. RESULTS AND DISCUSSION

The data analysis in this study was conducted using the PLS-SEM approach with SmartPLS software. The results are presented through outer model testing, reliability and validity analyses, R^2, and hypothesis testing.

4.1 Outer model testing

The outer model was first assessed to evaluate indicator reliability and convergent validity. The results show that all indicators of FT, FI, and PI achieved loadings above the acceptable threshold of 0.60, indicating that they adequately represent their respective constructs.

The loading values for FT indicators ranged from 0.648 to 0.821, and for FI indicators from 0.639 to 0.792, suggesting satisfactory indicator reliability. In contrast, the PI construct exhibited very high loading values, ranging from 0.968 to 0.997. While these values indicate strong internal consistency, they may also suggest a high degree of similarity among the indicators, reflecting potential conceptual overlap in the measurement of PI.

In addition, the interaction construct (FI × FT) generated for moderation analysis demonstrated acceptable indicator reliability with a loading value of 0.784, indicating that the interaction term adequately represents the moderating construct within the structural model.

Overall, the measurement model demonstrates acceptable reliability, although future studies may consider refining measurement items for the PI construct to better capture a broader range of behavioral dimensions. The outer loading values for all indicators and constructs are presented in Table 1. All indicators exceeded the acceptable threshold, indicating satisfactory indicator reliability.

Table 1. Outer loading of research constructs

	FI × FT	FI	FT	PI
FI1		0.722		
FI2		0.729		
FI3		0.696		
FI4		0.792		
FI5		0.714		
FI6		0.639		
FT1			0.818	
FT2			0.797	
FT3			0.727	
FT4			0.797	
FT5			0.821	
FT6			0.687	
FT7			0.753	
FT8			0.648	
FI × FT	0.784			
PI1				0.968
PI2				0.991
PI3				0.991
PI4				0.985
PI5				0.985

Note: FT = Financial Technology; FI = Financial Inclusion; PI = Public Interest.

4.2 Reliability and validity

The reliability and validity of the constructs were further evaluated using CR, Cronbach's Alpha, and AVE. As presented in Table 2, all constructs meet the recommended thresholds, with CR values exceeding 0.70 and AVE values above 0.50, indicating satisfactory internal consistency and convergent validity.

Table 2. Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
FT	0.901	1.005	0.915	0.575
FI	0.814	0.834	0.863	0.514
PI	0.993	0.994	0.995	0.973

Note: FT = Financial Technology; FI = Financial Inclusion; PI = Public Interest; AVE = Average Variance Extracted.

Specifically, FT (CR = 0.915), FI (CR = 0.863), and PI (CR = 0.995) demonstrate high levels of reliability. However, the exceptionally high CR and AVE values for the PI construct (CR = 0.995; AVE = 0.973) further indicate that the indicators may be highly homogeneous, which should be interpreted with caution. Despite this, the overall measurement model remains statistically acceptable for structural analysis.

The moderation construct (FI × FT) also satisfied reliability and validity criteria with CR and AVE values exceeding the recommended thresholds. This indicates that the interaction construct is statistically acceptable for moderation analysis within the PLS-SEM framework.

4.3 Common method bias results

The results of the CMB assessment indicate that the first factor extracted through Harman's single-factor test explained less than 50% of the total variance. In addition, all full collinearity VIF values were below the recommended threshold of 3.3, including FI (1.034), FT (1.095), and the interaction construct FI × FT (1.076). Therefore, CMB is unlikely to threaten the validity and robustness of the study findings.

4.4 R^2

The explanatory power of the structural model was assessed using the R^2. As shown in Table 3, FI and FT jointly explain 7.7% of the variance in PI ($R^2 = 0.077$), while the remaining 92.3% is explained by factors outside the model.

The relatively low explanatory power indicates that Paylater adoption is influenced by a broader set of behavioral and perceptual determinants beyond the structural variables included in this study. Instead, it reflects the complex, multidimensional nature of digital credit adoption, which is influenced by a wide range of behavioral, psychological, and contextual factors not captured by the present model. In this study, FI and FT development are conceptualized as structural enablers rather than direct behavioral determinants, which may explain their limited explanatory power.

Similar findings have been reported in prior studies on digital finance adoption, where structural variables establish access conditions but do not fully account for individual decision-making processes. Therefore, the low R^2 value highlights the importance of incorporating additional variables such as financial literacy, trust, perceived risk, and socio-cultural factors in future research.

Table 3. R^2 value

	R^2
Public Interest (PI)	0.077

4.5 Hypothesis testing

The findings indicate that FT exerts a positive but statistically insignificant influence on PI in utilizing Paylater services ($p = 0.156 > 0.05$). This suggests that while FT provides benefits such as convenience, efficiency, and transaction accessibility, these factors alone may not be sufficient to significantly encourage consumer adoption of Paylater services.

In contrast, FI demonstrates a positive and significant relationship with PI ($p = 0.024 < 0.05$), indicating that broader access to formal financial services, including banking facilities, e-wallets, and digital payment systems, contributes to greater readiness and willingness to engage with Paylater services. The hypothesis testing results are presented in Table 4. FI has a positive and significant effect on PI, while FT and the interaction effect show positive but insignificant effects.

Table 4. Hypothesis testing results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistic	p Values
H1: FI→PI	0.203	0.234	0.090	2.262	0.024
H2: FT→PI	0.152	0.185	0.107	1.419	0.156
H3: FIxFT → PI	0.021	0.022	0.124	0.166	0.868

Note: FT = Financial Technology; FI = Financial Inclusion; PI = Public Interest.

The moderation analysis further indicates that the

interaction effect between FI and FT on PI in using Paylater services is positive but statistically insignificant (β = 0.021; p = 0.868). This finding suggests that FI does not significantly strengthen or weaken the influence of FT development on PI in using Paylater services.

The moderation analysis indicates that FI does not significantly strengthen the relationship between FT and PI in using Paylater services. This finding suggests that FI primarily operates as a direct structural determinant of digital credit participation rather than as a conditioning mechanism of fintech effectiveness. Therefore, the results emphasize the independent importance of financial access in shaping Paylater adoption within emerging regional contexts.

Nevertheless, given the relatively low explanatory power of the model (R^2 = 0.077), these findings should be interpreted cautiously. The results suggest that additional behavioral and perceptual factors, such as trust, perceived risk, financial literacy, repayment concerns, and social influence, may play a more substantial role in shaping PI in using Paylater services.

Figure 2 illustrates the structural model with path coefficients, showing the relationships among FI, FT, PI, and the moderating effect.

This study set out to re-examine the determinants of Paylater adoption by jointly considering FI and FT development within a regional Indonesian context characterized by uneven access to formal financial services. The findings provide an important insight: FI and FT development primarily function as structural enablers rather than as immediate behavioral drivers of Paylater adoption. The explanatory power of the model is relatively low (R^2 = 0.077), indicating that FI and FT explain only a limited proportion of the variance in PI in using Paylater services. This finding suggests that Paylater adoption is influenced by a broader set of behavioral, perceptual, and socio-psychological factors beyond the structural variables examined in this study.

Nevertheless, the findings remain theoretically relevant because they demonstrate that structural access conditions, particularly FI, still contribute to shaping readiness for digital credit participation. However, these structural factors should not be interpreted as the sole or dominant determinants of Paylater adoption behavior.

The significant effect of FI on PI in using Paylater services underscores the foundational role of access to formal financial systems. Individuals who are integrated into banking services, digital payment platforms, and regulated financial infrastructures tend to exhibit greater confidence and readiness to engage with digital credit products. This finding aligns with FI theory, which posits that access, affordability, and usage of formal financial services enhance financial capability and trust, thereby enabling participation in more complex financial innovations [12, 13]. In the context of Paylater services, such access reduces uncertainty about repayment mechanisms, account management, and regulatory protections, ultimately fostering readiness for adoption.

This result is consistent with prior empirical studies that emphasize the importance of FI in shaping fintech use, particularly in developing and emerging economies [28, 29]. However, the present study extends this literature by demonstrating that FI is not merely a complementary factor, but rather a decisive structural condition for Paylater adoption in regions where financial access remains heterogeneous. In such contexts, inclusion enhances not only technical access but also psychological readiness by strengthening trust and perceived control over financial obligations.

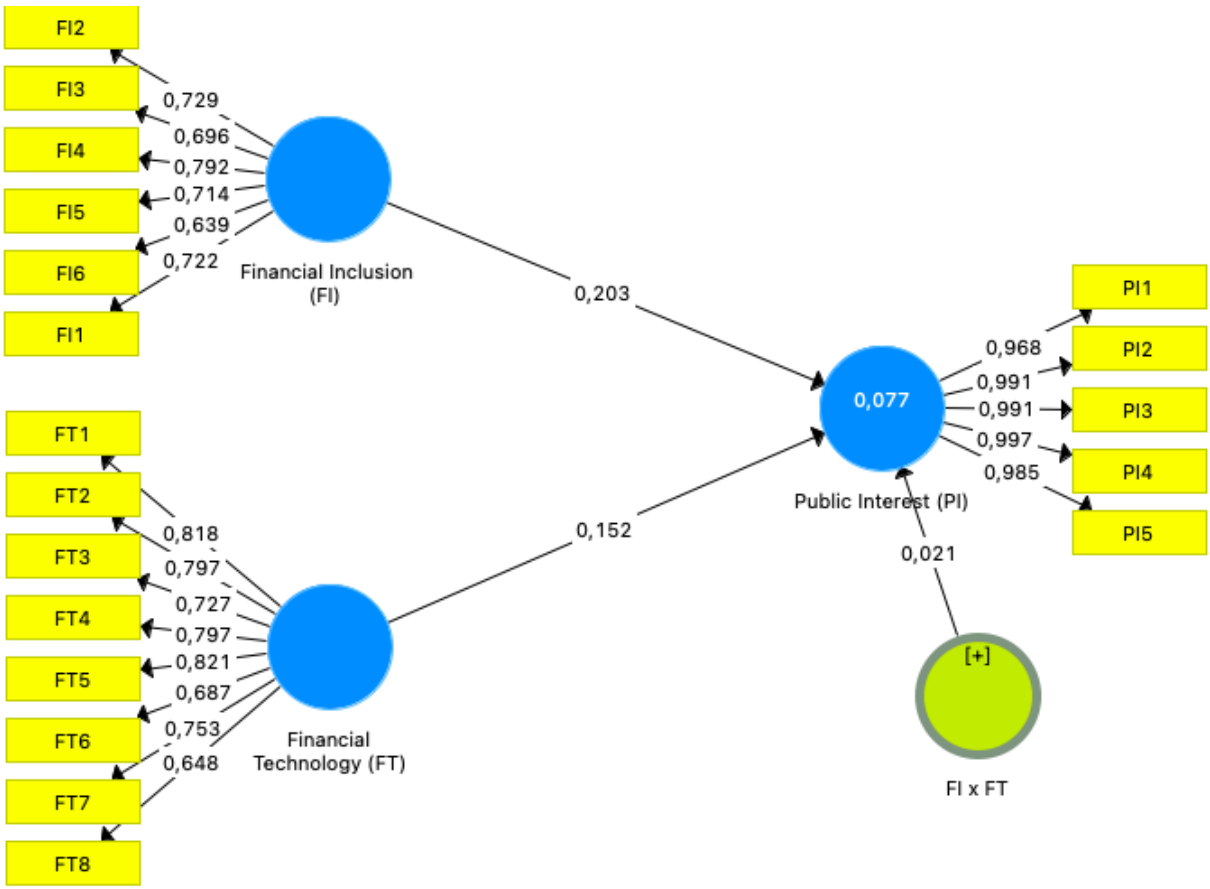

Figure 2. Structural model with path coefficients
Note: FT = Financial Technology; FI = Financial Inclusion; PI = Public Interest.

In contrast, FT development exhibits a positive but statistically insignificant influence on PI in using Paylater services. These findings challenge the dominant assumption in technology-centered adoption models such as the TAM and related frameworks that technological attributes alone are sufficient to drive adoption. While features such as convenience, transaction speed, and platform integration may improve user experience, they do not automatically translate into stronger adoption intentions when users face constraints related to access, trust, and financial capability. This result supports earlier studies showing that fintech innovation is insufficient as a standalone driver of adoption in the absence of institutional assurance and financial literacy.

Importantly, this divergence between the roles of FI and FT development provides empirical clarification to previously mixed findings in the Paylater and BNPL literature. While studies conducted in highly urbanized and financially mature environments often report strong effects of fintech features on adoption, the present findings suggest that such effects are context-dependent. In regions where access to formal financial services is uneven, technological sophistication may be perceived as secondary or even irrelevant if users lack confidence in managing digital credit responsibly. Thus, fintech-driven adoption models may overestimate the role of technology when applied to emerging regional settings without adequate consideration of structural access conditions.

From a theoretical standpoint, these findings call for a reorientation of frameworks for fintech adoption. Rather than conceptualizing adoption as a direct response to technological innovation, Paylater usage should be understood as a structurally constrained process in which FI functions primarily as an independent structural determinant of Paylater adoption rather than as a significant conditioning mechanism of FT effectiveness. This perspective complements existing behavioral models by introducing a multi-level understanding of adoption: structural access enables participation, while behavioral and perceptual factors such as trust, perceived risk, and repayment concerns determine actual usage decisions. In this sense, the insignificant effect of fintech development does not contradict adoption theory, but rather highlights its boundary conditions.

The insignificant moderating effect provides an additional theoretical implication. While FI significantly influences PI directly, it does not substantially alter the relationship between FT development and Paylater adoption. This finding suggests that FI in emerging-market contexts is better understood as a foundational structural determinant that independently shapes readiness for digital credit participation rather than as a factor that amplifies FT effectiveness.

In other words, access to formal financial systems appears to be inherently important for Paylater adoption regardless of the level of FT advancement. These findings partially challenge assumptions embedded in technology-centered adoption frameworks, particularly the TAM and related fintech adoption perspectives, which often presume that fintech innovation becomes more effective under higher levels of FI [30].

The results further indicate that FT development and FI may operate through relatively separate mechanisms in influencing digital credit engagement. While FI directly affects institutional access, financial capability, and readiness to participate in formal digital financial systems [31], FT development mainly contributes to transaction convenience, operational efficiency, and service integration [32]. Therefore, technological sophistication alone remains insufficient to significantly encourage Paylater adoption without broader structural and behavioral support.

The model's low explanatory power further reinforces this interpretation. FI and FT development account for only a limited proportion of the variance in PI because they operate at a systemic level, shaping the environment in which adoption decisions occur rather than directly influencing individual behavior. Similar patterns have been observed in prior studies on digital finance adoption in developing regions, where structural variables establish access but do not fully account for individual decision-making processes [9, 14]. Consequently, incorporating behavioral and perceptual variables such as financial literacy, trust, perceived benefits, and socio-cultural norms would likely enhance the model's predictive power in future research.

The findings also carry important practical implications. For policymakers, the results suggest that efforts to promote Paylater adoption should prioritize strengthening FI by expanding access to regulated financial services, providing financial education, and strengthening consumer protection frameworks. Technological innovation alone is unlikely to yield inclusive adoption outcomes without parallel investments in financial infrastructure and literacy. For FT providers, the results highlight the need to complement digital feature development with trust-building strategies, transparent credit terms, and user education initiatives. Such approaches are particularly critical in non-metropolitan regions, where skepticism toward digital credit may persist despite increasing platform availability.

This study contributes to the digital finance and BNPL literature by empirically examining both the direct and moderating roles of FI in shaping Paylater adoption. The findings demonstrate that FI exerts a stronger direct structural influence on PI than its moderating role in strengthening FT effectiveness. These results provide a more nuanced understanding of digital credit adoption in emerging-market contexts characterized by uneven financial access.

5. CONCLUSIONS

The findings of this study indicate that FI has a positive and significant effect on PI in using Paylater services, while FT shows a positive but statistically insignificant influence. This suggests that access to formal financial systems plays a more decisive role than technological sophistication in shaping digital credit adoption, particularly in regions with uneven financial access.

These findings highlight the importance of strengthening FI through improved access to financial services, enhanced financial literacy, and stronger consumer protection. Technological innovation alone is insufficient to ensure inclusive and responsible adoption of digital credit, especially in non-metropolitan contexts.

This study is subject to limitations. The relatively low explanatory power of the model ($R^2 = 0.077$) indicates that other factors, such as perceived risk, financial literacy, and socio-cultural influences, may also affect adoption. Future research is therefore encouraged to incorporate these variables and extend the analysis to broader contexts to enhance generalizability.

Furthermore, the moderating effect of FI was statistically insignificant, indicating that FI primarily contributes through

its direct influence on PI rather than through strengthening the effect of fintech development.

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