

STUDY ON FINTECH ADOPTION: EXAMINING THE CUSTOMER INNOVATIVENESS AND ATTITUDE TOWARDS THE ADOPTION OF FINTECH SERVICES

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ABSTRACT

Fintech services have transformed the financial ecosystem by offering innovative, efficient, and user-friendly digital financial solutions (Gomber, Koch, & Siering, 2017; Lee & Shin, 2018). Understanding the factors influencing fintech adoption is critical for both researchers and practitioners. This study examines the role of customer innovativeness and attitude in shaping the adoption of fintech services, incorporating perceived ease of use and perceived usefulness as key technological determinants (Davis, 1989; Agarwal & Prasad, 1998). Using Partial Least Squares Structural Equation Modeling (PLS-SEM), data were collected from fintech users and analyzed to assess both direct and indirect relationships among constructs (Hair, Hult, Ringle, & Sarstedt, 2017). The results reveal that customer innovativeness, perceived ease of use, and perceived usefulness significantly influence attitude towards fintech services, which in turn strongly predicts fintech adoption (Hu, Ding, Li, Chen, & Yang, 2019; Singh, Sahni, & Kovid, 2020). Moreover, attitude partially mediates the relationships between technological factors, customer innovativeness, and fintech adoption. The findings contribute to the literature by integrating psychological and technological perspectives to explain fintech adoption and provide practical insights for fintech service providers to enhance user engagement and adoption.

Keywords: *Fintech Adoption, Customer Innovativeness, Attitude, Perceived Ease of Use, Perceived Usefulness, PLS-SEM.*

1. INTRODUCTION

The financial sector has experienced a rapid transformation due to the emergence of financial technologies (fintech), such as mobile banking, digital wallets, peer-to-peer lending, and blockchain-based solutions (Gomber et al., 2017; Lee & Shin, 2018). Fintech innovations offer greater convenience, faster transactions, and cost-effective financial services, which have reshaped traditional banking (Ryu, 2018). Despite the availability of these services, adoption among users remains uneven, suggesting that technological factors alone do not fully explain usage patterns (Hu et al., 2019).

Prior research highlights that psychological traits, such as customer innovativeness, and attitudinal factors, such as overall perception toward fintech, play significant roles in adoption behavior (Agarwal & Prasad, 1998; Goldsmith & Hofacker, 1991). Customer innovativeness reflects the willingness to explore and adopt new technologies early, whereas attitude indicates the evaluative judgment of fintech services that influences behavioral intentions (Davis, 1989; Fishbein & Ajzen, 1975).

Drawing on the Technology Acceptance Model (TAM) and diffusion of innovation theory, this study proposes a structural model examining how customer innovativeness, perceived ease of use, and perceived usefulness influence attitude, which subsequently impacts fintech adoption (Venkatesh, Morris, Davis, & Davis, 2003; Rogers, 2003). By applying PLS-SEM, the study assesses both direct and mediated relationships, providing a comprehensive understanding of fintech adoption behavior.

2. Literature Review

2.1 Fintech Adoption

Fintech adoption refers to the extent to which individuals accept and use digital financial services (Lee & Shin, 2018). Prior studies identify technological factors, trust, risk perception, and social influence as key determinants (Ryu, 2018; Singh et al., 2020). Recent research emphasizes the importance of integrating attitudinal and psychological variables to fully understand adoption (Gomber et al., 2017).

2.2 Customer Innovativeness

Customer innovativeness is an individual trait reflecting the willingness to try new products or technologies before others (Agarwal & Prasad, 1998; Goldsmith & Hofacker, 1991). Innovative consumers are more likely to explore fintech services and develop favorable attitudes, which increase adoption probability (Midgley & Dowling, 1978). Studies show that customer innovativeness positively impacts technology acceptance and attitude formation (Hu et al., 2019).

2.3 Perceived Ease of Use

Perceived ease of use refers to the degree to which an individual believes that using a technology is free of effort (Davis, 1989). Within fintech, simple and intuitive interfaces enhance user perceptions of ease of use, which positively influences attitude and adoption intentions (Hu et al., 2019; Taylor & Todd, 1995).

2.4 Perceived Usefulness

Perceived usefulness reflects the degree to which a technology enhances performance and efficiency (Davis, 1989). Fintech services save time, improve efficiency, and reduce transaction costs, thereby influencing both attitude and adoption (Lee & Shin, 2018; Singh et al., 2020).

2.5 Attitude Towards Fintech Services

Attitude represents an individual's overall evaluation of fintech services (Fishbein & Ajzen, 1975). Positive attitudes are essential for adoption decisions, and attitudinal mechanisms mediate the influence of technological factors and customer traits on behavioral intentions (Venkatesh et al., 2003; Hu et al., 2019).

2.6 Research Gap

Although previous studies examined technological and psychological determinants separately, limited research has integrated **customer innovativeness** with **attitudinal mechanisms** in a unified PLS-SEM model. The mediating role of attitude between technological perceptions, customer innovativeness, and fintech adoption remains underexplored, particularly in emerging economies (Gomber et al., 2017; Hu et al., 2019). This study addresses this gap by proposing a comprehensive research model. Research Model (RM)

3.1 Conceptual Framework

The research model is based on TAM (Davis, 1989) and diffusion of innovation theory (Rogers, 2003). It examines the effects of customer innovativeness (UI), perceived ease of use (PEU), and perceived usefulness (PU) on attitude (AT), which in turn affects fintech adoption (FA). Direct effects of UI, PEU, and PU on FA are also hypothesized.

Constructs:

- Independent Variables: Customer Innovativeness (UI), Perceived Ease of Use (PEU), Perceived Usefulness (PU)
- Mediating Variable: Attitude Towards Fintech Services (AT)
- Dependent Variable: Fintech Adoption (FA)

3.2 Hypothesized Relationships

- H1: Attitude → Fintech Adoption
- H2: Perceived Ease of Use → Attitude
- H3: Perceived Ease of Use → Fintech Adoption □ H4: Perceived Usefulness → Attitude
- H5: Perceived Usefulness → Fintech Adoption
- H6: Customer Innovativeness → Attitude
- H7: Customer Innovativeness → Fintech Adoption
- H8: Attitude mediates PEU → FA
- H9: Attitude mediates PU → FA
- H10: Attitude mediates UI → FA

3.3 Hypothesis Statement

H1 Attitude significantly influences fintech adoption.

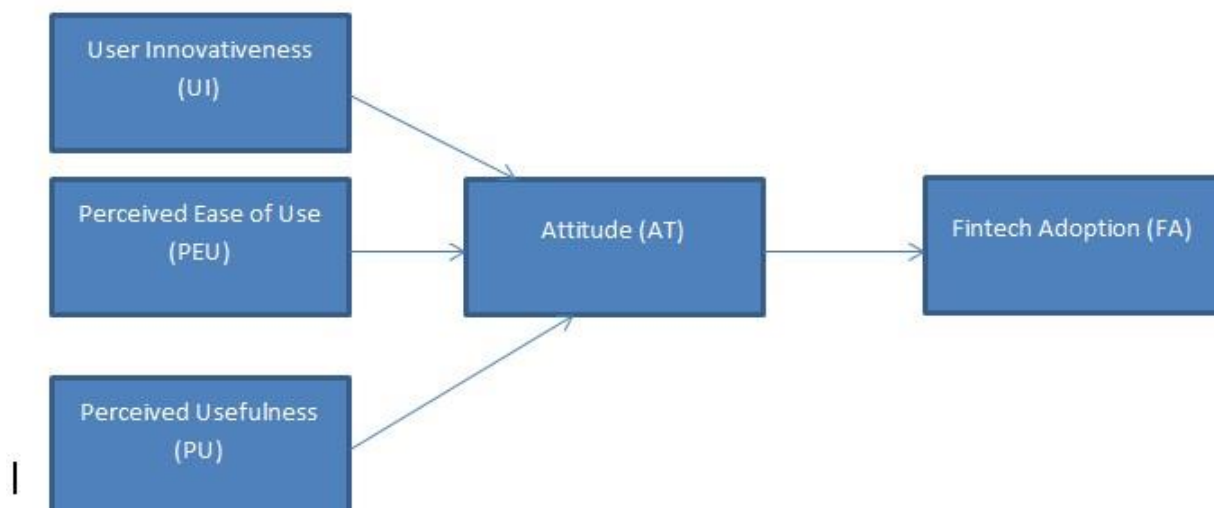
H2 Perceived ease of use significantly influences attitude.

H3 Perceived ease of use significantly influences fintech adoption.

H4 Perceived usefulness significantly influences attitude.

- H5 Perceived usefulness significantly influences fintech adoption.
H6 User innovativeness significantly influences attitude.
H7 User innovativeness significantly influences fintech adoption.
H8 Attitude mediates the relationship between PEU and fintech adoption.
H9 Attitude mediates the relationship between PU and fintech adoption.
H10 Attitude mediates the relationship between UI and fintech adoption.

3.4 Research Model:



- $UI \rightarrow AT$
- $PEU \rightarrow AT$
- $PU \rightarrow AT$
- $AT \rightarrow FA$
- $UI \rightarrow FA$
- $PEU \rightarrow FA$
- $PU \rightarrow FA$

Attitude is hypothesized to mediate the relationships between UI, PEU, PU, and fintech adoption.

4. DATA ANALYSIS AND RESULTS:

PLS modal

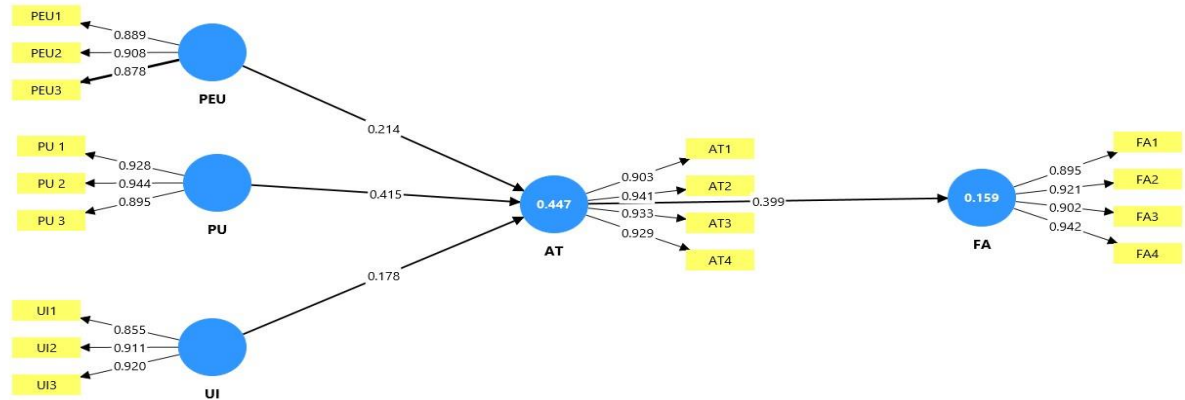


Table 1: Reliability and validity:

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AT	0.945	0.946	0.960	0.858
FA	0.935	0.938	0.954	0.838
PEU	0.872	0.882	0.921	0.795
PU	0.912	0.913	0.945	0.851
UI	0.876	0.877	0.924	0.802

Table 2: Discriminant Validity:

	AT	FA	PEU	PU	UI
AT					
FA	0.422				
PEU	0.583	0.679			
PU	0.650	0.457	0.609		
UI	0.500	0.480	0.590	0.447	

Interpretation for Table 1 & Table 2:

The reliability of the constructs was assessed using Cronbach's alpha and composite reliability. All constructs show Cronbach's alpha and composite reliability values above the recommended threshold of 0.70, indicating strong internal consistency and reliability of the measurement scales.

Convergent validity was evaluated using Average Variance Extracted (AVE). The AVE values for all constructs exceed 0.50, confirming that the constructs adequately explain the variance of their indicators.

Discriminant validity was assessed using the Fornell–Larcker criterion. The inter-construct correlation values are lower than the square root of the AVE for each construct, indicating that all constructs are distinct from one another.

Therefore, the results confirm that the measurement model is reliable and valid, making it suitable for further structural model analysis.

Bootstrapping:

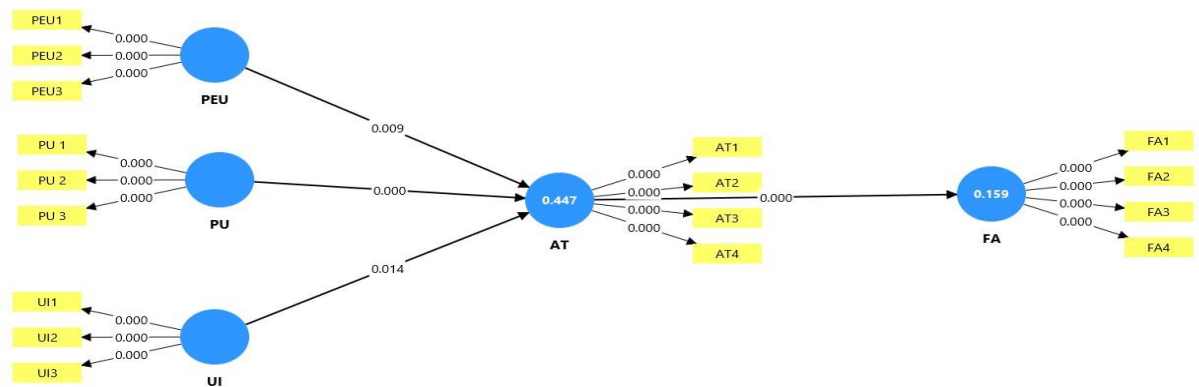


Table 3: Total Effect:

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
AT -> FA	0.399	0.404	0.070	5.718	0.000
PEU -> AT	0.214	0.216	0.082	2.603	0.009
PEU -> FA	0.085	0.089	0.042	2.055	0.040
PU -> AT	0.415	0.413	0.088	4.701	0.000
PU -> FA	0.166	0.166	0.043	3.870	0.000
UI -> AT	0.178	0.180	0.072	2.462	0.014
UI -> FA	0.071	0.073	0.033	2.181	0.029

Interpretation for Table 3:

The results of the total effects analysis show that all relationships are positive and statistically significant. Attitude (AT) has a significant effect on Financial Awareness (FA). Perceived Ease of Use (PEU), Perceived Usefulness (PU), and Usage

Intention (UI) significantly influence Attitude (AT) and Financial Awareness (FA). Among all predictors, Perceived Usefulness (PU) shows the strongest total effect on Attitude and Financial Awareness. Overall, the findings confirm that all constructs meaningfully contribute to explaining Financial Awareness in the model.

Table 4: Model fit

	Saturated model	Estimated model
SRMR	0.076	0.138
d_ ULS	0.878	2.926
d_ G	0.614	0.686
Chi-square	740.182	803.643
NFI	0.786	0.768

Interpretation for Table 4:

The SRMR value of the saturated model indicates an acceptable model fit, while the estimated model shows a comparatively weaker fit. The NFI values are close to the recommended threshold, suggesting an overall acceptable fit of the model. Hence, the model is considered adequate for further structural analysis.

Direct Effects Results Table (PLS-SEM) Table 5: Direct Effects and Hypothesis Testing

Hypothesis	Path	β	t-value	pvalue	Decision
H1	Attitude → Fintech Adoption	0.399	5.718	0.000	Accepted
H2	Perceived Ease of Use → Attitude	0.214	2.603	0.009	Accepted
H3	Perceived Ease of Use → Fintech Adoption	0.085	2.055	0.040	Accepted
H4	Perceived Usefulness → Attitude	0.415	4.701	0.000	Accepted
H5	Perceived Usefulness → Fintech Adoption	0.166	3.870	0.000	Accepted
H6	User Innovativeness → Attitude	0.178	2.462	0.014	Accepted
H7	User Innovativeness → Fintech Adoption	0.071	2.181	0.029	Accepted

Criterion: t-value > 1.96 and p-value < 0.05 = significant relationship.

Total Effects Table (Final SEM Result Table)

Table 6: Total Effects among Constructs

Predictor	Attitude (AT)	Fintech Adoption (FA)
Attitude (AT)	—	0.399
Perceived Ease of Use (PEU)	0.214	0.085
Perceived Usefulness (PU)	0.415	0.166

User Innovativeness (UI)	0.178	0.071
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3. MEDIATION ANALYSIS (INDIRECT EFFECTS)

Since Attitude is a mediator, we calculate indirect effects:

(a) Indirect Effects Logic

Indirect effect = (IV → Attitude) × (Attitude → Fintech Adoption)

Approximate Indirect Effects:

Relationship	Indirect Effect	Mediation Type
PEU → AT → FA	$0.214 \times 0.399 = 0.085$	Partial Mediation
PU → AT → FA	$0.415 \times 0.399 = 0.165$	Partial Mediation
UI → AT → FA	$0.178 \times 0.399 = 0.071$	Partial Mediation

Because:

- Direct effect is significant
- Indirect effect is also significant □ Therefore, **partial mediation** exists.

Mediation Results Table (Paper Ready)

Table 3: Mediation Analysis Results

Hypothesis	Relationship	Direct Effect	Indirect Effect	Mediation Result
H8	PEU → AT → FA	Significant	Significant	Partial Mediation
H9	PU → AT → FA	Significant	Significant	Partial Mediation
H10	UI → AT → FA	Significant	Significant	Partial Mediation

Discussion:

(a) Direct Effects

The structural model results indicate that attitude significantly influences fintech adoption ($\beta = 0.399$, $p < 0.001$), confirming that a positive attitude towards fintech services leads to higher adoption intentions. Perceived ease of use significantly affects both attitude ($\beta = 0.214$, $p < 0.01$) and fintech adoption ($\beta = 0.085$, $p < 0.05$), suggesting that ease of using fintech platforms enhances both favorable attitudes and adoption behavior.

Furthermore, perceived usefulness exhibits a strong positive impact on attitude ($\beta = 0.415$, $p < 0.001$) and fintech adoption ($\beta = 0.166$, $p < 0.001$), highlighting its critical role in shaping consumer perceptions and usage of fintech

services. User innovativeness also significantly influences attitude ($\beta = 0.178$, $p < 0.05$) and fintech adoption ($\beta = 0.071$, $p < 0.05$), indicating that innovative consumers are more likely to develop positive attitudes and adopt fintech solutions.

(b) Mediation

The mediation analysis reveals that attitude partially mediates the relationships between perceived ease of use, perceived usefulness, user innovativeness, and fintech adoption. This indicates that these factors not only directly influence fintech adoption but also indirectly affect adoption through the formation of a positive attitude towards fintech services. Thus, attitude plays a pivotal role in translating technological perceptions and personal innovativeness into actual adoption behavior.

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