FinTech and Financial Inclusion: Exploring the Mediating Role of Digital Financial Literacy in Enhancing Access to Financial Services

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Abstract

Purpose – With consideration for the mediating function that digital financial literacy plays in the region, the study's goal is to determine how FinTech adoption may promote financial inclusion in the Kathmandu Valley. The three original constructs of the unified theory of acceptance and use of technology (UTAUT), namely performance expectancy (PE), effort expectancy (EE), and social influence (SI), were integrated with three additional factors - trust (TR), perceived security (PS), and service quality (SQ) of the Value-based Adoption Model (VAM), to create a conceptual framework.

Design/methodology/approach – A quantitative method was employed to gather data from 312 FinTech users through the use of a cross-sectional questionnaire. Microsoft Excel and the SPSS software were used to examine the data. The research designs used were correlational and causal comparative.

Findings – The findings revealed that FinTech use has a significant correlation between each variable. Also, TR, SQ, PS, PE, and EE have a substantial impact on the adoption of FinTech use. While SI doesn't have a substantial impact on the adoption of FinTech services. Additionally, the study shows that DFL has a mediating role in FU and FI.

Conclusion – This study provides significant details on the complex relationship between FinTech adoption and financial inclusion and demonstrates how FinTech adoption increases people's access to formal financial services, which in turn promotes financial inclusion. Along with highlighting its significance in the possible expansion of FinTech usage, the study also emphasizes the mediating role that digital financial literacy plays.

Implications – Policymakers and FinTech service providers may find this study useful in better understanding the relatively low adoption rate of FinTech and in creating plans to increase user acceptance in the Kathmandu Valley.

Originality – This study contributes to the exploration of FinTech's potential to promote financial inclusion with a focus on the mediating role of digital financial literacy in Nepal's Kathmandu Valley.

Keywords – Digital financial literacy, Financial inclusion, Financial services, FinTech use, Social influence

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1. Introduction

Despite all of the global economic growth we are witnessing, the problem of financial exclusion remains a significant obstacle to equitable development in the global financial world (Amnas et al., 2024). Several factors, including poverty, financial innovation, financial sector stability, economic conditions, financial literacy, and nationally specific regulatory frameworks, all have an impact on and influence financial inclusion (Ozili, 2020). As digital networks and mobile money provide a technological platform that can be utilized to enhance the accessibility and reach of financial services thus enhancing financial inclusion, the diffusion of Fintech is thought to be a promising solution for expanding the reach and accessibility of financial services to the masses (Aleemi et al., 2023). FinTech has significantly reduced the physical barriers to household participation in economic activity, opening up new channels of financial services (Yanga & Zhang, 2022). As contained in the UN Sustainable Development Goals (SDGs), sustainable and balanced development is largely dependent on FinTech, which is the primary vehicle for financial inclusion (Arner et al., 2020). Fintech advancements have demonstrated their capacity to increase accessibility, lower costs, and empower marginalized groups. However, there are still concerns, like the need for constant technological adaptation and challenging regulatory matters. To fully realize FinTech's promise, governments, banks, and FinTech businesses must work together (Karangara, 2023).

The fast adoption of technology, high mobile usage, and rising internet penetration rates, an increasingly urbanized, literate, and youthful population, as well as a segment of consumers underserved by traditional banking solutions, all highlight the demand for FinTech solutions (Mohamed, 2020). Significant changes have been brought about by this tendency in the industrial environment, upending established power structures and offering substitutes for the services that were formerly dominated by big financial institutions (Barroso & Laborda, 2022). These new technologies are already being used by financial institutions to provide direct communication between investors and borrowers, which could speed up the financing procedure (Firmansyah et al., 2022). Moreover, the effective use of technology tools and equitable access to technology resources are crucial in maximizing the potential of online activities (Chaudhary et al., 2023). Nonetheless, financial institutions are finding it challenging to update their traditional processes to utilize new technology, and they must take into account the possible effects this may have on the firms' internal cultures and workforce (Utami et al., 2021). Greater bank efficiency and the launch of more affordable services might result from the integration and cooperation of banks with FinTech companies as well as the development of new apps (Firmansyah et al., 2022).

A person's level of comprehension of all things linked to financial literacy through the use of digital technology is digital financial literacy (Rahayu et al., 2022). Digital financial literacy must be taught in schools in the modern day if FinTech services are to be utilized effectively (Panos & Wilson, 2020). Without sufficient digital financial literacy, even those with a fair level of financial literacy may find it challenging to use FinTech services (Kakinuma, 2022). In Nepal, by 2022, 90% of adults will have used formal financial services (from banks and other formal providers), up from 61% in 2014. This covers making use of services including insurance, bank accounts, savings accounts, credit, and payments (ICFC, 2023). Fast payment methods like QR codes, e-wallets, and mobile banking have therefore grown significantly during the past two years. The percentage of transactions using QR codes has grown by 286 percent on average, with mobile banking accounting for 59% of the rise and wallet transactions accounting for 30% (Special Address Delivered by Governor Adhikari on 'FINTECH Fest 2023', in Mumbai, India, 2021).

Establishing fully functional digital banks, establishing a regulatory sandbox, and gradually introducing central bank digital

currency are all steps toward promoting the usage of FinTech. One of the top priorities for promoting financial inclusion through FinTech technologies is the deployment of centralized KYC connected with the digital national ID and personalized credit score (Frost & Sullivan, 2018). However, the conditions and procedures governing digital banks are not clearly stated in any regulations. Nonetheless, the central bank is probably aware of this disparity and is thinking about what has to be done to close it (The HRM Nepal, 2023).

Prior research on Fintech has concentrated on elements associated with FinTech service acceptance or FinTech's direct impact on financial inclusion (AlBenJasim et al., 2023; Amnas et. al, 2024; Hassan et al., 2023; Senyo et al., 2021; Wenxiang et al., 2023). However, Amnas et al.'s (2024) study in India found an absence of research on the function of digital financial literacy as a mediator in the association between FinTech usage and financial participation. Therefore, this study is going to assess the applications of FinTech use to improve financial inclusion with the exploration of the mediating role of digital financial literacy in the context of Nepal. This study recognizes that the widespread adoption of FinTech services is significantly influenced by digital financial literacy. This emphasizes the need for a concise evaluation of digital financial literacy that takes into consideration both traditional financial literacy and the special opportunities and difficulties that come with digital banking. Thus, this study aims to explore the potential of FinTech services usage to promote financial inclusion. In order to provide informative information that can guide the development of approaches to increase FinTech-enabled financial access, this study investigates these important components. Furthermore, this research broadens the current body of information regarding the use of FinTech services while providing useful suggestions for policymakers and industry players.

The remaining sections of the paper are organized as follows: A review of the literature, the construction of hypotheses, and theoretical underpinnings are all done in Section 2. The data and methodology used in this investigation are described in Section 3. The results are displayed in Section 4 along with an explanation of their significance. The conclusion, study limitations, and recommendations for additional research are included in Section 5.

2. Literature Review and Hypothesis Development

2.1 Theoretical Foundation

The present study is theoretically underpinned by the Unified Theory of Acceptance and Use of Technology (UTAUT2), as proposed by Venkatesh et al. (2003), and the Value-based Adoption Model (VAM), as proposed by Kim et al. (2007). As FinTech services gain prominence, it is possible to study how they sustain the correlation between FinTech application and financial inclusion by applying the UTAUT model (Yohanes et al., 2020). It consists of several important components, including social influence, effort and performance expectations, and enabling environments. However, several authors added new constructs to the UTAUT model to expand upon it and justify the use of FinTech services to derive financial insight (Amnas et al., 2024; Hassan et al., 2023). By integrating and modifying UTAUT, the previous researcher was able to comprehend and draw conclusions on the adoption and use of systematic FinTech service theory (Hassan et al., 2022). The UTAUT2 framework is utilized as a theoretical framework in this investigation because of its efficient explanatory powers.

The Value-based Adoption Model (VAM) by Kim et al. (2007) is another framework that this study expands upon to explain the links between the suggested hypothesized variables. VAM's main concept is that people's utilization of new technology is mostly determined by their perceptions of its benefits and drawbacks (Jun et al., 2018). The researcher has used VAM in this study because embracing new technology – Fintech1– is enhanced by factors including perceived security, trust, and service quality. In addition, perceived regulatory

support and digital financial literacy add to the value (Amnas et al., 2024). To explain FinTech acceptance, several modern scholars have also recourse to VAM.

2.2 Trust and FinTech Use

In financial transactions, especially when utilizing technology like smartphones or tablets, trust is essential (Hassan et al., 2022). Regarding financial technology services, trust pertains to consumers' conviction in the reliability, security, and ethical conduct of these platforms (Alrawad et al., 2023). Research continuously demonstrates that people's desire to use FinTech services is strongly influenced by their level of trust (Bajunaied et al., 2023; Roh et al., 2022). This is particularly true in the banking and finance services industry, as it is seen to be vital to retain a high degree of trust because fraudulent activity occurs frequently and poses financial dangers (Kilani et al., 2023). Customers who believe in FinTech platforms see fewer risks while using these services (Shahzad et al., 2022). Trusted users are more likely to stick with a platform, using its services frequently and even recommending it to others (Bajunaied et al., 2023). Trust is one of the most important factors that determines users' views and behaviors toward FinTech services (Zarifis & Cheng, 2022). Thus, the subsequent hypothesis is advanced:

H1: The utilization of FinTech services is influenced by trust.

2.2 Service Quality and FinTech Use

When determining the perceived quality of services by customers, service quality is defined as the customer experience that may be compared to expectations (Grönroos, 1984). When it comes to differentiating services, service quality is considered to be vital (Hassan et al., 2023). Users' perceptions of dependable, effective, and satisfying interactions with FinTech platforms can have a big impact on how widely accepted and utilized these platforms are (Ahmed et al., 2021). Based on the standard of the services, customers assess the value they obtain from FinTech (Patnaik et al., 2023). Improved service quality helps customers feel that their services are valuable, which motivates them to continue using those (Roh et al., 2022). As well as enhancing overall user experiences and satisfaction, a positive perception of service quality encourages patronage and the continual utilization of FinTech services (George & Sunny, 2022). The following hypothesis is put forth in light of the knowledge of the previously stated research:

H2: The utilization of FinTech services is influenced by service quality.

2.3 Perceived Security and FinTech Use

Perceived security, as used in the FinTech environment, refers to people's subjective evaluation of the security and safety of their financial data and transactions (Nasir et al., 2023). Customers' opinions of security have a direct impact on their level of confidence in FinTech platforms (George & Sunny, 2022). If users are certain that their financial data is secure, they would perceive using FinTech services to be less unsafe (Jangir et al., 2022). Customer retention and a reduced perception of risk are enhanced by secure FinTech experiences (Bajunaied et al., 2023). Individuals who believe that their data is safe are more inclined to stick with FinTech services (Wenxiang et al., 2023). Improving security can assist in removing typical obstacles to FinTech adoption, like worries about identity theft, data breaches, and illegal access (Bajunaied et al., 2023). Thus, the subsequent hypothesis is projected:

H3: The utilization of FinTech services is influenced by perceived security.

2.4 Social Influence and FinTech Use

Social influence is the extent to which a user adopts the new technology and/or system and places greater value on other people (Venkatesh et al., 2003). One may suppose that a significant component of UTAUT is social influence, which facilitates the prediction of user behavior that may indicate compliance, identification, and internalization (Zhou & Li, 2014). On the other hand, internalization and

identification cause a user's beliefs to depend on their social standing (Yi et al., 2021), whereas compliance modifies beliefs based on arbitrary standards (Joa & Magsamen-Conrad, 2021). Social factors such as culture and family customs can have a big impact on how FinTech services are adopted (Rahman et al., 2021). Therefore, the subsequent hypothesis is developed:

H4: The utilization of FinTech services is influenced by perceived security? social influence.

2.5 Performance Expectancy and FinTech Use

Performance expectation is the extent to which the use of technology enhances a person's ability to do any work (Venkatesh et al., 2012). Information technology usage intentions are most strongly predicted by performance expectancy, which also has a big impact on whether information technology utilization is required or optional (Alkhwaldi & Abdulmuhsin, 2021). The performance expectancy shows that using FinTech services enhances productivity and performance in carrying out financial transactions and operations, which is highly advantageous to people's daily lives (Alkhwaldi et al., 2022). Numerous prior research has demonstrated a positive relationship between performance expectancy and the acceptance and use of digital payments, mobile payments, FinTech services, and mobile banking intents (Al-Okaily et al., 2022; Chan et al., 2022). Hence, the subsequent hypothesis is proposed:

H5: The utilization of FinTech services is influenced by performance expectancy.

2.6 Effort Expectancy and FinTech Use

The level of ease the client perceives when using the technology is known as effort expectancy (Venkatesh et al., 2012). Utilizing FinTech services is expected to require less effort and be less inconvenient due to their ease of use and learning curve (Alkhwaldi et al., 2022). Prior empirical studies have found a positive correlation between effort and FinTech adoption (Senyo & Osabutey, 2020). This indicates that if doing financial transactions requires less work, people will be more likely to use such services (Singh et al., 2021). Therefore, the subsequent hypothesis is proposed:

H6: The utilization of FinTech services is influenced by effort expectancy.

2.7 FinTech Use and Financial Inclusion

FinTech enables clients in underdeveloped or isolated areas to access financial services electronically, doing away with the necessity for physical bank locations (Arner et al., 2020; Yanga & Zhang, 2022). FinTech is bringing simplicity and affordability to financial services. FinTech can reduce the expenses related to traditional banking (Shen et al., 2019). Those who may not have been involved in a formal system of finance can now do so and join one through the usage of FinTech services (Bongomin & Munene, 2019). FinTech is providing financial assistance to individuals and small businesses who would not be qualified for conventional loans through peer-to-peer lending and microfinance services. This encourages increased entrepreneurship and economic activity in underserved populations (Björkegren & Grissen, 2018). FinTech is leveraging technological advancement to lower difficulties and increase accessibility to formal financial systems (Yeyouomo et al., 2023). Therefore, the subsequent hypothesis is proposed:

H7: Financial inclusion is influenced by the utilization of FinTech services.

2.8 FinTech Use and Digital Financial Literacy

Technology firms offer financial education through articles, videos, and tutorials on their websites or applications. To increase the users' financial literacy, they are evaluating financial ideas and investing techniques and covering a wide range of helpful things (Kumar et al., 2023). By incorporating game aspects, FinTech apps make learning about finance enjoyable (Lai & Langley, 2023). FinTech platforms enable user participation in communities, allowing users to communicate, exchange experiences, ask questions, and learn from one

another (Ravikumar et al., 2022). Taufiq et al. (2023) discovered a strong correlation between the financial literacy level of individuals and their intention to utilize FinTech. Therefore, the subsequent hypothesis is formulated:

H8: Digital financial literacy is influenced by the utilization of FinTech services.

2.9 Digital Financial Literacy and Financial Inclusion

Digital financial inclusion is ultimately achieved through the increased awareness and comprehension of digital financial services, making those with a background in digital finance more adept at using financial technology (Choung et al., 2023). People who are financially literate are better equipped to effectively mitigate the risks associated with using digital services, and their views of those risks are positively impacted (Kumar et al., 2023). By promoting increased use of internet-based services, enabling users to come up with knowledgeable choices, raising awareness of security risks, and improving decision-making when completing electronic transactions, digital financial literacy improves the accessibility of funds (Ravikumar et al., 2022). The subsequent hypothesis is formulated:

H9: Financial inclusion is influenced by Digital financial literacy.

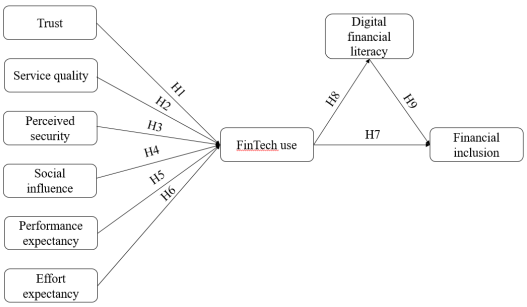
2.10 Digital Financial Literacy as a Mediator

The financial inclusion generated by FinTech substantially benefits from digital financial literacy, which gives consumers the skills and knowledge needed to effectively use digital platforms (Kumar et al., 2023). FinTech use is moderated by the digital divide as assessed by access, resource availability, and force (Odei-Appiah et al., 2022). Mutamimah and Indriastuti (2023) demonstrated how financial literacy could affect financial inclusion by moderating the impact of FinTech. Amnas et al. (2024) claimed that the adoption of FinTech has an indirect impact on digital financial literacy in addition to a direct impact on financial inclusion. Hence, the hypothesis is formulated:

H10: FinTech adoption and financial inclusion are mediated by digital financial literacy.

In Figure 1, the conceptual model is displayed.

Figure 1, Conceptual Framework



(Sources: Amnas et al., 2024; Hassan et al., 2022)

3. Research Method

3.1 Research Design

The study employed a quantitative method to empirically analyze and provide statistical evidence for the proposed theoretical approach, with the goal of generalizing the findings for application in different settings (Alkhwaldi et al., 2022). The study used correlational research design which offers the advantage of capturing insights and the direction of the relationship between the independent variables and dependent variable. Causal-comparative research design has been adopted to test the cause-and-effect relationships between variables.

3.2 Population and Sample

The study employed an online survey questionnaire. The population of the study included all the FinTech users of the Kathmandu Valley. According to earlier research on consumer behavior, a minimum sample size of 300 people is needed to examine and draw conclusions about the behavioral intentions of consumers (Bajunaied et al., 2023; Hameed et al., 2019; Zhao et al., 2022). Therefore, the selected sample size of the study was 312. Convenience sampling was employed because of a lack of information about the FinTech service user community, as recommended by earlier studies (Alrawad

et al., 2023; Amnas et al., 2024; Alrawad et al., 2023; Kakinuma, 2022; Kilani et al., 2023; Senyo & Osabutey, 2020). Due to the lack of people utilizing FinTech and predetermined lists of FinTech users, the data were collected by distributing the link in multiple social media channels (Instagram, Facebook, Viber, and WhatsApp) using the snowball sampling technique too.

3.3 Measurement

The study's items and scales were adapted from previously published empirical studies on FinTech use and financial inclusion as well as from existing literature on UTAUT. Trust, service quality, social influence, and performance expectancy were measured utilizing 6 items, whereas perceived security, effort expectancy, FinTech use, financial inclusion, and digital financial literacy were measured utilizing 4 items. Using items modified from Kumar et al. (2018); Singh and Srivastava (2018); Venkatesh et al. (2021), the variable, trust, was measured. Additionally, items measuring service quality were taken from (Tam & Oliviera, 2016; Zhou, 2013), and the measure of perceived security was adapted from (George & Sunny, 2022). The measure of social influence, performance expectancy, and effort expectancy was modified from (Chan et al., 2022). The FinTech usage assessment tools were modified from (Venkatesh et al., 2012). Financial inclusion-related items were acquired from Bongomin and Ntayi (2020), and the instruments applied to measure the knowledge of digital finances have been altered based on those made by (Ravikumar et al., 2022). Each measurement item in the study was evaluated using a five-point Likert scale, with 1-being strongly disagree and 5-being strongly agree.

4. Data Analysis and Results

4.1 Respondents' Profile

Three months, from April 2024 to June 2024, were dedicated for collecting data. To obtain a sizable sample size, we urged the early respondents to share the poll link widely. We distributed the link via Facebook, Instagram, and other social media platforms. There were 312 responses in all which were used for statistical analysis. The sample consisted of 59% males and 41% females, with the majority of the sample's ages falling between 20 and 30 of 85.7%. Furthermore, the results show that a sizable percentage of respondents 59.5% have attained a bachelor's degree.

4.2 Assessment of Measurement Model

The reliability of each component was evaluated using Cronbach's alpha values. According to Henseler et al. (2016), reliability is usually considered satisfactory if it is greater than .70 as measured by Cronbach's alpha coefficient. Based on the results of this study, Cronbach's alpha coefficients vary from .922 to .826 (Table 1).

Table 1

Reliability Analysis

Constructs	Adopted from	Cronbach's alpha
TR	Singh and Srivastava (2018); Kumar et al. (2018); Venkatesh et al. (2021)	.922
SQ	Zhou (2013); Tam and Oliveira (2016)	.915
PS	George and Sunny (2022)	.902
SI	Al-Nawaseh (2020); Chan et al. (2022)	.916
PE	Chan et al. (2022); Rahim et al. (2022)	.919
EE	Chan et al. (2022)	.911
FU	Venkatesh et al. (2012)	.837
FI	Bongomin and Ntayi (2020)	.826
DFL	Ravikumar et al. (2022)	.902

Note: TR=trust, SQ=service quality, PS=perceived security, SI=social influence, PE=performance expectancy, EE=effort expectancy, FU=FinTech use, FI=financial inclusion, DFL=digital financial literacy

(Source: SPSS Output, 2024)

4.3 Assessment of Structural Model

We examined our presented hypotheses after establishing the measurement model's reliability. Table 2 shows the correlation matrix of the independent variables TR, SQ, PS, SI, PE, and EE with consideration of the dependent

variable FU. Many significant relationships are shown by the results. Higher PE is substantially correlated with better FU, as demonstrated by the greatest connection (r =.777, p =.000) between PE and FU. Similarly, there is also a substantial positive correlation between FU and SI (r =.755, p =.000). Comparably, there is a strong positive association between EE and FU (r =.738, p =.000). Additionally, there is also a significant positive relationship between SQ and FU (r =.736, p =.000). Similarly, there is also a significant positive relationship between PS and FU (r =.732, p =.000). Furthermore, the variables TR also has a significant relationship with FU (r =.723, p =.000).

Table 2

Correlation Analysis

Variable		FU	TR	SQ	PS	SI	PE	EE
FU	Pearson Correlation	1						
	Sig. (2-tailed)							
TR	Pearson Correlation	.723**	1					
	Sig. (2-tailed)	.000						
SQ	Pearson Correlation	.736**	.815**	1				
	Sig. (2-tailed)	.000	.000					
PS	Pearson Correlation	.732**	.818**	.836**	1			
	Sig. (2-tailed)	.000	.000	.000				
SI	Pearson Correlation	.755**	.796**	.796**	.756**	1		
	Sig. (2-tailed)	.000	.000	.000	.000			
PE	Pearson Correlation	.777**	.845**	.822**	.802**	.880**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		
EE	Pearson Correlation	.738**	.769**	.789**	.724**	.873**	.850**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
Total (N)		312	312	312	312	312	312	312

(Source: SPSS Output, 2024)

Note: TR=trust, SQ=service quality, PS=perceived security, SI=social influence, PE=performance expectancy, EE=effort expectancy, FU=FinTech use

Table 3 provides an overview of the model, showing that R for the data or study research is 0.660 and the adjusted R square is .653. This indicates that independent variables (TR, SQ, PS, SI, PE, & EE) make up 65.3% of the variation in the dependent variable (FU), while other factors not included in this study consider 34.7% of the variation. All of the independent factors together have a substantial overall impact on the dependent variable, as indicated by the F value of 98.504 and the significance value of .000. With a value of 0.289, the beta value indicates that the impact of PE on FU outweighs that of other variables. There is no multi-collinearity between the independent variables, as indicated by the statement that the VIF of each variable is less than 10, or VIF<10. Thus, with significant values of .012, .005, .004, .000, and .000 respectively, there is a significant relationship of PS, PE, and EE between FU which supports H1, H2, H3, H5, and H6. However, no significant relationship has been observed with SI.

Table 3

Regression Analysis

Model	B	Std. Error	t	Sig.	Collinearity Statistics	
					Tolerance	VIF
(Constant)	.603	.138	4.361	.000		
TR	.145	.057	2.533	.012	.329	3.039
SQ	.243	.085	2.852	.005	.210	4.763
PS	.177	.060	2.926	.004	.236	4.230
SI	.144	.076	1.906	.058	.231	4.323
PE	.289	.081	3.570	.000	.227	4.414
EE	.235	.065	3.587	.000	.308	3.249
Adjusted R square		.653		.660		
F		98.504	Sig.(F)	.000		

(Source: SPSS Output, 2024)

Note: TR=trust, SQ=service quality, PS=perceived security, SI=social influence, PE=performance expectancy, EE=effort expectancy

The study assessed DFL's mediation role in the relationship between FU and FI using the PROCESS SPSS macro (Hayes, 2022). The results, which support H7, indicated a substantial indirect influence of FU on FI (b=.245, p<.001), as seen in Table 4. Additionally, it was discovered that the mediator's presence had a significant direct impact on FI (b=.488, p<.001). Thus, the association between FU and FI was partially mediated by DFL.

Table 4

Mediation Analysis

Relationship	Total effect	Direct effect	Indirect effect	Confidence interval		t-statistics	Conclusion
				Lower bound	Upper bound		
FU DFL FI	.733	.488	.245	.175	.333	22.007	Partial mediation
p-value	(.000)	(.000)					

Note: FU=FinTech use, DFL=digital financial literacy, FI=financial inclusion

(Source: SPSS output, 2024)

5. Discussion

The study applied the UTAUT2 model from a theoretical perspective determining the existing knowledge based on the FinTech services. The result supports the previous studies (Amnas et al., 2024) providing a deeper understanding of the processes and the drivers related to the factors influencing FinTech use. Furthermore, the other variables affecting the use of FinTech use were applied with the VAM model. It supports the VAM model as the variables adopted in the study have a substantial effect on the FinTech use indicating the users' perception in the adoption of FinTech services.

The study assessed the ways in which the use of financial technology and financial accessibility are mediated by financial literacy in digital formats, highlighting the significance of these factors in advancing financial inclusion via FinTech. The variables in relation to the variables affecting FinTech services were also empirically investigated in this study. The study's findings support other research's findings (Alrawad et al., 2023; Zarifis & Cheng, 2022; Amnas et al., 2024) showing trust has a major impact on using FinTech services (H1). This implies that users are concerned about data loss, security breaches, and credibility issues. Similarly, the results indicate that service quality exerts an influence on the adoption of FinTech services (H2), which is consistent with the findings from the previous studies (Sultana et al., 2023; George & Sunny, 2022; Amnas et al., 2024). This suggests that since FinTech products are accessible, user-friendly, and simple to use, users are willing to accept them.

In addition, the results show that the adoption of FinTech services is influenced by perceived security (H3), which is consistent with previous research (Bajunaied et al., 2023; Lim et al., 2018; Meng et al., 2019; Nasir et al., 2023; Amnas et al., 2024). This indicates that individuals who are sharing sensitive information in a secure manner are prone to employ FinTech services. Stated differently, people's impression of security reduces the risks associated with online transactions, increases confidence, and mitigates fears about privacy. Additionally, the result for social influence shows no impact (H4), which is consistent with the result from another study (Chin et al., 2020; Hassan et al., 2022), implying that rather than favorable comments, suggestions, and endorsements from their peers, users are inclined to utilize the facilities based on their preferences and opinions. Furthermore, the results indicate that performance expectancy has a significant impact on the adoption of FinTech services (H5). While this result is consistent with prior conclusions (Al-Okaily et al., 2022; Bajunaied et al., 2023; Hassan et al., 2022). The reason behind this is the enabling users to utilize FinTech services efficiently.

The result supports previous research Kilani et al. (2023); Hassan et al. (2022) by showing that effort expectancy significantly influences the intention to use FinTech services (H6). This shows that when users believe FinTech platforms are easy to use and involve little work on their side, they are more likely to adopt and utilize them regularly. This suggests that people are more capable of making better financial choices, minimizing the risk involved in using FinTech services, and engaging completely in the current financial system before some innovations. In line with earlier research, the study's findings support the H7 that FinTech adoption has a significant impact on financial inclusion (Amnas et al., 2024; Arner et al., 2020; Asif et al., 2023; Shaikh et al., 2023; Yang & Zhang, 2022). That implies investing in FinTech can expand the number of people who can access financial services through digital platforms.

This study showed that using FinTech services improved one's knowledge of digital finance (H8) which reflects that FinTech is making financial education easier by providing educational materials, practical learning opportunities, and real-time tracking. As per H9, this study discovered that digital financial literacy significantly impacts financial inclusion, which is consistent with prior research (Amnas et al., 2024; He et al.,

2023; Kumar et al., 2023; Ravikumar et al., 2022). This suggests that customers who are more digitally literate can actively participate in the formal financial system, lower the risk associated with FinTech services, and make well-informed financial decisions. This study demonstrates that financial inclusion and the use of financial technology are mediated by digital financial literacy (H10) (Amnas et al., 2024). Therefore, through the usage of educational tools offered by FinTech platforms, individuals using FinTech are expected to increase their level of digital financial literacy, contributing to greater financial inclusion.

6. Conclusion

The purpose of this study is to determine the growth of FinTech use in terms of financial inclusion. FU is the dependent variable, whereas TR, PS, SQ, SI, PE, and EE: DFL as a mediator variable respectively. Software such as Microsoft Word, Excel, and SPSS (Version 23) were used to organize and analyze the data. The gathered data were examined using a variety of methods under SPSS software, including correlation, regression, PROCESS SPSS macro, mediation, demographic profile, and reliability analysis.

UTAUT 2 and VAM model were applied to determine the factors influencing FinTech use. The study shows that the users' intention to adopt FinTech services is based on UTAUT2 and VAM models. The study supports that the value of technology services is based on users' perceptions. The approach of closed-end questionnaires was used to gather primary data. Online survey methods have been employed as data-gathering strategies. This study offers valuable insights into the factors influencing FinTech service acceptance. The results show several significant correlations that provide insight into the connections between several variables. First, a substantial correlation between trust and FinTech use was discovered, indicating that TR might influence FU. Furthermore, there was a significant correlation observed between SQ and FU, suggesting that those with qualitative services typically occupy higher adoption of FinTech use. This finding emphasizes the potential influence of PS on FU. Moreover, the study demonstrated the relationship between SI and FinTech use suggesting that individuals are more likely to use FinTech services with the influence of others' perceptions. Higher EE was associated with the higher adoption of FinTech services. Overall, the study shows that FinTech use is significantly impacted by TR, SQ, PS, PE, and EE. It highlights the necessity of making focused efforts to improve financial awareness and literacy, especially about the high volatility of FinTech services. Furthermore, the study also offers insightful information for policymakers and service providers, emphasizing the necessity of strong cybersecurity safeguards, user-centric design, and compliance with legal requirements. Stakeholders may build trust, improve customer experience, and encourage the FinTech industry's continued expansion by addressing these factors. This study contributes to a comprehensive understanding of the factors guiding the acceptance and usage of FinTech, which is continuing to alter the field of finance.

7. Implications

The study shows that the most important elements influencing customers' use of FinTech are TR, SQ, PS, PE, and EE. Consequently, FinTech companies should keep emphasizing providing users with quick and easy-to-access services. More people may use these services if they have positive feedback systems, easy-to-use interfaces, and clear positive feedback mechanisms. Users can be attracted in and retained around by creating an excellent record and exhibiting a dedication to user safety. Respecting consumer protection laws and financial rules is not just an ethical thing to do, but also a trust-building factor. It is essential to make sure that the conditions and infrastructure required to facilitate the adoption of FinTech are in place. Enhancing digital literacy initiatives, internet connectivity, and computer and smartphone accessibility – particularly in marginalized communities – may all be part of this. A

positive user experience and increased platform confidence can result from ongoing service quality monitoring and improvement.

8. Limitations and Directions for the Future Study

The study's focus was on FinTech users in the Kathmandu Valley of Nepal, its conclusions might not apply to other regions due to variations in the economies, laws, and FinTech environments of those valleys, nations, etc. This study did not look at how respondents' personalities affected their use of FinTech and few variables were taken to conduct research. In the future, the researcher could focus on adding different moderating variables to know the impact of exploring FinTech use. Convenience sampling was used in this study because no set list of FinTech users was available so the result cannot be generalized. Although the interaction between FinTech service users is dynamic, this study used a cross-sectional technique that was conducted at a single point in time. Thus, the investigator may utilize a longitudinal research design.

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Appendix

Constructs	Items	Statements
Trust (TR)	TR1	I trust that FinTech platforms will securely handle and protect my financial information.
	TR2	I have confidence in the reliability and stability of FinTech services for my financial transactions.
	TR3	I trust that FinTech platforms will promptly address any issues or concerns I may have.
	TR4	I trust that FinTech platforms adhere to ethical standard.
	TR5	I trust the FinTech keeps my best interests in mind.
	TR6	This FinTech's behavior meets my expectations.
Service quality (SQ)	SQ1	FinTech services consistently meet my expectations in terms of reliability and performance.
	SQ2	I am satisfied with the speed and efficiency of problem resolution when I encounter issues with FinTech services.
	SQ3	The user interface of FinTech apps is intuitive and easy to navigate.
	SQ4	FinTech platforms provide clear and transparent information about fees, charges, and terms of use.
	SQ5	The service provider is always willing to help whenever I need support with the fintech services.
	SQ6	The service provider provides personal attention when I experience problems with the fintech services.

Perceived security (PS)	PS1	I believe that my personal and financial information is secure when using FinTech platforms.
	PS2	I am confident that FinTech platforms promptly address and resolve any security vulnerabilities.
	PS3	I have confidence in the effectiveness of the authentication methods employed by FinTech services to prevent unauthorized access.
	PS4	I believe that FinTech companies implement sufficient measures to safeguard against fraud and cyber threats.
Social influence (SI)	SI1	My friends and family would value the use of FinTech.
	SI2	I expect that the people that influence me would use FinTech.
	SI3	I expect that FinTech would be trendy.
	SI4	I expect that using FinTech would make me look professional in managing my finances.
	SI5	People who are important to me expect me to use fintech services to perform insurance-related transactions.
	SI6	I will use fintech services for insurance premium payments if people in my community widely use the service.
Performance expectancy (PE)	PE1	I expect to find FinTech useful in my financial management.
	PE2	Using FinTech would enable me to accomplish financial tasks more quickly.
	PE3	Using FinTech would increase my efficiency in financial management.
	PE4	If I would use FinTech, I increase my chances of getting more competitive banking offers.
	PE5	Using fintech services helps me to accomplish insurance-related transactions more quickly.
	PE6	Using fintech services increases my productivity in insurance policy handling.
Effort expectancy (EE)	EE1	I expect that my interaction with FinTech would be clear and understandable.
	EE2	I expect that it would be easy for me to become skillful at using FinTech.
	EE3	I expect that I would find FinTech easy to use.
	EE4	I expect that learning to use FinTech would be easy for me.

FinTech use (FU)	FU1	I frequently employ FinTech for making payments and transferring funds.
	FU2	I leverage FinTech investment platforms to oversee my investment portfolio.
	FU3	I turn to FinTech services when I require financial assistance.
	FU4	I actively engage with FinTech insurance services to purchase and oversee insurance policies.
Financial inclusion (FI)	FI1	FinTech services have expanded my access to financial products and services.
	FI2	FinTech services have increased my ability to save and invest my money.
	FI3	FinTech adoption has made it easier for me to send and receive money.
	FI4	FinTech services have improved my ability to access credit and loans.
Digital financial literacy (DFL)	DFL1	I am knowledgeable about the various features and functionalities of fintech apps.
	DFL2	I am aware of the potential risks and security measures associated with using digital payment systems.
	DFL3	I know how to troubleshoot common issues related to digital financial transactions.
	DFL4	I am familiar with the terms and concepts related to digital financial services.