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Analyzing the Key Drivers of FinTech Adoption among Business Students at Pokhara University: A Two-Stage PLS-SEM-ANN Approach

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Abstract

The rapid advancement of financial technology (FinTech) has revolutionized financial services globally, with Nepal experiencing growing adoption driven by digital payment platforms, increasing smartphone penetration, and government initiatives. This study aims to identify the key determinants influencing FinTech adoption among business students at Pokhara University. This study examined FinTech adoption among 320 purposively sampled business students at Pokhara University using a two-stage approach, where PLS-SEM with SmartPLS 3.0 assessed linear relationships, and ANN analysis with SPSS 26 captured nonlinear patterns. The study found that Perceived Ease of Use, Financial Literacy, and Regulatory Awareness & Trust significantly influenced FinTech adoption while Perceived Security & Privacy and Social Influence had no significant impact. The implication of the study is that enhancing user experience, integrating FinTech education into curricula, and strengthening regulatory frameworks are essential for promoting adoption and trust in digital financial services among business students.

Keywords: *FinTech Adoption, Financial Literacy, Regulatory Awareness, Business Students*

Introduction

The rapid advancement of financial technology (FinTech) has transformed the global financial landscape by offering innovative digital solutions that improve convenience, security and efficiency in financial transactions. FinTech includes a wide range of services, such as mobile banking, digital wallets, peer-to-peer lending, robo-advisory platforms, blockchain-based transactions and cryptocurrency trading (Thakor, 2019). These technological advancements have revolutionized the way individuals and businesses interact with financial services, reducing reliance on traditional banking systems and promoting financial inclusion. As the world moves towards a cashless economy, the adoption of FinTech solutions has become an integral aspect of modern

financial behavior (Arner et al., 2019). In Nepal, FinTech adoption is gaining momentum, driven by the rise of digital payment platforms, such as eSewa, Khalti, IME Pay and Fonepay (Tan, 2024). The increasing penetration of smartphones and internet access, coupled with government initiatives promoting digital transactions, has further fueled the growth of FinTech services.

However, despite these advancements, the level of FinTech adoption varies significantly across demographic groups. Business students, who represent the next generation of financial professionals, entrepreneurs and decision makers, play a crucial role in shaping the future of digital financial services (Soviatri, 2024). Their awareness, willingness to adopt and perceptions of FinTech solutions can significantly impact the long-term sustainability and expansion of financial technology in Nepal. Understanding the key determinants that influence FinTech adoption among business students is essential for identifying the drivers and barriers to digital financial transformation. Factors such as perceived ease of use, trust in security, privacy concerns, financial literacy, social influence and regulatory awareness all contribute to shaping individuals' adoption behavior. Although FinTech solutions offer greater accessibility and efficiency, concerns about cybersecurity threats, fraud and data privacy often hinder their widespread acceptance (Zakaria et al., 2024). Additionally, financial literacy levels among students determine their ability to differentiate between reliable and unreliable FinTech services, influencing their confidence in using digital financial tools. This study aims to unveil the key determinants of FinTech adoption among business students at Pokhara University, focusing on BBA and MBA students, who are expected to be future financial leaders and decision-makers. By examining their perceptions, preferences, and concerns regarding FinTech, this study seeks to provide valuable insights into the factors that encourage or inhibit digital financial adoption in Nepal.

Review of Literature

Perceived Ease of Use and FinTech Adoption

Perceived ease of use refers to how effortless and user-friendly the technology is for users. The Technology Acceptance Model (TAM) suggests that if individuals find technology easy to use, they are more likely to adopt it. Several studies (Venkatesh et al., 2016) have highlighted how user-friendly interfaces, simple navigation and seamless transactions influence FinTech adoption. Business students are more inclined to favor FinTech solutions that are simple to use and involve little learning effort, because they

are digital natives and familiar with contemporary technologies (Nangin et al., 2020). As mobile banking and digital payment systems become more prevalent, students' inclination toward these technologies is influenced by how seamlessly they integrate into their daily financial transactions. Features such as biometric authentication, one-tap transactions and automated reminders contribute to the perceived ease of use, further enhancing adoption rates (Singh et al., 2020; Hasan et al., 2024). However, challenges such as complex user interfaces and technical glitches, can hinder widespread acceptance. Based on this review, the first hypothesis is as follows:

H_1: There is significant positive impact of Perceived Ease of Use on FinTech Adoption among business students.

Perceived Security and Privacy and FinTech Adoption

Security concerns remain a major barrier to FinTech adoption (Stewart & Jürjens, 2018). Users are concerned about fraud, data breaches and identity theft, which affect their willingness to use digital financial services (Lim et al., 2019). Research suggests that FinTech platforms offering strong encryption, authentication and transparent security policies are more likely to gain consumer trust (Zhang et al., 2023). Business students, given their exposure to financial concepts and awareness of cybersecurity risks, may be particularly cautious when adopting FinTech solutions. Institutions that implement multi-factor authentication, secure transactions and real-time fraud detection can improve user confidence. In addition, government policies that ensure compliance with cybersecurity standards can encourage adoption. However, disbelief remains because of increasing cases of cyberattacks, which may discourage some students from engaging with FinTech platforms (Srinivas et al., 2019).Based on this review, the second hypothesis is as follows:

H_2: There is significant positive impact of Perceived Security and Privacy on FinTech Adoption among business students.

Financial Literacy and FinTech Adoption

Financial literacy plays a crucial role in adopting FinTech solutions. Yoshino et al. (2020) highlight that individual with higher financial knowledge are more likely to use investment platforms, digital wallets and online banking services. Studies also show that business students with greater exposure to financial concepts tend to exhibit higher

adoption rates of digital financial tools (Morgan & Trinh, 2020). Business students are expected to have a higher level of financial awareness than the general population, making them more capable of leveraging FinTech for budgeting, investment and payments. Digital financial tools such as AI-powered budgeting apps and robo-advisors enable financially literate students to make informed decisions (Prabhakaran & Mynavathi, 2023). However, gaps in financial education or misconceptions about digital finance may limit the full utilization of FinTech services. Based on this review, the third hypothesis is as follows:

H_3: There is significant positive impact of Financial Literacy on FinTech Adoption among business students.

Social Influence and FinTech Adoption

Social influence, including peer recommendations, family encouragement and media exposure, can significantly impact FinTech adoption (Kurniasari et al., 2022). Xie et al. (2021) found that individuals are more likely to use FinTech services if they observe friends, family or influencers using them. The widespread use of social media and peer networks among business students increases the likelihood of FinTech adoption through shared experiences and recommendations. Word-of-mouth marketing, online reviews, and influencer endorsements play vital roles in shaping perceptions(Aggarwal et al., 2023). If students see their peers successfully using digital wallets or investment apps, they may be encouraged to adopt similar solutions. However, the negative experiences shared within social circles, such as failed transactions or hidden charges, can prevent adoption. Based on this review, the fourth hypothesis is as follows:

H_4: There is significant positive impact of Social Influence on FinTech Adoption among business students.

Regulatory Awareness &Trust and FinTech Adoption

Government regulations and institutional trust are critical to FinTech adoption (Balaskas et al., 2024). Consumers are more likely to use FinTech services when they trust that regulatory bodies ensure data protection and financial stability. Business students with higher regulatory awareness may exhibit greater trust in FinTech platforms that comply with legal and regulatory frameworks. FinTech services operate in a highly regulated financial environment with guidelines on anti-money laundering, customer verification

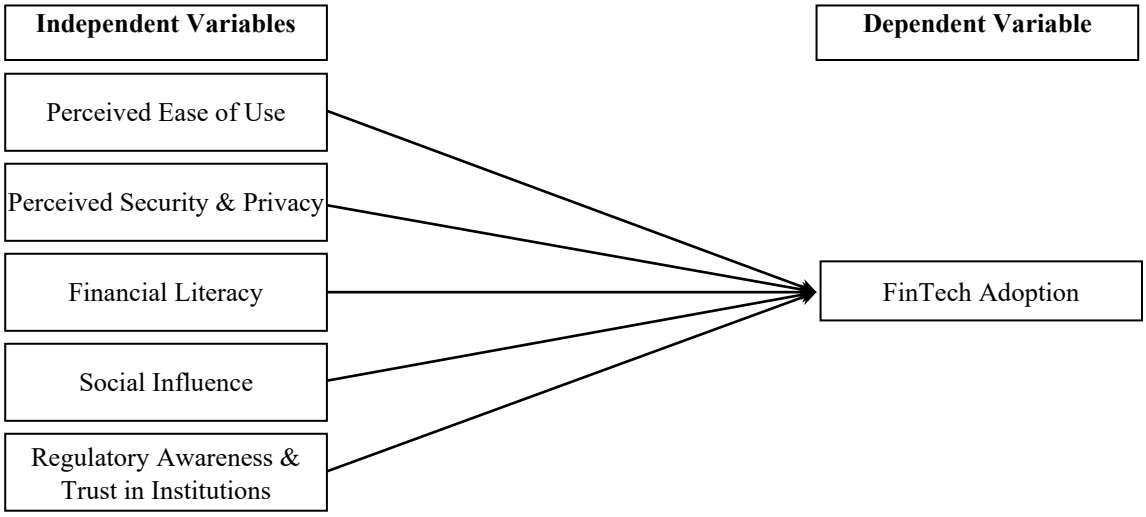
(KYC) and data privacy (Anagnostopoulos, 2018). When students are aware of these regulatory measures, they may be more inclined to adopt FinTech, trusting that their funds and personal information will be protected. However, if they perceive regulatory gaps such as a lack of oversight or ineffective enforcement, trust in FinTech solutions may decline (Khan et al., 2023). Additionally, clear communication of legal protections, such as user compensation in the case of fraud, can improve trust in these services. Based on this review, the fifth hypothesis is as follows:

H_5: There is significant positive impact of Regulatory Awareness and Trust in institutions on FinTech Adoption among business students.

Conceptual Framework

Figure 1

Conceptual framework of key drivers of FinTech Adoption among Business Students



Source: Juliyanti& Prima, 2024;Amnas et al., 2024;Rahim et al., 2023.

Figure 1 presents a conceptual framework highlighting the key drivers of FinTech adoption among business students. It explores factors such as perceived ease of use, perceived security and privacy, financial literacy, social influence, regulatory awareness, and trust, offering insights into their impact on adoption.

Methodology

This study employed a quantitative research design with a descriptive cross-sectional approach to examine the key factors influencing the adoption of FinTech solutions

among business students at Pokhara University. A sample of 320 students from BBA and MBA participated in the study using a purposive sampling technique, as they were expected to be familiar with digital financial services and exposure to financial concepts through their academic curriculum. Data were gathered through a structured questionnaire based on a five-point Likert scale designed to measure various constructs, including perceived ease of use, security concerns, financial literacy, social influence, and regulatory awareness as independent variables, while the adoption of FinTech solutions served as the dependent variable. The Likert scale ranged from 1 to 5, capturing the respondents' levels of agreement with statements related to these variables. The operationalization of these constructs and their corresponding measurement items with their sources are detailed in the appendix.

Several statistical tests were conducted to ensure the reliability and validity of the research instruments. Cronbach's alpha was used to assess the constructs' internal consistency, ensuring that the items measuring each variable were reliable. Additionally, Composite Reliability (CR) and Average Variance Extracted (AVE) were calculated to evaluate convergent validity, while discriminant validity was confirmed using the Fornell-Larcker criterion and Heterotrait-Monotrait Ratio (HTMT). This study employed a two-stage analytical approach, integrating both Partial Least Squares Structural Equation Modeling (PLS-SEM) and Artificial Neural Network (ANN) analysis to enhance the robustness of the findings. First, PLS-SEM was conducted using SmartPLS 3.0, to examine the linear relationships among the constructs, test the hypotheses and assess the significance of the proposed model. In the second stage, ANN analysis was performed using SPSS 26 to capture the complex nonlinear relationships between the independent and dependent variables, offering deeper insights into the factors that drive FinTech adoption.

Ethical considerations were carefully considered throughout the study. Informed consent was obtained from all participants to ensure that they were fully aware of the research objectives, procedures and potential risks associated with participation. Confidentiality was maintained by anonymizing responses and students were assured that their participation was voluntary, with the right to withdraw at any stage without any consequences. These measures ensured the ethical integrity of the study, while safeguarding the rights and privacy of the respondents.

Results and Discussion

Demographic Profile

The demographic profile of the students is presented in Table 1

Table 1

Demographic profile of business students of Pokhara University

Characteristics	Sub categories	Frequency	Percent
Gender	Male	213	66.6
	Female	107	33.4
Age	Below 20	69	21.6
	20 – 24	154	48.1
	25 – 29	88	27.5
	30 and above	9	2.8
Marital Status	Single	204	63.7
	Married	116	36.3
Level of Education	BBA	159	49.7
	MBA	161	50.3
Occupation	Student only	88	27.5
	Part-time employee	78	24.4
	Full-time employee	72	22.5
	Self-employed	82	25.6
Personal bank account	Yes	166	51.9
	No	154	48.1
Types of FinTech services	Digital wallets (eSewa, Khalti, PayPal)	127	39.7
	Mobile banking apps	130	40.6
	Online investment platforms (stocks, mutual funds)	60	18.8
	None	3	0.9
Regulatory FinTech services	Daily	127	39.7
	Weekly	68	21.3
	Monthly	60	18.8
	Occasionally	65	20.3
Purpose for using	Online shopping	69	21.6
	Bill payments & mobile top-ups	75	23.4
	Money transfers	79	24.7
	Investment & trading	97	30.3
Learn about FinTech	Friends and peers	66	20.6
	Social media and influencers	74	23.1
	Advertisements	61	19.1
	Family recommendation	69	21.6
	University courses or workshops	50	15.6
Total		**320**	**100**

Table 1 shows the demographic profile of business students at Pokhara University, highlighting key characteristics such as gender, age, education level, occupation and FinTech usage patterns. The majority of respondents were male (66.6%), with the largest age group being 20–24 years (48.1%), followed by 25–29 years (27.5%). Most students were single (63.7%), and the distribution between BBA (49.7%) and MBA (50.3%) students was nearly equal. Regarding employment status, 27.5% were full-time students, while the rest were part-time employees (24.4%), full-time employees (22.5%), or self-employed individuals (25.6%). More than half (51.9%) of the respondents had a personal bank account, while 48.1% did not. In terms of FinTech adoption, digital wallets (39.7%) and mobile banking apps (40.6%) were the most frequently used services, with only 18.8% using online investment platforms and 0.9% not using any FinTech services. The frequency of FinTech usage varied, with 39.7% using these services daily, while others used them weekly (21.3%), monthly (18.8%) or occasionally (20.3%). The primary reasons for using FinTech applications included investment and trading (30.3%), money transfers (24.7%), bill payments (23.4%) and online shopping (21.6%). Awareness of FinTech services was mainly driven by social media and influencers (23.1%), followed by family recommendations (21.6%), friends and peers (20.6%), advertisements (19.1%) and university courses or workshops (15.6%).

Common Method Bias

The study employed Harman's single-factor test, a widely used method for detecting common method bias (CMB), to evaluate potential bias, as both independent and dependent variables were collected using the same survey instrument (Podsakoff et al., 2003). The analysis revealed that a single factor explained only 38.63% of the variance, which is well below the commonly accepted threshold of 50%. According to Podsakoff et al. (2003), the CMB is less likely to be an issue when no single factor accounts for more than half of the total variance. These findings confirm the reliability of the measurement instrument, suggesting that the CMB does not significantly affect the results of this study.

Assessment of Measurement Model

The assessment of the measurement model for the key drivers of FinTech Adoption among Business Students at Pokhara University is given below.

Table 2

Measurement model of the key drivers of FinTech Adoption among Business Students

Construct	Indicator	Factor Loading	Cronbach's Alpha	Composite Reliability	AVE
Perceived Ease of Use	PEU1	0.916	0.93	0.947	0.781
	PEU2	0.904			
	PEU3	0.875			
	PEU4	0.846			
	PEU5	0.876			
Perceived Security & Privacy	PSP1	0.909	0.951	0.962	0.836
	PSP2	0.910			
	PSP3	0.886			
	PSP4	0.914			
	PSP5	0.951			
Financial Literacy	FL1	0.894	0.941	0.955	0.81
	FL2	0.891			
	FL3	0.870			
	FL4	0.918			
	FL5	0.927			
Social Influence	SI1	0.940	0.959	0.968	0.859
	SI2	0.946			
	SI3	0.917			
	SI4	0.916			
	SI5	0.915			
Regulatory Awareness & Trust	RAT1	0.895	0.94	0.954	0.806
	RAT2	0.906			
	RAT3	0.891			
	RAT4	0.893			
	RAT5	0.902			
FinTech Adoption	FA1	0.926	0.958	0.968	0.856
	FA2	0.938			
	FA3	0.924			
	FA4	0.917			
	FA5	0.922			

Table 2 presents the measurement model used to identify the key drivers influencing FinTech adoption among business students at Pokhara University. The model consists of six constructs: Perceived Ease of Use, Perceived Security & Privacy, Financial Literacy, Social Influence, Regulatory Awareness & Trust in Institutions and FinTech Adoption. Each construct was measured using multiple indicators with factor loadings ranging from 0.846 to 0.951, demonstrating strong individual item reliability. Cronbach's alpha values range from 0.93 to 0.959, confirming high internal consistency, while Composite Reliability scores (0.947 to 0.968) further validate the robustness of

the constructs. The Average Variance Extracted (AVE) values exceed the recommended threshold of 0.50, ranging from 0.781 to 0.859, ensuring adequate convergent validity (Hair et al., 2017). These findings indicate that the model effectively captures the constructs' underlying dimensions, making it a reliable framework for analyzing the factors that drive FinTech adoption among university students. The high reliability and validity scores suggest that the selected constructs and their respective indicators provide a strong foundation for further statistical analysis and hypothesis testing.

Table 3

Fornell Larcker Criteria

Construct	FL	FA	PEU	PSP	RAT	SI
FL	**0.800**					
FA	0.738	**0.825**				
PEU	0.730	0.731	**0.884**			
PSP	0.732	0.733	0.731	**0.814**		
RAT	0.714	0.735	0.707	0.733	**0.878**	
SI	0.735	0.734	0.716	0.732	0.740	**0.827**

Table 4

HTMT Criteria

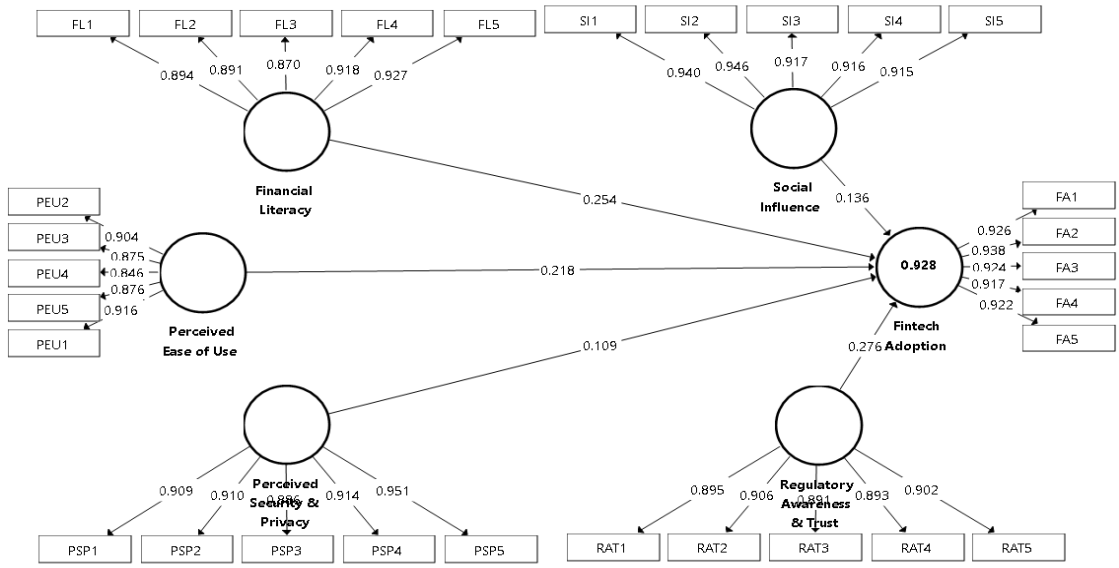
Construct	FL	FA	PEU	PSP	RAT	SI
FL						
FA	0.786					
PEU	0.773	0.785				
PSP	0.784	0.775	0.788			
RAT	0.772	0.785	0.771	0.786		
SI	0.784	0.773	0.767	0.774	0.77	

Tables 3 and 4 present the results of two key validity assessments, the Fornell-Larcker Criterion and Heterotrait-Monotrait (HTMT) ratio, used to evaluate the discriminant validity of the measurement model. Table 3 shows the Fornell-Larcker Criterion, where the diagonal values represent the square root of the Average Variance Extracted (AVE) for each construct, while the off-diagonal values indicate the correlations between constructs. As the diagonal values are higher than the inter-construct correlations, the model satisfies the Fornell-Larcker criterion, confirming that each construct is distinct from the others. Table 4 presents the HTMT ratio, with all values remaining below the

recommended threshold of 0.90, indicating that discriminant validity is upheld (Hair et al., 2017).The consistent results across both tables validate that the constructs in the study are well-defined and do not exhibit significant overlap, strengthening the reliability of the measurement model in examining FinTech adoption among business students at Pokhara University. A diagrammatic representation of the measurement model is shown in the figure below:

Figure 2

Measurement model of the key drivers of FinTech Adoption among Business Students



Assessment of Structural Model

The assessment of structural model for the key drivers of FinTech Adoption among Business Students at Pokhara University is presented below.

Table 5

Structural Model of the key drivers of FinTech Adoption among Business Students

Hypothesis	Path	Beta Coefficient	T Statistics	P Values	Remark
H1	PEU -> FA	0.218	2.734	0.006	Significant
H2	PSP -> FA	0.109	1.225	0.221	Insignificant
H3	FL -> FA	0.254	2.921	0.004	Significant
H4	SI -> FA	0.136	1.267	0.205	Insignificant
H5	RAT -> FA	0.276	3.781	0	Significant

Table 5 presents the hypothesis results of the structural model, highlighting the strength and significance of the relationships between constructs, assessed through bootstrapping with 5,000 samples. The results show that Perceived Ease of Use ($\beta = 0.218$, $p = 0.006$), Financial Literacy ($\beta = 0.254$, $p = 0.004$), and Regulatory Awareness & Trust ($\beta = 0.276$, $p < 0.001$) exhibited significant positive effects on FinTech adoption, suggesting that students were more likely to adopt FinTech when they perceived it as easy to use, had higher financial literacy, and trusted regulatory frameworks. In contrast, Perceived Security & Privacy ($\beta = 0.109$, $p = 0.221$) and Social Influence ($\beta = 0.136$, $p = 0.205$) were found to be insignificant, indicating that concerns about security and privacy, as well as social influence, do not play a major role in FinTech adoption among these students. These findings suggest that policymakers and FinTech developers should focus on enhancing usability, financial education and regulatory trust to drive greater adoption among university students.

Table 6

Predictive Relevance and VIF

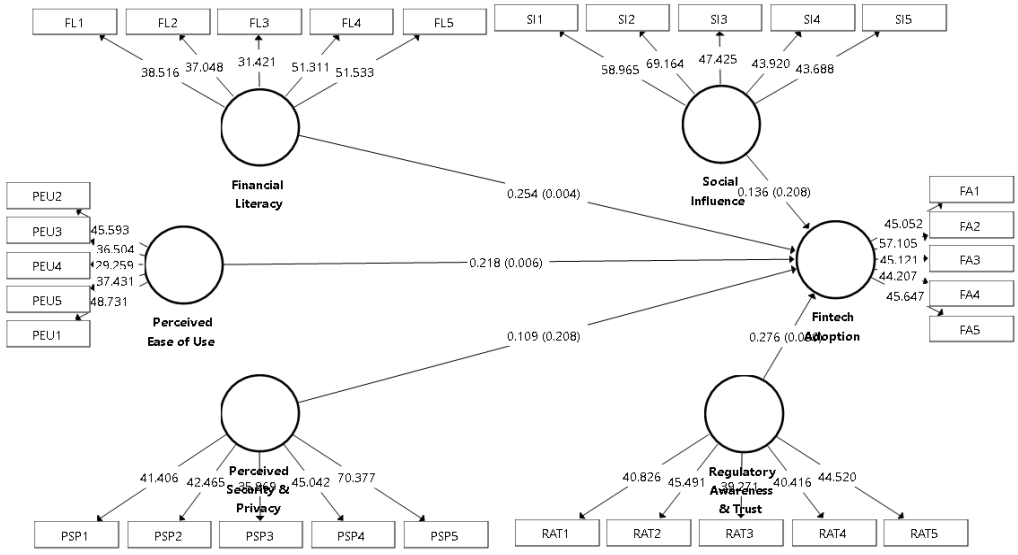
Construct	F square	VIF	R square	Q square
Financial Literacy	0.075	2.774		
Perceived Ease of Use	0.065	2.068		
Perceived Security & Privacy	0.063	2.838		
Regulatory Awareness & Trust	0.094	2.103		
Social Influence	0.072	2.923		
FinTech Adoption			0.928	0.785

Table 6 presents the predictive relevance and multicollinearity assessment of the structural model for FinTech adoption among business students at Pokhara University. The F-square values measure the effect size of each independent variable on FinTech adoption, with values above 0.02 indicating small, 0.15 moderate, and 0.35 large effects. All constructs exhibited small effect sizes, with Regulatory Awareness & Trust (0.094) and Financial Literacy (0.075) having the strongest impact. Variance Inflation Factor (VIF) values assess multicollinearity, ensuring that the predictor variables are not highly correlated. Because all VIF values remained below the critical threshold of 5, multicollinearity was not a concern in the model (Vatcheva et al., 2016). The R-square (0.928) for FinTech Adoption indicates that 92.8% of the variance in adoption behavior is explained by the independent variables, demonstrating a strong model fit. The Q-square (0.785) confirmed the predictive relevance of the model, as values above zero

suggested that the model had substantial predictive accuracy. These results reinforce the robustness of the structural model in explaining FinTech adoption among university students. The diagram for the structural model is given below.

Figure 3

Structural Model of the key drivers of FinTech Adoption among Business Students



Artificial Neural Network (ANN)

Figure 4

Artificial Neural Network Diagram

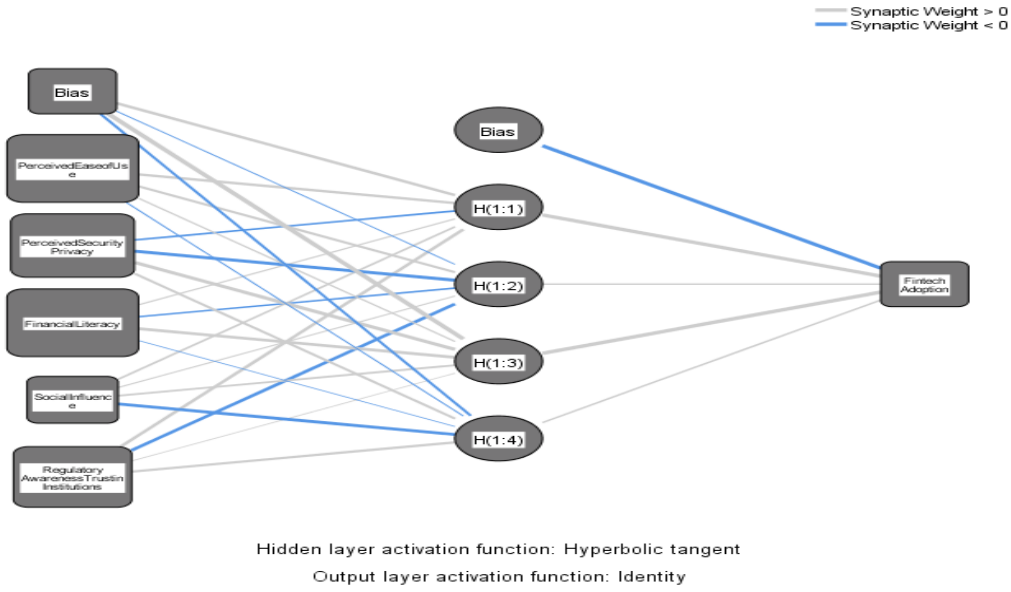


Table 7

RMSE Table

Training			Testing			
N	SSE	RMSE	N	SSE	RMSE	Total Samples
283	10.540	0.193	37	0.885	0.155	320
290	8.945	0.176	30	0.979	0.181	320
289	9.440	0.181	31	0.973	0.177	320
285	10.458	0.192	35	0.915	0.162	320
279	7.309	0.162	41	1.830	0.211	320
289	9.052	0.177	31	0.445	0.120	320
280	9.276	0.182	40	0.995	0.158	320
289	7.710	0.163	31	1.804	0.241	320
282	9.337	0.182	38	0.634	0.129	320
290	8.456	0.171	30	1.011	0.184	320
Mean	9.052	0.178	Mean	1.047	0.172	
S.D.	1.037	0.010	S.D.	0.444	0.036	

The Artificial Neural Network (ANN) model illustrated in Figure 4 was used to predict FinTech adoption among business students at Pokhara University. Table 7 presents the Root Mean Square Error (RMSE) values for both the training (90%) and testing (10%) phases, which assess the model's predictive accuracy. The training phase included 10 different runs, with sample sizes ranging from 279 to 290, yielding an average RMSE of 0.178 and a Sum of Squared Errors (SSE) mean of 9.052, indicating a stable learning process. The testing phase, which also includes 10 different runs with sample sizes between 30 and 41, shows an average RMSE of 0.172 and an SSE mean of 1.047, suggesting good generalization capability. The standard deviation (S.D.) values for the RMSE in both phases remained low (0.010 for training and 0.036 for testing), further reinforcing the reliability of the model. Figure 5 shows the RMSE distribution, highlighting the minimal fluctuations in the prediction error.

Figure 5

RMSE diagram

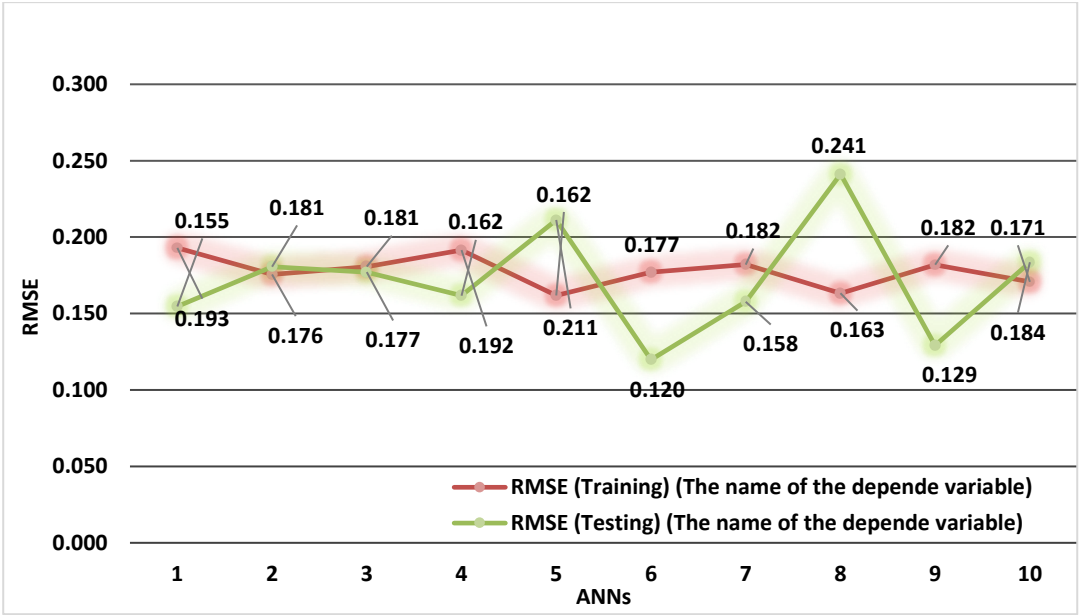


Table 8

Sensitivity Analysis

Neural Network	Perceived Ease of Use	Perceived Security Privacy	Financial Literacy	Social Influence	Regulatory Awareness Trust in Institutions
NN(I)	0.688	0.427	0.933	0.575	1.000
NN(II)	1.000	0.839	0.832	0.607	0.349
NN(III)	0.670	0.593	0.766	0.442	1.000
NN(IV)	0.511	0.117	0.552	0.582	1.000
NN(V)	0.901	0.861	1.000	0.368	0.420
NN(VI)	0.810	0.562	1.000	0.404	0.606
NN(VII)	0.674	0.312	0.673	0.311	1.000
NN(VIII)	0.874	0.780	1.000	0.358	0.495
NN(IX)	0.821	0.247	1.000	0.759	0.452
NN(X)	1.000	0.908	1.000	0.538	0.846
Average	0.795	0.565	0.876	0.494	0.717
Normalized Percentage (%)	90.78%	64.48%	100.00%	56.46%	81.86%

Table 8 presents the sensitivity analysis of the Artificial Neural Network (ANN) model, evaluating the relative importance of key predictors in FinTech adoption among business students at Pokhara University. The table displays the sensitivity values of five

independent variables Perceived Ease of Use, Perceived Security & Privacy, Financial Literacy, Social Influence and Regulatory Awareness & Trust in Institutions across ten neural network models (NN I–X). The average sensitivity values indicate that Financial Literacy (0.876) and Regulatory Awareness & Trust (0.717) have the highest impact on FinTech adoption, followed by Perceived Ease of Use (0.795), Perceived Security & Privacy (0.565), and Social Influence (0.494). The normalized percentage values further highlight the dominance of Financial Literacy (100%) and Regulatory Awareness & Trust (81.86%) as the most influential factors, whereas Social Influence (56.46%) had the lowest relative importance. These findings suggest that students' knowledge of financial concepts and their trust in regulatory institutions play a crucial role in shaping their adoption behavior, reinforcing the importance of financial education and institutional transparency in promoting FinTech usage.

Table 9

Comparison of PLS-SEM and ANN Results Predicting FinTech Adoption

Predictor → DV	PLS-SEM β	SEM Rank	ANN Importance (%)	ANN Rank
Financial Literacy → FA	.254**	2	100.00	1
Regulatory Awareness → FA	.276***	1	81.86	2
Perceived Ease of Use → FA	.218**	3	90.78	3
Perceived Security → FA	.109	4	64.48	4
Social Influence → FA	.136	5	56.46	5

***Note**: β = standardized path coefficient; ANN = Artificial Neural Network; Importance = Normalized relative importance, *** p < .001, ** p < .01.*

Table 9 shows the comparative analysis results of the PLS-SEM and ANN showing both convergence and divergence in identifying key drivers of FinTech adoption. Both methods consistently identified Regulatory Awareness & Trust (PLS-SEM: β = .276, rank 1; ANN: 81.86%, rank 2) and Financial Literacy (PLS-SEM: β = .254, rank 2; ANN: 100%, rank 1) as top predictors. However, ANN revealed stronger non-linear relationships for Perceived Ease of Use (90.78% importance vs. β = .218) and Perceived Security (64.48% vs. insignificant β = .109), suggesting these factors influence adoption through complex pathways that PLS-SEM's linear approach couldn't detect. Social Influence remained the weakest predictor in both methods. The ANN's superior

detection of Perceived Ease of Use's importance (rank 3 vs. PLS-SEM rank 3 but higher relative weight) highlights its value in capturing real-world decision-making complexity where usability perceptions may interact non-linearly with other factors. These findings suggest that while regulatory trust and financial knowledge are consistently crucial, user experience factors gain importance when considering their nuanced interactions in adoption decisions.

The findings indicate that Perceived Ease of Use (PEU), Financial Literacy (FL), and Regulatory Awareness & Trust (RAT) significantly impact FinTech adoption (FA). The path from PEU to FA was significant ($\beta = 0.218$, $p = 0.006$), suggesting that students were more likely to adopt FinTech when they perceived it to be easy to use. This aligns with previous studies that emphasize the role of ease of use in technology adoption (Aggarwal et al., 2023). Likewise, Financial Literacy has a significant and positive effect on FA ($\beta = 0.254$, $p = 0.004$), supporting research that highlights the importance of financial knowledge in adopting digital financial services (Bermeo-Giraldo et al., 2023; Prabhakaran & Mynavathi, 2023). Additionally, Regulatory Awareness & Trust are a strong predictor of FA ($\beta = 0.276$, $p < 0.001$), reinforcing the role of regulatory support in fostering trust in FinTech solutions (Amnas et al., 2024; Arner et al., 2019).

Conversely, Perceived Security & Privacy (PSP) and Social Influence (SI) did not significantly affect FinTech adoption. The paths from PSP to FA ($\beta = 0.109$, $p = 0.221$) and from SI to FA ($\beta = 0.136$, $p = 0.205$) were both insignificant. This contradicts previous studies, which suggest that security concerns play a crucial role in FinTech adoption (Lim et al., 2019; Nangin et al., 2020). The results may indicate that Pokhara University students are relatively comfortable with digital financial platforms and have not experienced significant security breaches. Similarly, the lack of significance for Social Influence suggests that university students may make independent decisions regarding FinTech adoption rather than being influenced by peers (Hasan et al., 2024). Overall, this study contributes to the growing body of literature on FinTech adoption among young populations, emphasizing the importance of ease of use, financial literacy and regulatory trust, while questioning the relevance of security concerns and social influence in this demographic (Tan, 2024). Future research should explore these findings in diverse cultural and educational contexts.

Conclusion

This study sheds light on the key drivers influencing FinTech adoption among business students at Pokhara University. The results indicate that Perceived Ease of Use, Financial Literacy and Regulatory Awareness & Trust are the most influential factors

driving FinTech adoption, while Perceived Security & Privacy and Social Influence were not found to be significant in this context. These findings provide valuable insights into the relative importance of user-friendly platforms, financial education and trust in regulatory frameworks, highlighting that for this demographic, concerns about security and social influence may be secondary. This study contributes to the expanding literature on technology adoption, particularly within the FinTech domain and offers an updated perspective on the factors driving adoption among younger tech-savvy populations.

From a practical standpoint, these findings have important implications for the development of FinTech platforms. Developers should prioritize enhancing the user interface and making platforms intuitive to ensure ease of use, as this factor significantly impacts adoption. Educational institutions, on the other hand, should incorporate financial literacy into their curricula, focusing on FinTech-related topics to equip students with the knowledge needed to navigate digital financial services effectively. Furthermore, policymakers must focus on establishing clear, transparent, and stable regulatory frameworks that will help build trust among potential users. While security concerns and social influence did not emerge as key drivers in this study, they may become more significant over time, particularly as FinTech platforms evolve and students transition into professional roles. Consequently, future research could explore how these factors evolve and their impact on adoption at different stages of a user's life and career.

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Appendix

Operationalization of variables

Perceived Ease of Use	Source
1. FinTech applications are easy to use for financial transactions.	(Nangin et al., 2020), (Singh et al., 2020), (Hasan et al., 2024)
2. I can quickly learn how to use a new FinTech application without much assistance.	
3. The interface of FinTech apps (e.g., eSewa, Khalti, PayPal) is user-friendly.	
4. I prefer using FinTech services because they save time compared to traditional banking.	
5. I feel comfortable using FinTech applications for my daily financial activities.	
Perceived Security & Privacy	
6. I believe FinTech applications provide secure transactions.	(Stewart & Jürjens, 2018), (Lim et al., 2019), (Zhang et al., 2023)
7. I am concerned about my personal and financial information being misused in FinTech apps.	
8. I trust FinTech companies to protect my financial data.	
9. I only use FinTech applications that have strong authentication measures (e.g., OTP, biometric login).	
10. Fear of cyber fraud prevents me from fully adopting FinTech solutions.	
Financial Literacy	
11. I understand the basic concepts of digital payments, online banking, and crypto currency.	(Yoshino et al., 2020), (Morgan & Trinh, 2020), (Prabhakaran & Mynavathi, 2023)
12. I feel confident managing my finances using FinTech applications.	
13. I can differentiate between reliable and unreliable FinTech services.	
14. My knowledge of investment platforms (e.g., stock trading apps) helps me make informed decisions.	
15. I actively educate myself about financial technology trends.	

Social Influence	
16. My friends and peers influence my decision to use FinTech applications.	(Kurniasari et al., 2022), (Xie et al., 2021), (Aggarwal et al., 2023)
17. I started using FinTech services after seeing positive reviews from others.	
18. Social media and influencers affect my trust in FinTech solutions.	
19. My family encourages the use of digital financial services.	
20. I feel more comfortable using FinTech services when people around me use them too.	
Regulatory Awareness & Trust in Institutions	
21. I am aware of the government regulations regarding FinTech services in Nepal.	(Balaskas et al., 2024), (Anagnostopoulos, 2018), (Khan et al., 2023)
22. I trust the Nepalese regulatory bodies (e.g., Nepal Rastra Bank) to ensure FinTech security.	
23. I prefer using FinTech services that are government-approved and regulated.	
24. Lack of clear policies on FinTech discourages me from using these services.	
25. I believe the government plays an important role in promoting safe and secure FinTech adoption.	
FinTech Adoption	
26. I actively use FinTech applications for financial transactions.	(Firmansyah et al., 2022), (Setiawan et al., 2021), (Bermeo-Giraldo et al., 2023)
27. I prefer FinTech solutions over traditional banking methods.	
28. I regularly make online payments using digital wallets or mobile banking apps.	
29. I am open to trying new FinTech services as they become available.	
30. I believe FinTech will become the primary mode of financial transactions in the future.	