

Investigating the Impact of factors influencing Fintech adoption with the mediating role of Fintech Promotion

***Syeda Fizza Abbas, **Maryum Asif & ***Sumiya Tahir**

Abstract: The fast growth of Fintech has changed the way financial services are provided globally, especially in places like Pakistan. Despite more people being interested, the use of Fintech is still not widespread due to various social, economic and technological issues. This study looks into the main reasons for using Fintech, with a focus on how Fintech promotion helps influence customer actions. This research can advise stakeholders, for example, policymakers, financial institutions and Fintech companies, on how to improve digital financial inclusion in Pakistan. Primary data was collected from 379 bank customers using a structured questionnaire based on a five-point Likert scale. The hypothesized relationships among Customer Trust, Data Security, Financial Literacy, Social Media Influence, Fintech Promotion and Fintech Adoption were tested by analyzing the data with PLS-SEM through the Smart PLS software. The analysis shows that Customer Trust and Data Security play key roles in Fintech adoption and Financial Literacy does so by supporting Fintech promotion. Fintech promotion greatly helps in making adoption possible. Intriguingly, Social Media Influence did not make a big difference, suggesting that digital marketing is affected differently in different situations. This demonstrates that Pakistan needs more trust, stronger security and focused efforts to increase the use of Fintech services. As a result, the study suggests Fintech firms should focus on trust and data security and work on educational campaigns to bridge the gap between awareness and adoption. Further research should explore longitudinal data and include a variety of demographic factors to gain a better insight into the changing Fintech world.

Key Words: Fintech, Financial Institutions, Demography

1. Introduction

In the last few years, Fintech has transformed the global financial sector with its creative, easy-to-use and efficient services. Because of Fintech, people and companies now manage their finances differently through

*Corresponding Author. Head of Department Accounting & Finance
Kinnaird College For Women, Email: fizza.abbas@kinnaird.edu.pk

**Student, Accounting & Finance, Kinnaird College For Women

***Lecturer, Accounting & Finance, Kinnaird College For Women

digital wallets, online banking, block chain and peer-to-peer lending platforms. The rise in technology usage since COVID-19 has led to a boost in the adoption of Fintech services in several markets(Igamo et al., 2024). However, the rate at which people use digital payments is influenced by several things, including their social media experience, how much they trust the company, their view of data security and their financial understanding. Although a lot of research has looked at Fintech technology and infrastructure, it is becoming more important to focus on the behavioral and psychological reasons behind why people use it. For example, social media helps shape people's views on Fintech and informs them about its services. Similarly, issues related to data privacy and security still reduce users' trust in these technologies and how much they know about finances affects their willingness to use them(Igamo et al., 2024).

One important aspect that is sometimes missed in Fintech adoption is how companies introduce and explain their value to potential users. Promotional activities such as digital advertising, educational efforts and real user feedback may greatly reduce the impact of different factors on how quickly a product is adopted(Jafri, Amin, Rahman, & Nor, 2024). Informing consumers, explaining the advantages and answering their concerns are important strategies for Fintech to be accepted. Over the last decade, the role of financial technology (Fintech) has grown, making banking faster, easier to use and less expensive than before. Increasing internet usage, mobile phone adoption and initiatives by the government to include more people in the financial system are driving the Fintech industry in Pakistan. Easy paisa, Jazz Cash, SadaPay and NayaPay are all changing how people and companies do their financial transactions. Yet, despite the growth, more people in Pakistan use Fintech services than before, but the adoption is still slower and less even than in other developing nations(Qamar & Ullah, 2024).

There are several reasons behind this unequal situation. While many people do not have enough knowledge about finances, worries about data privacy, cyber scams and trust in digital platforms are still common. At the same time, social media which is now a leading source for information and marketing, can affect whether users decide to use Fintech solutions. Since Pakistan's youth are growing and the digital world is advancing rapidly, Fintech promotion is essential to connect more people to its

benefits(Qambrani, 2024).While the State Bank of Pakistan and regulatory authorities are promoting digitalization in financial services, there is not much academic research on how people's attitudes and beliefs influence the use of Fintech in Pakistan. In addition, the mediating impact of Fintech promotion efforts—via advertising, awareness campaigns and digital activities—is still not well understood within the local community(Thottoli, Islam, Ahsan, Yusof, Hassan, & Chowdhury, 2024).

Therefore, this research looks at the effects of social media influence, data security, customer trust and financial literacy on Fintech adoption in Pakistan, considering the role of Fintech promotion as a mediator. The results of this research are expected to offer useful information for policymakers, Fintech companies and marketers who wish to improve Fintech acceptance and use in developing and technology-emerging economies, especially in Pakistan. The results of this research can guide Fintech companies, policymakers and financial institutions to develop effective strategies that encourage more people in Pakistan to use Fintech and enjoy financial inclusion(Che Hassan, Abdul-Rahman, Ab. Hamid, & Mohd Amin, 2024).

Although Pakistan has seen advancements in digital infrastructure and Fintech, most people have not widely adopted these services. Many people in semi-urban and rural areas depend on traditional financial methods due to a lack of awareness, being unable to use digital tools and doubts about online platforms. In cities, where most people have smart phones and internet access, users still worry about data protection, lack confidence and are often confused because of inadequate financial knowledge. Many Pakistanis get most of their news and information from social media platforms like Facebook, YouTube, TikTok and Instagram(M. T. Islam, Kumar, & Konar, 2024). However, the influence of these platforms on Fintech awareness and user decisions is still underexplored in academic literature. Moreover, while Fintech companies in Pakistan use digital marketing and educational campaigns to promote their services, there is not enough research on how Fintech promotion mediates the relationship between key influencing factors and actual user adoption(Thottoli et al., 2024).

1.1 Objective

The primary objective of this study is to investigate the impact of key factors influencing Fintech adoption in Pakistan, with a particular focus on the mediating role of Fintech promotion. Specifically, the study aims to:

1. Examine the effect of Customer Trust on Fintech Adoption and Fintech Promotion.
2. Assess the influence of Data Security on Fintech Adoption and Fintech Promotion.
3. Evaluate the role of Financial Literacy in shaping Fintech Adoption and Fintech Promotion.
4. Analyze the impact of Social Media Influence on Fintech Adoption and Fintech Promotion.
5. Determine the mediating effect of Fintech Promotion on the relationship between the antecedent variables (Customer Trust, Data Security, Financial Literacy, and Social Media Influence) and Fintech Adoption.

1.2 Problem statement

This gap highlights the need to learn more about the challenges that prevent people from using Fintech in Pakistan. Therefore, this study investigates the effects of social media, data security, customer trust and financial literacy on Fintech adoption and how Fintech promotion acts as a mediator, to offer useful insights for local policy and business strategies. Although Fintech is being studied worldwide, there is not much information on how Customer Trust, Data Security, Financial Literacy and Social Media Influence impact Pakistan's banking sector. The majority of previous research has concentrated on developed countries, with emerging markets getting less attention. Even though numerous studies have looked at how these factors relate to Fintech adoption, the role of Fintech Promotion in increasing adoption has not been thoroughly studied.

1.2 Research Gap

This research fills these gaps by:

- Looking closely at Pakistan's particular socio-economic and technological situation which creates both obstacles and chances for Fintech to develop.
- Looking at the mediating role of Fintech Promotion which helps explain how promotional efforts can increase the impact of important factors on adoption.
- Providing new, practical insights that are not widely covered in previous studies by using information collected from bank customers in Pakistan.

As a result of this study, both researchers and policymakers can gain insights and use the suggested strategies to help Fintech become more popular in developing countries.

2. Literature Review

2.1 Theories

Researchers have used different theories that explain user behavior in technology acceptance and diffusion in the adoption of Fintech. The study's framework is based mainly on Technology Acceptance Model (TAM), Diffusion of Innovation Theory (DOI), and Theory of Planned Behavior (TPB) to explore the factors behind Fintech adoption and the role of Fintech promotion as a mediatorechnology Acceptance Model (TAM). (Ashoer, Jebarajakirthy, Lim, Mas' ud, & Sahabuddin, 2024) proposed the Technology Acceptance Model which suggests that both the usefulness and ease of use of a technology affect a person's intention to use it. In Fintech, this model points out that users' opinions matter a lot when it comes to digital financial services. However, According to recent studies, using TAM alone does not completely explain Fintech adoption, especially in emerging markets, because trust and security issues play a bigger role there (Trisanti, 2024).

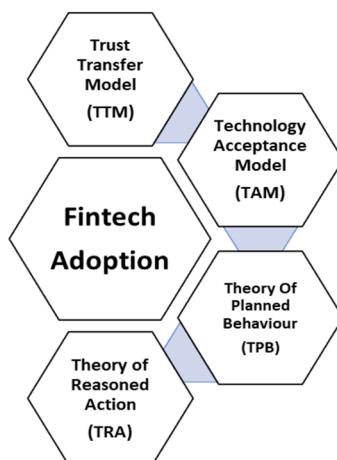
To solve these issues, (Uzumcu & Acilmis, 2024) introduced Diffusion of Innovation Theory (DOI) which outlines how innovations move through different social groups as time passes. DOI points out that communication methods, social trends and advertising efforts help boost the rate of

adoption. The theory explains how Fintech promotion helps users become aware, informed and convinced which are important steps in turning them from potential users into actual Fintech users (Koloseni & Mandari, 2024).

The Theory of Planned Behavior (TPB) (Fatimah, Saputra, & Panduwiyyasa, 2024) further adds social norms and perceived behavioral control to these models which can impact a person's intentions and behavior. According to this theory, users' confidence and knowledge about money are crucial, as they determine how much control people feel they have over using Fintech services. Security concerns about data, together with perceived risks, are important to TPB and influence both attitudes and intentions to act (Priyadarshi, Prasad, & Kesari, 2025).

Combining these theoretical perspectives, this study suggests that Customer Trust, Data Security, Financial Literacy and Social Media Influence are key factors that influence Fintech adoption and Fintech Promotion acts as a main mediator. This way of looking at Fintech fits with previous empirical studies that suggest using several theories to better understand the different reasons behind Fintech adoption, mainly in places like Pakistan, where there are still obstacles in infrastructure and culture (Ramaswamy, Shankaranarayana, & Akanfe, 2024).

Figure 01: Theoretical framework



With these theories as its base, the research helps advance knowledge and provides useful insights on using trust, literacy and social influence to speed up Fintech adoption in developing regions.

2.2 Social Media Influence (SMI)

Social media is now playing a bigger role in how consumers act, especially in digital finance. (Asif & Sarwar, 2025) explain that social media helps people communicate with each other and spread information quickly which has a strong effect on users' awareness and perception of Fintech solutions. According to (Edim, Pepple, & Jerome, 2024), using social media helps users become more willing to use Fintech because it makes them more familiar and less uncertain. Besides, (M. T. Islam, Kumar, & Konar, 2024) explain that using social media for digital engagement increases trust, improves the brand's image and makes the technology more useful—all of which play a big role in getting people to use the technology.

2.3 Fintech Adoption (FA)

Fintech adoption describes the rate at which people or companies use financial technologies to handle their financial activities. Both the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), as seen in (Maniam, 2024), stress that perceived usefulness, ease of use and behavioral intention are important in adopting technology. According to (Raihan et al., 2024) trust, data security, convenience and financial literacy are key elements that influence how many people use Fintech services

2.4 Data Security (DS)

Security issues related to data often prevent people from using Fintech services. Since Fintech deals with private and financial information, people's fears about cyber security can make them less likely to use those services. (Mokuolu, 2024) discovered that users' sense of data security directly affects their decision to use online financial services. Likewise, (Ramaswamy, Shankaranarayana, & Akanfe, 2024) believe that strong encryption, clear data handling and certifications in cyber security can ease people's doubts and increase their use of Fintech.

2.5 Customer Trust (CT)

Trust is essential for people to use any financial service and it is even more important when they use digital platforms. Based (AlHassan, Papastathopoulos, & Nobanee, 2025), trust in the technology, the service provider and the system's integrity greatly improves users' willingness to accept online systems. (Jafri et al., 2024) found that customer trust acts as a link between the technological features of a service and how often it is adopted. You can earn people's trust by using secure systems, giving them a good experience and complying with regulations.

2.6 Financial Literacy (FL)

Having financial literacy means someone is aware of financial concepts and can make smart financial choices. It plays an important role in helping Fintech become more popular in developing countries. (K. A. Islam & Khan, 2024) mention that those who are financially literate tend to make use of digital financial services. (Mohapatra et al., 2025) believe that those with better financial literacy skills are more likely to feel confident using Fintech which makes them less reluctant to accept it.

2.7 Mediating Role of Fintech Promotion

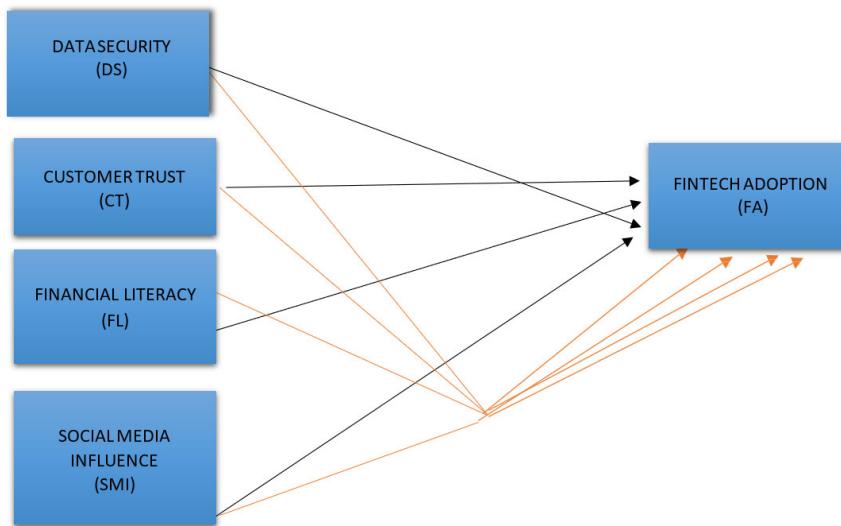
Fintech promotion helps the provider and users communicate and understand each other. Proper promotional efforts can address risks, increase trust and help people understand Fintech services better. The promotion informs consumers and also encourages them to trust and use a company's services. In this case, promotion helps to mediate the impact of social media, data safety, trust and literacy on Fintech adoption by increasing awareness and making Fintech look more valuable(Kraiwanit, Limna, & Wattanasin, 2024).

The reviewed sources suggest that social media influence, data security, customer trust and financial literacy are very important in deciding whether Fintech is adopted. Even so, the outcomes can be greatly improved when Fintech is strategically promoted which helps lessen uncertainty, boosts opinions and makes users feel more confident. For this reason, there is a need to examine Fintech promotion as a factor that influences the link between these factors and Fintech adoption(Liu, Wang, Zhao, Ding, & Jia, 2024).

3. Conceptual framework

The variable in the conceptual framework forms their basis on the theoretical framework derived from the literature review. The independent variables are Data security, customer trust, financial literacy and social media influence. The dependent variable is fintech adoption. Lastly, the mediator is fintech promotion.

Figure 02: Conceptual framework



4. Research Methodology

This study aims to understand the impact of factors such as data security, customer trust, financial literacy and social media influence on fintech adoption where as fintech promotion act as a mediator in between them. A philosophical basis has been adapted, appropriate research design has been incorporated; tests have been conducted including the validity and reliability test. Descriptive statistics have been interpreted, and multiple regression assumptions were satisfied before applying Partial Least Square - Structural Equation Modeling. Finally, the hypothesis testing results have been presented(Kumar & Rani, 2024).

4.1 Philosophical Basis

The philosophical worldview that supports the study is the Post positivist Worldview, also known as the Positivist Worldview. It challenges the traditional form of research and states when human behaviors are under consideration, the claims regarding them cannot be made with absolute positivity (Suhardianto, Narsa, & Mujennah, 2024).

4.2 Data Collection Method

For this study, a quantitative approach is used and primary data is collected using a structured questionnaire. The goal is to study the influence of social media, data protection, trust in companies and financial knowledge on people's use of Fintech, with Fintech promotion as a mediating factor. The study looks at bank customers in Pakistan, since Fintech is developing fast there, but many people are still hesitant due to trust, awareness and digital literacy problems.

4.3 Measurement of Variables

The research is focused on bank customers in Pakistan because they are the main users or potential users of Fintech services. A sample size of 379 respondents was chosen by convenience sampling which is standard in behavioral research when targeting a particular group within time and budget limits. The number of cases in this sample is sufficient for PLS-SEM using SmartPLS because it meets the required standards for model complexity and statistical power.

4.4 Data Analysis Technique

The study collected data by giving bank customers a self-administered questionnaire that was sent both physically and digitally to people in different cities in Pakistan. All the questions in the questionnaire were closed-ended and measured on a scale of 1 to 5, where 1 means Strongly Disagree and 5 means Strongly Agree. The Likert scale was chosen because it is simple and has been proven to accurately measure people's attitudes and opinions. To guarantee the accuracy and dependability of the constructs, Social Media Influence (SMI), Data Security (DS), Customer Trust (CT), Financial Literacy (FL), Fintech Promotion (FP) as the

mediating variable and Fintech Adoption (FA) as the dependent variable were used. The items used for measurement were changed a little to match the Pakistani culture and to be clear and important for the respondents.

The collected data were studied using SmartPLS version 4.0 which helps with Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM was considered the best choice since it allows for complex models with multiple variables, works well with small data sets and does not require the data to follow strict normality rules(Ali, Alamgir, & Nawaz, 2024)

4.5 Convergent Validity and Internal Consistency Reliability

The data analysis was done in two important phases. At first stage, the measurement model was evaluated by looking at reliability with Cronbach's Alpha and Composite Reliability, convergent validity with Average Variance Extracted (AVE) and discriminant validity using both the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. The second stage was about evaluating the structural model by analyzing path coefficients, R^2 and adjusted R^2 values to find out the explanatory power, effect size (f^2), predictive relevance (Q^2) and by testing the indirect effects of Fintech Promotion on Fintech Adoption. Every participant was fully aware of the research goals and agreed to take part willingly which maintained the study's ethics. The survey was anonymous, so no one's personal details were recorded. It was assured to the respondents that their data would only be used by researchers.

4.6 Discriminate Validity

Table 01: Discriminant Validity

	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted
CT	0.872	0.878	0.922	0.797
DS	0.814	0.856	0.659	0.428
FA	0.819	0.845	0.892	0.7334
FL	0.697	0.748	0.797	0.421
FP	0.650	0.695	0.848	0.736
SM	0.149	0.519	0.102	0.356

Cross Loading indicates whether the items of the latent variables load lower on other items and higher on their own construct (Nasution, Erlina, Muda, & Yahya, 2024). In this study, the cross loadings depict discriminant validity. Fornell and Larker Test indicates that Square Root of AVE is calculated and compared with the inter-construct correlation. Discriminant validity holds if it is greater than inter-construct correlation (F. Hair Jr et al., 2020). Discriminant validity of the constructs was evaluated in three approaches. Table 2 reveals that none correlation (**ranged from 0.232 to 0.551**) were greater than their respective (**ranged from 0.0.680 to 0.759**), thus signifying sufficient all construct discriminant validity. Lastly, all constructs show discriminants validity when every correlation is less than 1 by an greater than double than its respective standard error. Standard error in PLS bootstrap output inspection shows that all constructs pass this third test. Therefore, adequate discriminant validity is shown for all constructs (Li & Lay, 2024).

4.7 Fornell and Larker Test

Table 02: Fornell and Larker Test

	CT	DS	FA	FL	FP	SM
CT						
DS	0.759					
FA	0.680	0.629				
FL	0.532	0.512	0.418			
FP	0.551	0.411	0.494	0.589		
SM	0.307	0.510	0.232	0.453	0.419	

4.8 Cronbach's alpha

Cronbach's alpha is a measure of internal consistency reliability, commonly used in psychology, education, and other fields to assess the reliability of a scale or questionnaire. The value of Cronbach's alpha ranges from 0 to 1. Generally, higher values indicate greater internal consistency reliability. Common thresholds for interpretation may vary, but typically

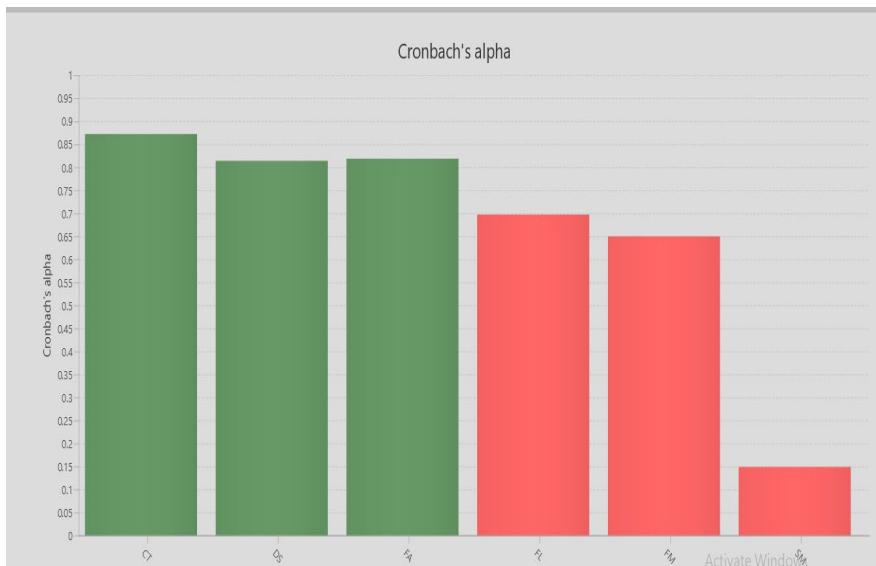
0.7 or higher is considered acceptable for research purposes and 0.9 or higher is considered excellent. In the table above the cronbach's alpha value of CT is 0.872 which is considered as a good value higher than 0.7. The value of DS and FA both are also higher than 0.7 and considered (Trabelsi, Saif, Driller, Vitiello, & Jahrami, 2024)

4.9 Data Collection and Analysis Tools

4.9.1 Survey Instruments

Figure 03: Survey Instrument

Four observed variables form the exogenous impendent



variable measurement of dimensions Data security (9 items), Social Media Influence (3 items), Customer Trust (3 items) and financial literacy (6 items) adopted .This study applied the 5-point Likert scale of 1-strongly disagree, 2-disagree, 3-neutral, 4-agree and 5-strongly agree

4.10 Population and Sampling Technique

4.10.1 Target Population: The target population for this primary qualitative research consists of customers of all commercial banks in Pakistan.

4.10.2 Sampling Technique: A convenience sampling method will be employed to select a sample size of 379 respondents from the target population. This technique is chosen for its practicality and ease of data collection.

4.10.3 Data Collection:

Questionnaire: Data is collected through a structured questionnaire designed to assess customers' perceptions and attitudes regarding various factors related to fintech adoption. The questionnaire will include items related to data security, social media influence, fintech promotion, customer trust and financial literacy. The survey will be administered to the selected sample of 379 bank customers. Respondents will be asked to provide their opinions and responses to the questionnaire items.

The respondents were sent the questionnaire through Google Forms as it is the most practical and affordable way to collect scalable and actionable data (Nikou, 2024; Nikou, Perifanou, & Economides, 2024). They were briefed about the study being conducted and their responses to be used for research purposes only. The questionnaire was distributed using many social media applications and some of the surveys were briefed about the study being conducted and their responses to be used for research purposes only. The questionnaire was distributed using many social media applications and some of the surveys were also filled using the paper-and pencil technique. SmartPLS has been used for Partial Least Square-Structural Equation Modeling (PLS-SEM) Conceptual Framework

4.11 Econometric Model

- **Direct Path Equation**

$$FA = \alpha_i + \beta_1 DS + \beta_2 CT + \beta_3 FL + \beta_4 SM + \varepsilon_i$$

- **Indirect Path Equation (with mediator)**

$$FA = \alpha_i + \beta_1 DS + \beta_2 CT + \beta_3 FL + \beta_4 SM + \beta_5 FM + \varepsilon_i$$

Here, **FA** refers to Fintech Adoption, **DS** means Data security , **CT** means customer Trust, **FL** means financial literacy and **SM** means social media influence. Furthermore, **FM** represents Fintech promotion.

5. Results

5.1 Descriptive Statistics

Table 4: Descriptive Statistics

	Mean	Median	Min	Max	SD	Kurtosis	skewness	T value	P value
CT	0.000	0.145	-2.7	1.6	1.000	0.3	-0.4	1.005	0.00
DS	0.000	0.193	-3.6	1.4	1.000	2.3	-1.3	1.211	0.00
FA	0.000	0.234	-2.7	1.2	1.000	0.2	-0.7	1.758	0.00
FL	0.000	0.055	-3.5	2.3	1.000	0.6	-0.2	0.158	0.019
FP	-0.00	0.123	-3.6	1.8	1.000	1.4	-0.6	1.228	0.00
SM	-0.00	0.185	-1.9	2.0	1.000	-0.6	-0.07	0.665	0.00

This is the average value for each investment category. For example, the mean for CT is 0.000, and the mean for DS is 0.000. This is the 'middle' value when the data is ordered from least to greatest. Half the data points will be less than the median, and half will be more. The median is often a better indicator of the "typical" value than the mean when the data is skewed. For example, the median for CT is 0.146, and the median for DS is 0.193. These are the lowest and highest values found in the data set for

each investment category. For example, the minimum value for CT is -2.795, and the maximum value is 1.602.

5.2 Correlation Matrix

Table 05: Correlation Matrix

	CT	DS	FA	FL	FP	SM
CT	1.000	0.646	0.581	0.445	0.428	0.121
DS	0.646	1.00	0.544	0.375	0.312	-0.004
FA	0.581	0.544	1.000	0.342	0.375	0.121
FL	0.445	0.375	0.342	1.00	0.427	0.174
FP	0.428	0.312	0.375	0.427	1.000	0.254
SM	0.121	-0.004	0.121	0.174	0.254	1.00

The pairwise correlation table below shows the level of association between the variables incorporated in the conceptual framework. The range of correlation is -1 to +1 whereas 0 represents no correlation.

5.3 PLS-SEM Algorithm

5.3.1 Structural Model (Inner Model)

The structural model is the inner model depicting the relationship between endogenous and exogenous variables. It aims to measure the R-square, Q-square, goodness of fit and path coefficients. The R² is the coefficient of determination that measures the amount of variation in the dependent variable explained by the independent variables. For the model under study, R² is 0.406 which means that 40% variance in FA is explained by DS, CT, FL and SM. For a primary study, it is not necessary for the value of R-square to be close to 1 because there may be numerous other variables that are not included in the study but may be affecting the outcome variable.

Table 06: Structural Model (Inner Model)

	R square	R square adjusted
FA	0.406	0.398
FM	0.283	0.275

5.3.2 Path Coefficients

Path Coefficients lies between +1 and -1. It must meet two conditions to be significantly acceptable such as having a p-value below 0.05 and confidence intervals contains zero .

Table 07: Path Coefficients

	Path Coefficients
CT->FA	0.326
CT->FP	0.260
DS->FA	0.285
DS->FP	0.045
FL->FA	0.029
FL->FP	0.263
FP->FA	0.123
SM->FA	0.046
SM->FP	0.177

5.3.3. Bootstrapping Procedure

In order to test the statistical significance of results for direct, as well as, indirect effects, bootstrapping is used as a non-parametric procedure. It gives P-value i.e., probability value which should be less than 0.05 to be significant when 95% confidence level is selected. In this study, 5% significance level has been selected and resampling has been incorporated to obtain the p- values and t-values(Cheung, Cooper-Thomas, Lau, & Wang, 2024). (The results have been included in tabular form along with interpretations in final PLS-SEM output)

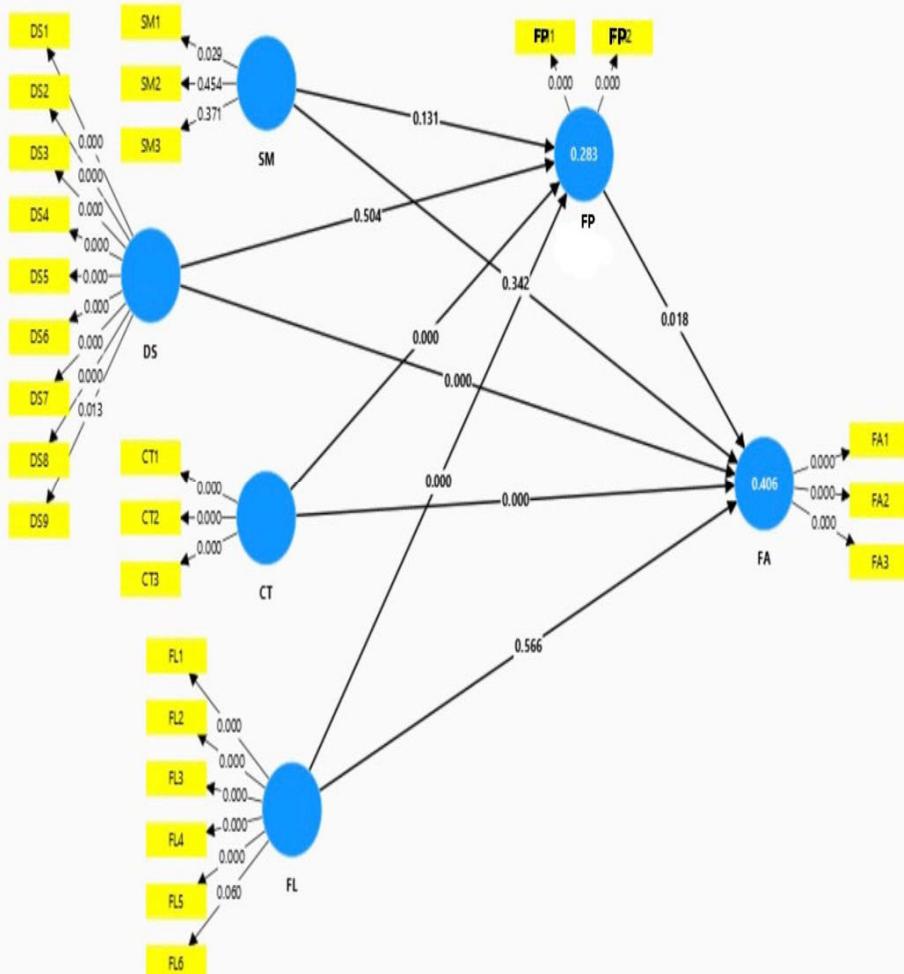
5.3.4. Blindfolding Technique

Q2 is an additional test to R2 and is a measure to determine the predictive relevance of the exogenous latent variables on the endogenous latent variables. It is applicable on reflective model only and its value should be greater than zero. Blindfolding procedure is used to calculate the Q2 that uses the formula; $(1-SSE)/SSO$. It tells the degree to which a path model is able to predict the observed values.

The study looked at how customer trust, data security, financial literacy and social media influence affect the adoption of Fintech, with Fintech promotion acting as a mediator, in the Pakistani banking sector. The results highlight that customer trust is a major factor in deciding to use and promote Fintech, as earlier studies by Gefen et al. (2003) and Kim et al. (2010) pointed out. It proves that in markets like Pakistan, where people are not yet fully convinced about digital services, building trust is necessary for Fintech to spread further.

5.5.5. Graphical Representation

Figure 04: Graphical Representation



Data Security (DS) and Customer Trust (CT) as Independent Variables: The results suggest that both data security (DS) and customer trust (CT) have a positive impact on fintech adoption (FA). This means that banks

that prioritize data security and build customer trust are more likely to see increased adoption of their fintech products and services.

Social Media Influence (SM) as Independent Variable: Social media influence (SM) also appears not to have a positive influence on fintech adoption (FA). This suggests that customers don't trust social media in terms to be more sensitive towards their data privacy and security.

Financial Literacy (FL) as Independent Variable: The impact of financial literacy (FL) on fintech adoption (FA) is insignificant results with direct path to FA and significant with indirect path.

Fintech Promotion (FP) as Mediator: Fintech promotion (FP) appears to play a mediating role between the independent variables (DS, CT, SM, and potentially FL) and the dependent variable (FA). This means that fintech promotion can help to strengthen the relationships between these variables and ultimately lead to increased fintech adoption.

5.5.6. Pathways and Significance Levels:

The arrows in the path model represent the pathways between the variables. The p-values associated with each path coefficient indicate the statistical significance of the relationship. A lower p-value suggests a more statistically significant relationship.

5.5.7. Significance Levels:

A lower p-value (typically less than 0.05) suggests that the relationship is statistically significant, meaning it is less likely due to chance.

Table 08: Results of PLS-SEM

	Original sample	Mean	Stdev	T value	P value
CT->FA	0.326	0.321	0.064	5.113	0.000
CT->FP	0.260	0.256	0.073	3.559	0.000
DS->FA	0.285	0.289	0.064	4.439	0.000
DS->FP	0.045	0.049	0.068	0.668	0.504
FL->FA	0.029	0.032	0.051	0.575	0.566
FL->FP	0.263	0.270	0.059	4.477	0.000
FP->FA	0.123	0.123	0.052	2.371	0.018
SM->FA	0.046	0.041	0.048	0.950	0.342
SM->FP	0.177	0.144	0.117	1.511	0.131

5.5.8. Hypothesis 'Testing and Results

H₁ states that data security is predicted to have positive influence on fintech adoption . Table 3 results confirmed this hypothesis with path with p value of 0.000 and t-value of 4.439 .In H₂, financial literacy is predicted to be not strongly influenced influenced to adopt fintech adoption and the results in Table 3 supported H with the path with p value of 0.566 and the t-value of 0.575. In H₃ customer trust is predicted to be positively influenced by to adopt fintech adoption with p value of 0.00 and t value of 5.133. In H₄ social media shows no insignificant results as no strong impact has been seen with p value of 0.342 and t value of 1.511. In H₅ the the indirect pathway of of data security to fintech adoption through fintech promotion shows no mediation with p value of 0.504 and t value of 0.668. In H₆ the mediating role of fintech promotion between finacial literacy and fintech adoption shows significant results as mediation exists with p value of 0.00 and t value of 4.477. In H₇ the mediating role of fintech promotion between customer trust and fintech adoption shows significant tesult mediation exists with p value of 0.00 and t value of 3.559. In H₈ the mediating role of fintech promotion between social media influence and fintech adoption shows insignificant results as no mediation exists between them with p value of 0.131 and t value of 1.511(Gafoor & Amilan, 2024; K. A. Islam & Khan, 2024; Jafri et al., 2024).

5.5.9. Cronbach's alpha

Cronbach's alpha is a measure of internal consistency reliability, commonly used in psychology, education, and other fields to assess the reliability of a scale or questionnaire. The value of Cronbach's alpha ranges from 0 to 1. Generally, higher values indicate greater internal consistency reliability. Common thresholds for interpretation may vary, but typically 0.7 or higher is considered acceptable for research purposes and 0.9 or higher is considered excellent. In the table above the cronbach's alpha value of CT is 0.872 which is considered as a good value higher than 0.7. The value of DS and FA both are also higher than 0.7 and considered as good values shows significance. The alpha value of FL, FP and SM are less than 0.7 which suggests that the internal consistency reliability of the scale may be questionable.

6. Discussion

With high T-values (5.113 and 4.439, respectively) and p-values below 0.01, the structural model results show that Financial Awareness (FA) is highly influenced by Customer Trust (CT) and Digital Security (DS), indicating great statistical significance. Furthermore, FA is significantly impacted by Fintech Promotion (FP) ($T = 2.371$, $p = 0.018$), indicating that FP mediates or reinforces the relationship between antecedent factors and awareness outcomes. FinTech's accessibility makes it simpler for customers to use digital platforms to access a range of financial goods. Due to a number of dangers and the way the market views its products; FinTech adoption is regrettably still quite low. These results are consistent with those of (Hidayat-ur-Rehman, 2024; Jafri et al., 2024) who highlighted the importance of perceived data security and customer trust in influencing Fintech adoption in Pakistan, especially in relation to their impact on consumer awareness and confidence. Additionally, the substantial path from CT to FP ($T = 3.559$, $p = 0.000$) confirms (Liu et al., 2024) finding that trust promotes successful Fintech promotion efforts in addition to directly driving adoption.

Conversely, the model shows that social media (SM) and financial literacy (FL) have little predictive power. Although these characteristics may theoretically support Fintech adoption, their effects are less direct or may be mediated through other dimensions, as evidenced by the lack of

statistical significance (p -values > 0.05) for the paths from FL to FA and SM to FA/FP. In contrast, research like that conducted by (Alkhwaldi, 2024) indicated that user innovativeness and financial literacy had a substantial impact on Fintech participation, suggesting that there may be cultural or contextual variations at play. It's interesting to note that the path from FL to FP is significant ($T = 4.477$, $p = 0.000$), indicating that users' reaction to Fintech advertisements is improved by financial literacy. For fintech businesses operating in these areas, social media techniques improve client loyalty, brand awareness, and trust. The study evaluates their effects on brand equity characteristics like brand awareness, perceived quality, and brand associations and identifies the essential components of successful social media marketing, such as influencer alliances, interactive campaigns, and high-quality content.

The measuring model's prior issues with poor validity and reliability are supported by the insignificant effect of SM on both FA and FP. As also suggested by (Kurniasari, Abd Hamid, & Lestari, 2025), who discovered that digital marketing is only successful when appropriately targeted and contextually integrated, these findings point to the necessity of either improving the measurement of the SM construct or reevaluating its place in Fintech adoption models.

According to the structural model's findings, in the Pakistani context, Financial Awareness (FA) and Fintech Promotion (FP) are significantly enhanced by Customer Trust (CT) and Digital Security (DS). This implies that customers in Pakistan become more conscious and are more likely to react favorably to promotional activities when they believe their data is safe and they have faith in the Fintech platforms. The substantial impact of CT on both FA and FP is consistent with Pakistan's escalating worries about cyber security and digital fraud, which have been key obstacles to the country's adoption of new technologies(Gafoor & Amilan, 2024; K. A. Islam & Khan, 2024).

The findings also showed that data security has a strong direct impact on Fintech adoption, just like in previous research, proving that safeguarding user data helps reduce the risks people worry about. However, since data security is not strongly linked to Fintech promotion, this could mean that security promises do not always help promote Fintech products, possibly because consumers are not receiving the message in the right way(Gafoor & Amilan, 2024).Interestingly, people's financial knowledge did not

directly influence their use of Fintech (Jafri et al., 2024). Rather, people's understanding of finances played a bigger role in promoting Fintech, suggesting that education mainly helps people become more open to such efforts, instead of leading them to use the services. It seems that in Pakistan, teaching people about finances should be combined with smart marketing to encourage them to use the services (Vasishta, Singla, & Deep, 2024).

According to the findings, social media had little effect on the adoption and promotion of Fintech. This is different from what and other studies report which suggest that social media plays a key role in promoting digital banking. This disparity may be caused by things like the effectiveness of social media campaigns and people's doubts about online content in Pakistan, therefore, better and more trusted digital marketing strategies are needed (Jafri et al., 2024).

Finally, promoting Fintech became a key factor that connected the other factors to Fintech adoption, making it even more important. This agrees with the view of (Jafri et al., 2024) that promotional activities play an important role in connecting what users know with what they actually use. Conclusively, the study adds to the existing research on Fintech adoption in developing countries by explaining how trust, security, literacy and promotions work together. They suggest that trust-building, strong security and focused education are key factors in speeding up the adoption of Fintech in Pakistan's financial sector.

Conclusion

The study aimed to find out how Customer Trust, Data Security, Financial Literacy and Social Media Influence affect Fintech Adoption and whether Fintech Promotion plays a mediating role in Pakistan's financial sector. Smart PLS analysis of data from 379 bank customers revealed that Customer Trust and Data Security are main factors behind the use of Fintech, proving that users consider these aspects vital in their choices. It was also found that Fintech Promotion played a key role, especially in ensuring that knowledge about Financial Literacy was put into practice by the public. Contrary to expectations, Social Media Influence did not show a strong direct or indirect effect which means that in Pakistan, social platforms are not as influential in driving Fintech use unless they are supported by reliable and helpful information. The fact that Financial

Literacy does not strongly affect adoption on its own suggests that people need help and encouragement to use it. All of these findings together shed light on the relationship of psychological, informational and promotional factors in the adoption of Fintech in a developing country.

From a practical standpoint, the outcomes suggest that Fintech stakeholders and policymakers should work on building trust, ensuring strong cyber security and creating financial education efforts that are widely promoted to fill the gap between awareness and practice. In sum, this study not only validates established theoretical models but also provides suggestions for Fintech strategies in countries where people do not trust institutions and digital use is still low.

References

AlHassan, H. A., Papastathopoulos, A., & Nobanee, H. (2025). Measuring perceived security in FinTech services: developing a dynamic scale. *European Journal of Information Systems*, 1-21.

Ali, M., Alamgir, M., & Nawaz, M. A. (2024). Emergence of the digital financial literacy, and its effect on the financial management behavior among students of Pakistan. *Pakistan Social Sciences Review*, 8(2), 141-155.

Alkhwaldi, A. F. (2024). Digital transformation in financial industry: antecedents of fintech adoption, financial literacy and quality of life. *International Journal of Law and Management*.

Ashoer, M., Jebarajakirthy, C., Lim, X.-J., Mas' ud, M., & Sahabuddin, Z. A. (2024). Mobile fintech, digital financial inclusion, and gender gap at the bottom of the pyramid: An extension of mobile technology acceptance model. *Procedia computer science*, 234, 1253-1260.

Asif, M., & Sarwar, F. (2025). Investigating trust, awareness and social influence on online banking adoption, moderated by customer relationship management: technological adoption insights. *Global Knowledge, Memory and Communication*.

Che Hassan, N., Abdul-Rahman, A., Ab. Hamid, S. N., & Mohd Amin, S. I. (2024). What factors affecting investment decision? The moderating role of fintech self-efficacy. *PloS one*, 19(4), e0299004.

Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2024). Reporting reliability, convergent and discriminant validity with structural equation modeling: A review and best-practice recommendations. *Asia Pacific Journal of Management*, 41(2), 745-783.

Edim, E. J., Pepple, G. J., & Jerome, I. E. (2024). INFLUENCER MARKETING AND THE ADOPTION OF FINANCIAL TECHNOLOGY SERVICES BY SMEs IN CALABAR, NIGERIA. *Journal of the Management Sciences*, 61(6), 221-241.

Fatimah, C. S., Saputra, M., & Panduwiyyasa, H. (2024). *Investigating Gen Z's Technostress During Fintech Adoption: Security and Customer Service with Theory of Planned Behavior in Indonesia*. Paper presented at the 2024 4th International Conference of Science and Information Technology in Smart Administration (ICSINTESA).

Gafoor, A., & Amilan, S. (2024). Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour. *International Journal of Social Economics*, 51(11), 1388-1401.

Hidayat-rehman, I. (2024). The role of financial literacy in enhancing firm's sustainable performance through Fintech adoption: a moderated mediation analysis. *International Journal of Innovation Science*.

Igamo, A. M., Al Rachmat, R., Siregar, M. I., Gariba, M. I., Cherono, V., Wahyuni, A. S., & Setiawan, B. (2024). Factors influencing Fintech adoption for women in the post-Covid-19 pandemic. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100236.

Islam, K. A., & Khan, M. S. (2024). The role of financial literacy, digital literacy, and financial self-efficacy in FinTech adoption. *Investment Management & Financial Innovations*, 21(2), 370.

Islam, M. T., Kumar, J., & Konar, R. (2024). Small Steps, Big Impact: Conceptualising the Adoption of Social Media Marketing in Bangladesh's SMEs. In *AI Impacts in Digital Consumer Behavior* (pp. 217-240): IGI Global.

Jafri, J. A., Amin, S. I. M., Rahman, A. A., & Nor, S. M. (2024). A systematic literature review of the role of trust and security on Fintech adoption in banking. *Helijon*, 10(1).

Koloseni, D., & Mandari, H. (2024). Expediting financial inclusion in Tanzania using FinTech: The perspective of diffusion of innovation theory. *Technological Sustainability*, 3(2), 171-194.

Kraiwanit, T., Limna, P., & Wattanasin, P. (2024). Digital wallet dynamics: Perspectives on potential Worldcoin adoption factors in a developing country's FinTech Sector. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2), 100287.

Kumar, J., & Rani, V. (2024). Investigating the dynamics of FinTech adoption: an empirical study from the perspective of mobile banking. *Journal of Economic and Administrative Sciences*.

Kurniasari, F., Abd Hamid, N., & Lestari, E. D. (2025). Unraveling the impact of financial literacy, financial technology adoption, and access to finance on small medium enterprises business performance and sustainability: a serial mediation model. *Cogent Business & Management*, 12(1), 2487837.

Li, W., & Lay, Y. F. (2024). Examining the Reliability and Validity of Measuring Scales related to Informatization Instructional Leadership Using PLS-SEM Approach. *Dinamika Jurnal Ilmiah Pendidikan Dasar*, 16(1), 12-32.

Liu, X., Wang, C. a., Zhao, S., Ding, J., & Jia, Y. (2024). Role of Fintech adoption in the impact of sustainable policy intervention on enterprise transformation in resource-based cities: Evidence from China. *Resources Policy*, 88, 104443.

Maniam, S. (2024). Determinants of Islamic fintech adoption: a systematic literature review. *Journal of Islamic Marketing*, 15(11), 2916-2936.

Mohapatra, N., Das, M., Shekhar, S., Singh, R., Khan, S., Tewari, L. M., . . . Santos, G. (2025). Assessing the role of financial literacy in FinTech adoption by MSEs: Ensuring sustainability through a fuzzy AHP approach. *Sustainability*, 17(10), 4340.

Mokuolu, O. O. (2024). Achieving data privacy and security in fintech cloud computing environments. *World Journal of Advanced Research and Reviews*, 23(3), 251-255.

Nasution, D. A. D., Erlina, E., Muda, I., & Yahya, I. (2024). *Testing The Mediation Role of Public Service Quality in The Relationship Between Internal Control Implementation and Good Government Governance of The Regional Government of North Sumatra Using SEM-PLS*. Paper presented at the Proceeding of International Conference on Education, Society and Humanity.

Nikou, S. A. (2024). Factors influencing student teachers' intention to use mobile augmented reality in primary science teaching. *Education and Information Technologies*, 29(12), 15353-15374.

Nikou, S. A., Perifanou, M., & Economides, A. A. (2024). Development and validation of the teachers' augmented reality competences (TARC) scale. *Journal of Computers in Education*, 11(4), 1041-1060.

Priyadarshi, A., Prasad, D., & Kesari, N. (2025). DETERMINING FINTECH USER BEHAVIOUR AND INTENTION IN SAARC COUNTRIES THROUGH THEORY OF PLANNED BEHAVIOUR PERSPECTIVE. *Journal of Commerce and Accounting Research*, 14(2).

Qamar, S., & Ullah, A. (2024). The Impact of Perceived Usefulness, Ease of Use, and Digital Payment Integration on FinTech Adoption: An Empirical Study in Pakistan. *Journal of Peace, Development and Communication*, 8(02).

Qambrani, S. A. (2024). Exploring the Adoption of Fintech and Its Difficulties in Pakistan's Emerging Economy Concerning Financial Inclusion. *Indonesian Journal of Innovation and Applied Sciences (IJIAS)*, 4(2), 180-187.

Raihan, A., Atasoy, F. G., Coskun, M. B., Tanchangya, T., Rahman, J., Ridwan, M., . . . Yer, H. (2024). Fintech adoption and sustainable deployment of natural resources: Evidence from mineral management in Brazil. *Resources Policy*, 99, 105411.

Ramaswamy, S., Shankaranarayana, R., & Akanfe, O. O. (2024). Data Security and Consumer Trust in Fintech Adoption. In *Utilizing Technology for Sustainable Resource Management Solutions* (pp. 281-294): IGI Global.

Suhardianto, N., Narsa, I. M., & Mujennah, M. (2024). Financial Technology Innovation in MSMEs: Humanism or Capitalism? An Indonesian philosophical paradigm. *Journal of Philosophical Economics*.

Thottoli, M. M., Islam, M. A., Ahsan, A., Yusof, M. F., Hassan, M. S., & Chowdhury, R. S. (2024). Exploring mediating and moderating factors of FinTech adoption for innovations in SMEs. *Cogent Economics & Finance*, 12(1), 2387443.

Trabelsi, K., Saif, Z., Driller, M. W., Vitiello, M. V., & Jahrami, H. (2024). Evaluating the reliability of the athlete sleep behavior questionnaire (ASBQ): a meta-analysis of Cronbach's alpha and intraclass correlation coefficient. *BMC Sports Science, Medicine and Rehabilitation*, 16(1), 1.

Trisanti, T. (2024). Analyze the influence of the technology acceptance model (TAM) on the use of fintech lending. *Jurnal Ekonomi dan Bisnis*, 18(2), 103-112.

Uzumcu, O., & Acilmis, H. (2024). Do innovative teachers use AI-powered tools more interactively? A study in the context of diffusion of innovation theory. *Technology, Knowledge and Learning*, 29(2), 1109-1128.

Vasishta, P., Singla, A., & Deep, S. (2024). Unveiling the FinTech revolution: pioneering models and theories shaping FinTech adoption research. *Management Review Quarterly*, 1-30.

APPENDIX

Variables and their Operationalization

The constructs of this study are as follows:

Nature	Variable	Operationalization	References
Independent	Data Security Social media Influence	<ul style="list-style-type: none"> • Perceived security • Compensation and responsibility • Concerns and prioritization • Confidentiality and privacy • Role of social media • Consideration based on Recommendations • Influence on trustworthiness • Financial knowledge • Understanding of financial products • Financial decision- 	(zhang et 2023) (dawood et al., 2021) (kang, 2018) (stewart & jürjens, 2018)

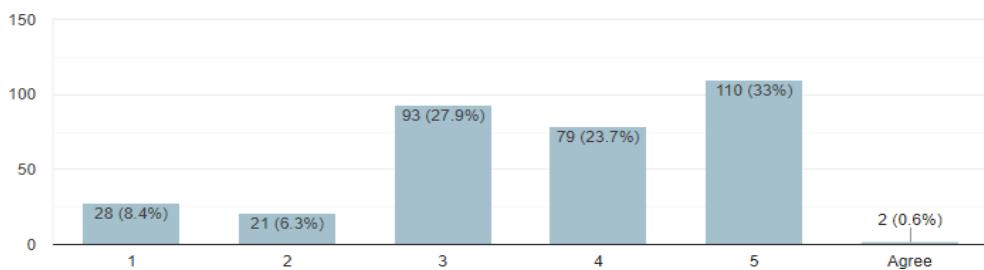
		making	
		<ul style="list-style-type: none">• User experience• Perceived benefits	(panos & wilson, 2020)
			(morgan & trinh, 2020)
	Financial Literacy		

	CUSTOMER TRUST		
DEPENDENT	FINTECH ADOPTION	<ul style="list-style-type: none"> • Intentions to Adopt Fintech Services • Current Adoption Behavior Recommendations and Word-of-Mouth 	(Allen et al., 2021) (Morgan & Trinh, 2020)
		•	
MEDIATOR	FINTECH PROMOTION	<ul style="list-style-type: none"> • Interest in Mobile Banking • Value for Money • Recommendation Intent • Perception of Products/Services • Trust in Data Security • Trust in Financial Security 	(Zhang 2023) (Nguyen 2020) (Chen et al., 2022)

Results

Fintech Adoption

Customers of banks accepted and agreed with 23.7% and strongly agreed with 33% which shows the result that customers who are using Fintech will continue using it.

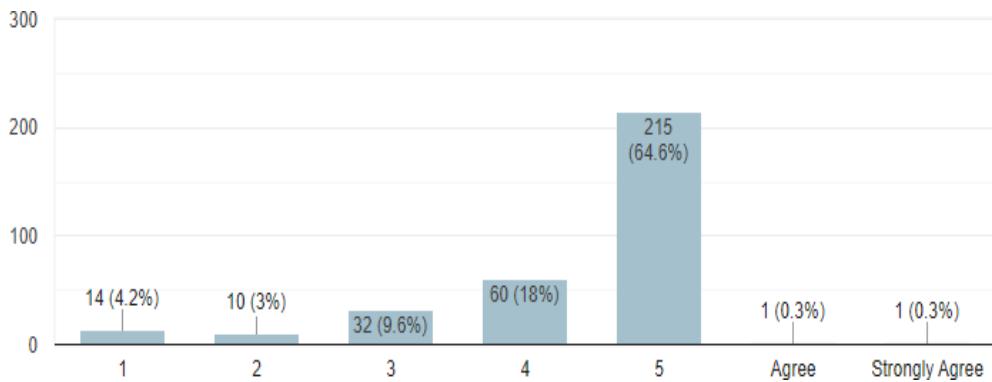


Fintech Adoption	Rate
Strongly Disagreed	8.4%
Disagree	6.3%
Neutral	27.9%
Agree	23.7%

Strongly Agree	33%
----------------	-----

Data Security:

Customers of Commercial banks of Pakistan have agreed with 18% and strongly agreed with 60% that banks should increase data security.



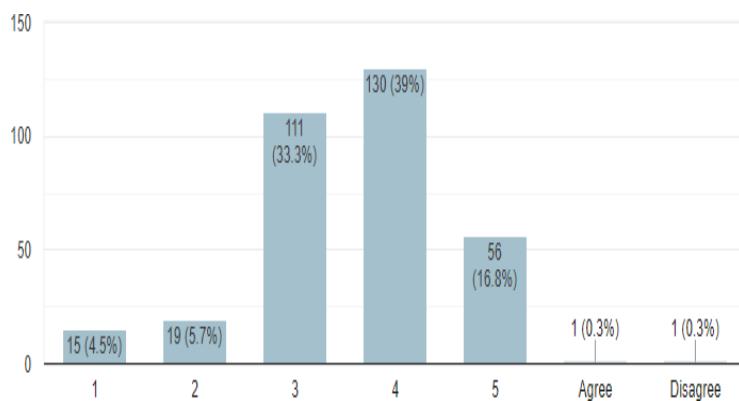
Fintech Adoption	Rate
Strongly Disagreed	8.4%
Disagree	6.3%
Neutral	27.9%
Agree	23.7%
Strongly Agree	33%

Customer Trust: Agreeing rate of customers that

134 Investigating The Impact of Factors Influencing Fintech Adoption With The Mediating Role of Fintech Promotion

trust Fintech Services are 39% and 16% which shows that customer trust Fintech Services.

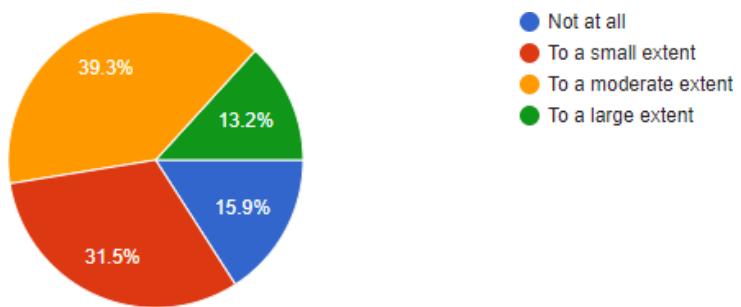
Customer Trust	Rate
Strongly Disagreed	4.5%
Disagree	5.7%
Neutral	33.3%
Agree	39%
Strongly Agree	16.8%



Social Media Influence:

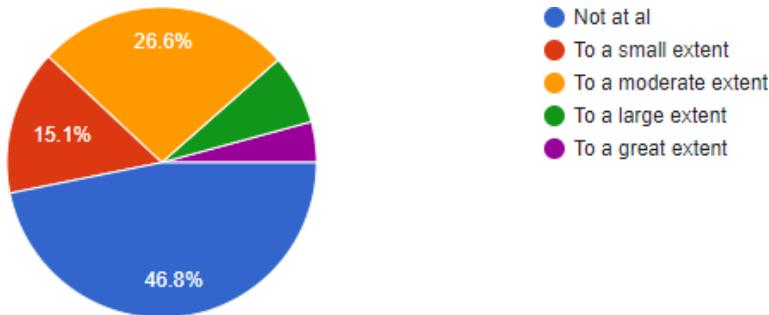
The results in the response of customers that they have influenced by social media to adopt Fintech

services are 15% customers believe in not at all while 31.5% believe in a very small extent. Results shows that customers are not majorly influenced by social media to adopt Fintech services as they are more concern about their data security



Financial Literacy:

Customers of commercial banks of Pakistan accepted by 46.8% that they have not participated in any financial literacy program to promote Fintech services. A minority of 7% has agreed on it



Questionnaire

Primary data has been collected using Questionnaire, as behavioral intentions of individuals

can only be gauged directly from the source. A Likert Scale with range; 1 = strongly disagree,

2= disagree, 3= neutral, 4= agree and 5= strongly agree

Data Security:

- I believe that banks provide enough security on their websites or mobile applications.
- My bank provides compensation for losses due to mobile banking fraud.
- I believe that I am secured using mobile online banking.
- I believe that the bank should take steps to increase mobile banking security.
- I have major concerns with data security when using mobile banking.
- My bank is responsible for my security while I am using mobile banking.
- Security aspect is the most important concern for me when using mobile banking.

- I think that my bank's mobile banking is safe.
- There are secure infrastructure platforms in mobile banking systems.
- Application downloaded from my mobile phone's app is good enough to secure my data.
- I carry out my banking transactions on my mobile device safely.
- I am much concerned about the security of mobile banking.
- Confidentiality of information is protected in mobile banking systems.
- I believe, while using my mobile banking someone may capture my calls or data.

Fintech Promotion:

- Promotion is crucial to boost my interest in mobile banking.
- Fintech services provide better value for money compared to traditional financial services.
- I am likely to recommend fintech services to others.

Fintech Services Adoption:

- If I already used Fintech services, then I am agreeing to remain using them.
- I would like to use Fintech services soon.
- I will praise Fintech services to my friends.

Customer Trust:

- I trust Fintech services to retain my private information secure and safe.
- In total, I am sure that Fintech services are trustable.
- This bank provides good products and services.
- I trust in my financial security whenever using Fintech services.

Social Media Influence:

138 Investigating The Impact of Factors Influencing Fintech Adoption With The Mediating Role of Fintech Promotion

- To what extent does social media (Facebook, Twitter, Instagram) shape your awareness of

Fintech services by commercial banks in Pakistan, and how does this impact your trust?

- Have you considered using Fintech services based on social media information, and how

does this affect your trust?

- Do you believe social media has influenced your perception of the trustworthiness of

Fintech services by commercial banks in Pakistan, and if so, how?

Financial Literacy:

- How confident are you in your knowledge of financial concepts like savings, investments,

and budgeting?

- Are you familiar with various financial products and services offered by banks, including

savings accounts, loans, and investment options?

- How comfortable are you in making financial decisions, such as selecting investment

options or managing debt?