Factor Influencing Intention to Adopt Fintech in Pakistan: A Mediating Effect of Customer Attitude

Ahmad Talha Khan[1], Rizwan Kamran[2], Muhammad Farooq Rehan[3], Rubina Allahrakha[4]

[1] Scholar, College of Commerce, Government College University, Faisalabad, Pakistan.
[2] Lyallpur Business School, Government College University, Faisalabad, Pakistan.
[3] Lyallpur Business School, Government College University, Faisalabad, Pakistan. Email: farooq.rehan@gcuf.edu.pk
[4] Scholar, College of Commerce, Government College University, Faisalabad, Pakistan.

ARTICLE INFO	ABSTRACT
	This study's goal is to better understand the variables that affect Pakistani consumers' acceptance of and use of Financial Technology (FinTech) services in the banking industry. Data from a sample size of 339 banking clients were gathered using a research methodology based on quantitative approaches and a causal approach. According to the study's findings, people's intentions to utilise financial technology (FinTech) are greatly impacted by how beneficial they believe the technology to be and how secure they believe it to be. The relationship between perceived usability, perceived usability, and intention to utilise financial technology is mediated by client attitudes. Additionally, a key factor in affecting the adoption of financial technology is the perspectives of the customers. This demonstrates the need to enhance user experience and effectively address worries about the degree of security. With the aim of encouraging the uptake of FinTech services and fostering a financially stable environment, policymakers, financial institutions, and FinTech businesses in Pakistan may make use of these findings. This research significantly adds to the body of knowledge on technology adoption and provides a strong foundation for further research in the dynamic and ever-evolving field of financial technology (FinTech). This research also lays a strong platform for future studies in the area of information technology (IT).

Corresponding Author's Email: farooq.rehan@gcuf.edu.pk

1.   Introduction

The financial services industry has undergone a tremendous change recently, primarily due to technological advancements. Numerous favourable results have come about as a result of this change. The way financial services are supplied has significantly changed as a result of the development of financial technology, or "FinTech" as it is sometimes called. This change has prompted the development of cutting-edge company models that leverage technology to address a variety of financial difficulties. The spread of digital technology has led to the growth of fintech outside the boundaries of conventional financial services. Customers now have access to choices that are more practical and simple to comprehend. According to Rizvi, Naqvi, and Tanveer (2018), Pakistan is cognizant of the importance that technical development would have on the future course of the nation. Due to its growing young population, rising smartphone usage, wide-spread internet connectivity, and preference for e-commerce and e-transactions, Pakistan has the potential to become a significant FinTech development centre.

Although there are many positive outcomes that can result from the use of FinTech, there are also obstacles that prevent its broad use. Fears about cyberattacks and data breaches, as well as other perceived risks, are a key source for concern when it comes to technological progress. According to Rizvi et al. (2018), additional barriers to the adoption of FinTech in the country include regulatory uncertainty and concerns about attracting a sizable clientele.

When it comes to serving their customers, FinTech companies have progressed beyond simply digitizing traditional financial services. FinTech's success depends on its ability to satisfy clients' monetary wants and demands through an intuitive interface, unobtrusive data monitoring, and open systems.

Three primary pillars support the Fintech revolution (Gomber, Sagade, Theissen, Weber, & Westheide, 2017). First, a prosperous financial sector that has more money to invest in innovative technology in a thriving economy. The second is the growth of innovative financial technologies that meet the needs of progressive customers. Thirdly, FinTech alters the business model by automating financial service processes, which improves access to and customization for customers (Jarvis & Han, 2021).

The fast spread of new FinTech solutions, although exciting, also presents new problems. The financial sector is vulnerable to data security and cyber threat worries. In order to better understand what motivates consumers to adopt FinTech, studies have been conducted. The adoption of FinTech services has been demonstrated to be hampered by unfavorable views, legal hazards, and perceived risks (Romanova, Grima, Spiteri, & Kudinska, 2018; Ryu, 2018; Tang, Ooi, & Chong, 2020).

Some of the challenges that have impeded the adoption of FinTech in Pakistan include concerns over data security and intellectual property, regulatory uncertainties, difficulties attracting the necessary workers, and a lack of a solid client base (Rizvi et al., 2018). Pakistan, on the other hand, presents an opportunity for the growth of FinTech services accessible via the internet and mobile devices because of the countrys' sizable and expanding youth population and the rapid development of the internet and smartphone technology in the region. Rizvi et al. (2018) claim that Pakistan's regulatory environment is strong since it provides a carefully regulated framework that encourages the development of FinTech.

The primary objective of this study is to examine the numerous elements that affect bank customers' tendency to adopt FinTech services in Pakistan. In particular, the investigation will look into how they feel about these services' usability, security, and convenience of use. In addition, this study will investigate the influence of consumer attitudes on their adoption of FinTech as a whole. Following are the primary objectives of this study:

•   Examine the factors that influence Pakistani bank customers' adoption of FinTech services, including perceived simplicity of use, perceived usefulness, and security concerns.
•   Examine how consumers' attitudes mediate the relationship between their perceptions of the usability, utility, and security of FinTech services and their adoption intentions.

The findings of this study have broad implications for numerous stakeholders in the financial services market. Financial service providers, such as banks, financial institutions, and investment management firms, can better match the needs and preferences of their clients by gaining a deeper understanding of the variables influencing their clients' decision to adopt Fintech. The results of this study can be used by Fintech firms to enhance the user experiences and adoption processes of their products, hence increasing the pleasure and trust of their customers.

To further encourage the creation of a secure financial ecosystem, legislators and regulatory authorities can use the findings to create an environment conducive to Fintech innovation by addressing security concerns and fostering innovation. This study can serve as a solid groundwork for keeping tabs on and controlling the growth of Pakistan's Fintech sector as the country strives to broaden access to banking services and advance technological development.

This study examines perceived usefulness, perceived simplicity of use, security concerns, and customer attitudes to understand Pakistan's Fintech adoption dynamics. Researchers, businesspeople, and policymakers can all benefit from the research findings.

2.   Literature Review

Because of the dramatic changes brought on by technological progress, a new sector of the economy known as "FinTech" has emerged to give consumers with easy access to a wide variety of financial services in their daily lives. By providing customers with low-priced, risk-free, and straightforward alternatives to conventional banking and finance services, FinTech has revolutionized the industry (Xiao et al., 2017). With technology constantly pushing the boundaries of what is possible in the financial services industry, it is essential that banks and other financial institutions learn what reasons are driving the adoption of FinTech.

2.1.   Technology Acceptance Model

The Technology Acceptance Model (TAM) is widely recognized as a prominent theoretical framework employed to investigate individuals' behaviors and attitudes towards novel technological advancements, including the domain of Financial Technology (FinTech). The Technology Acceptance Model (TAM), initially proposed by Davis (1989), investigates the impact of external factors on an individual's fundamental beliefs and choices regarding the utilization of technology. This study primarily focuses on the constructs of Perceived Ease of Use (PEOU) and Perceived Usefulness (PU), which have a substantial influence on an individual's behavioral intentions towards the adoption of technology. When conducting an analysis of the adoption of Financial Technology (FinTech) services, it is crucial to consider the factors of security concerns (SC) and customer attitudes (CA).

2.2.   Intentions to Adopt FinTech

The term "intention to adopt Fintech" is used to describe an individual's prompted behavior toward embracing and making use of technology-based financial solutions. It involves customers' behavioral intention to embrace or use these modern technology-driven financial services, expressing their desire to adapt to the new age of technology in their daily financial interactions. This aim is influenced by PEOU, PU, SC, and CA. This study addresses information system adoption and use challenges by integrating social impact and cognitive instrumental processes into the Technology Acceptance Model (TAM). Users' trust in adopting Fintech services is bolstered by the incorporation of data security, user interface, and pragmatism. The overarching goal of this study is to investigate the numerous elements that affect how inclined consumers are for adopting Fintech services.

2.3.   Perceived Ease of Use

What we mean by "perceived ease of use" (PEOU) is how much people believe a certain technology or service can be mastered with little to no training or instruction. Consumers' perception of financial technology as user-friendly and straightforward is referred to as "PEOU" in the field of FinTech (Davis, 1989). According to earlier research (Chansaenroj & Techakittiroj, 2015; Kim, Park, Choi, & Yeon, 2015), PEOU has a favorable effect on individuals' intentions to adopt FinTech services.

According to Davis (1989)'s Technology Acceptance Model (TAM), "perceived ease of use" describes how simple a given technology or service appears to the average user. Users are more inclined to adopt financial technology services if they perceive a low learning curve. Customers are more likely to have a favorable perspective on FinTech offerings if they believe these solutions are straightforward, easy to learn, and require little in the way of effort on their part. As a result of this optimistic outlook, a greater propensity to utilize FinTech services is anticipated.

H_1:   Perceived ease of use has significant positive relationship with intention to adopt FinTech

2.4.   Perceived Usefulness

An individual's level of PU is a measure of their conviction that integrating a new service or tool into their workflow would boost their efficiency and productivity (Davis, 1989). Customers' expectations of the benefits they will receive from adopting FinTech services is what PU refers to in this context (Chen, Chen, Yeh, & Tsaur, 2016; Chuang, Liu, & Kao, 2016). Previous studies have shown that PU has a positive influence on the intent to adopt FinTech (Venkatesh & Davis, 2000).

According to TAM, the degree to which people believe a technology will benefit them is a major element in predicting how open they will be to actually using it (Park & Park, 2020;

Svendsen, Johnsen, Almås-Sørensen, & Vittersø, 2013). Consumers' perspectives on the value of FinTech services are shaped by their understanding of the ways in which these services might improve their lives, such as through expedited transactions, better financial management, and more tailored suggestions. When consumers have faith that integrating FinTech solutions into their daily lives would improve both their professional and personal finances, they are more likely to view these solutions favorably and be more eager to do so.

H$_2$:   Perceived usefulness has a significant positive relationship with intention to adopt FinTech

2.5.   Security Concern
SC refers to customers' worries about their personal information being compromised when they use FinTech services. There is a risk that customers' private information, including names, addresses, payment information, and the like, could be compromised (Pavlou, Tan, & Gefen, 2003). According to Zhou, Lu, and Wang (2010), a major obstacle to the adoption of FinTech is security concerns.

Customers' worries about their personal information being compromised are a major factor in the slow uptake of FinTech services (Pavlou et al., 2003). If consumers worry about identity theft, financial loss, or other forms of abuse, they may be hesitant to use FinTech services. Customers' attitudes and intentions to utilize FinTech services can be severely impacted by security concerns.

H$_3$:   *Security concern has a significant inverse relationship with intention to adopt FinTech*.

2.6.   Customer Attitude
Customer Attitude is the subjective opinions and leanings that people have about a product or service. Hu, Ding, Li, Chen, and Yang (2019) found that positive attitudes toward FinTech play a critical role in influencing behavioral intentions to adopt FinTech services. Previous studies have demonstrated that consumer attitude (CA) exerts a favorable impact on the intention to adopt Financial Technology (FinTech) (Aboelmaged & Gebba, 2013; Shaikh & Karjaluoto, 2015).

According to Venkatesh and Davis (2000) Technology Acceptance Model, users' attitudes regarding technology are a major factor in whether or not they plan to use it. Customers' propensity for and comfort with embracing FinTech services has a major impact on how likely they are to make use of them. When people have a positive outlook about FinTech services, they are more inclined to accept them, whereas those with a negative outlook are less likely to do so.

H$_4$:   *Customer attitude has a significant direct relationship with intention to adopt FinTech.*

2.7.   Mediating Role of Customer Attitude
Customers' perspectives on adopting Financial Technology (FinTech) are significantly impacted by the factors of PEOU, PU, and SC. The research conducted by Davis (1989) demonstrates that customers' evaluations of FinTech services are shaped by their perceptions of the services' simplicity and utility. The prominence of convenience and advantages attributed to the utilization of Financial Technology (FinTech) services is underscored, thereby influencing client perspectives in a favorable manner. Moreover, the utilization of smart contracts (SC) within the financial technology (FinTech) sector elicits concerns among customers regarding the safeguarding of their security and privacy. This apprehension may potentially impact their perception of the surrounding environment and influence their subsequent actions (Chung, Shin, & Park, 2022).

Customers' attitudes play a vital mediating role in the complex interaction between PEOU, PU, SC, and the intent to adopt FinTech. The adoption of Financial Technology (FinTech) is contingent upon customers' perceptions pertaining to its ease of use, effectiveness, and safety. These factors collectively contribute to shaping their inclination towards embracing this technology.

As a result of this review, a theoretical framework is now available for studies of bank customers' intentions for adopting FinTech services. Customers' attitudes and intentions for adopting FinTech services can be understood with the help of the Technology Acceptance Model

(TAM). Customers' adoption behavior can be analyzed with the use of the PEOU, PU, SC, and CA variables, and the presented hypotheses direct the research into the elements driving FinTech adoption. Banks and other financial institutions can improve their offers of FinTech to better suit the demands of their consumers and reduce the obstacles to adoption if they conduct thorough research into these factors.

Customers' attitudes of FinTech services are directly influenced by their perceived ease of use (Davis, 1989). Customers are more likely to have a favorable attitude about FinTech services when they find them simple to use and operate. This favorable attitude is due to the convenience and user-friendliness of FinTech services, which improves consumers' general opinion and evaluation of these services.

H5:   There is a significant positive relationship between perceived ease of use and customer attitude.

Customers' opinions about the value of FinTech services are highly consequential in shaping those customers' attitudes toward the services (Davis, 1989). Customers are more likely to have a favourable outlook on FinTech if they believe that using these services will enhance their financial management, efficiency, and performance at work. Customers have a favorable impression of FinTech services in general because of the value and benefits they see in adopting them.

H6:   There is a significant positive relationship between perceived usefulness and customer attitude.

Customers' suspicion and anxiety about FinTech services may stem from their fears for their personal data's safety, as noted by Chau and Hu (2002). Customers are more likely to have a bad impression of FinTech services if they believe they are vulnerable to money loss or privacy invasion when using these services. Customers may be hesitant to use FinTech services because they feel unsafe about providing their personal information online.

H7:   There is a significant negative relationship between security concern and customer attitude.

According to TAM, the connection between perceived ease of use and willingness to adopt technology is mediated by customers' attitudes (Davis, 1989). Customers have a favorable impression of FinTech when they find its services to be quick and simple to employ. Their willingness to utilize FinTech services is increased as a result of their optimistic outlook.

H8:   Customer attitude mediates the relationship between perceived ease of use and intention to adopt FinTech.

According to the Technology Adoption Model (TAM), customer attitude mediates the connection between technology perceived utility and desire to adopt (Davis, 1989). When consumers see the value in using FinTech services, they tend to have a favorable impression of the industry as a whole. This optimistic outlook has a salutary effect on their propensity to use FinTech products and services.

H9:   Customer attitude mediates the relationship between perceived usefulness and intention to adopt FinTech.

Fears of fraud or identity theft prevent some people from using financial technology (Pavlou et al., 2003). Customers are more likely to have a negative outlook on FinTech when they have serious security concerns and foresee serious hazards in adopting FinTech services. As a result, individuals may be less likely to accept FinTech services, as they will be cautious to utilize them until they have more trust in them.

H10:   Customer attitude mediates the relationship between security concern and intention to adopt FinTech.

In conclusion, the theoretical groundwork provided by the Technology Acceptance Model addresses the connections between user friendliness, perceived utility, security worries, customer attitude, and the propensity to accept FinTech services. These hypotheses add to the increasing body of information on FinTech adoption behavior and shed light on the factors influencing bank customers' acceptance of FinTech services.

Figure 1
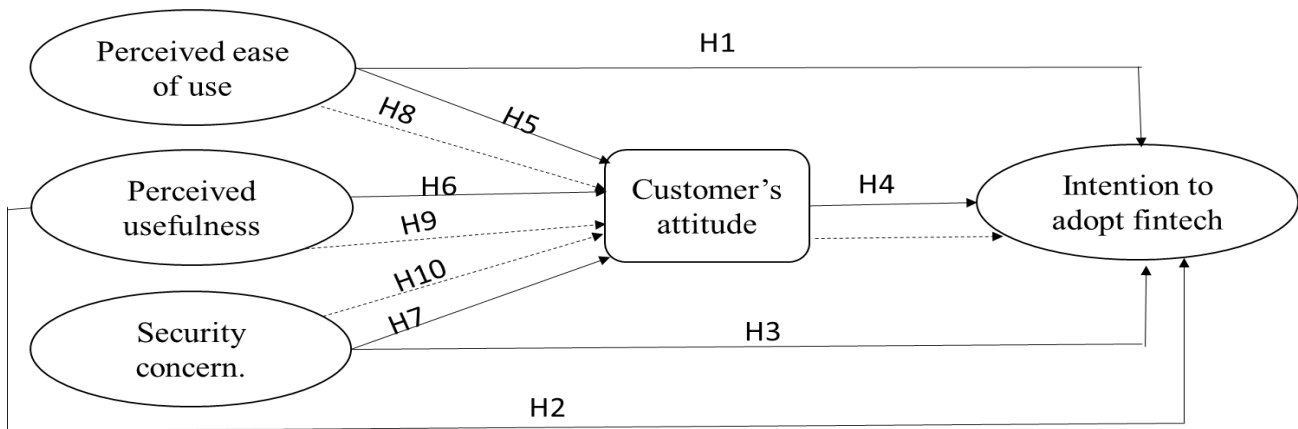
3. Research Methodology

The study employed a quantitative research design with a causal approach to investigate the factors that influence the intention of bank customers to adopt FinTech services. The study specifically focused on examining the mediating role of Customers' Attitude (CA). The aforementioned methodology offered a comprehensive framework for the systematic collection and analysis of quantitative data, enabling the effective investigation of the research inquiries.

The participants in the study were those who would employ Financial Technology (FinTech), primarily Pakistani bank clients. The research was made more generalizable and representative by using a basic random sample method. Through this method, we were able to ensure that all respondents had an equal chance of being included in the final sample, which improved the demographic diversity of the data and reduced the likelihood of any biases. Meeting with representatives from several financial institutions in the Faisalabad area and passing out links to online surveys were also parts of the data collection process. Participants could readily take part in the study thanks to the simplicity this method gave.

A self-administered questionnaire consisting of six separate sections was used to compile the data for this investigation. Gathering demographic information for a foundational context was the first focus of the investigation. In the parts that followed, we talked about variables like perceived ease of use, perceived usefulness, security concerns, customers' attitudes, and intentions to use financial technology.

In conclusion, this study uses a causal relationship-focused quantitative research approach to examine a population of 339 banking clients. The information was collected using a standardized questionnaire with Likert scales. This research aims to examine how customers' perceptions of ease of use, usefulness, social influence, and attitude all play a role in their propensity to embrace Fintech services. The study also takes into account the customers' attitudes as a mediating factor in this process.

All of the questionnaire's variables were measured using scales derived from prior research to ensure that the results would be valid and reliable. Due to extensive testing and validation, the scales used for data gathering are more accurate.

Table 1: Constructs' Measure

Variables	Reference	Items
Perceived Ease of Use.	Devis (1989), Chuang et al. (2016) and Saadé, (2007)	4
Perceived Usefulness.	Devis (1989) and Chuang et al. (2016)	4
Security Concern.	Pavlou et al. (2003)	3
Customers' Attitude.	Ajzen, (2002); Halilovic & Cicic, (2011)	3
Intention to Adopt Fintech	Chuang et al. (2016)	3

4.   Results and Findings

Table 2 shows the demographic information for the study's 339 participants. Males made up 83.5% of the total, while females contributed only 16.5%. In terms of level of education achieved, 8.0% had attained a bachelor's, 30.7% a master's, and 59.9% a doctoral. The distribution of income was as follows: 39.5% had monthly incomes of up to 50,000 Pakistani rupees, 23.3% earned between 51,000 and 99,000, and 22.4% between 100,000 and 150,000. In addition, 56.9% of the population was wed and 43.1% was single. Among those who had an account, 94.1% had a checking account, 5.0 % had a savings account, and 0.9 % had a PLS account. The features of the sample are better understood with the help of these demographics.

Table 2: Demographics Characteristics

Demographics (n=339)		Frequency	Percentage
Gender	Male	283	83.5
	Female	56	16.5
	Total	339	100
Education	Under-graduate	27	8.0
	Graduate	104	30.7
	Post-graduate	203	59.9
	Others	5	1.5
	Total	339	100.0
Income level	Upto 50k. PKR p/m	134	39.5
	51k to 99k. PKR p/m	79	23.3
	100k to 150k. PKR p/m	76	22.4
	151k to 200k. PKR p/m	23	6.8
	Above 200k PKR p/m	27	8.0
	Total	339	100.0
Marital Status	Single	146	43.1
	Married	193	56.9
	Total	339	100.0
Account Type	Current account	319	94.1
	Savings account	17	5.0
	P/ls account	3	.9
	Total	339	100.0

4.1.   Descriptive Statistics and Correlation

The table 3 statistics include both descriptive data and correlation coefficients. Respondents have a favorable impression of fintech in terms of its perceived usefulness (4.12), convenience of usage (4.00), security concerns (4.16), customers' attitudes (3.89), and their intention to adopt FinTech (4.18). Variation from the mean is measured in terms of standard deviations (SD). All of the correlations are positive and statistically significant (** p 0.01). Usefulness and perceived ease of use both have moderate to high positive connections with other variables. Customers' attitude and intent to adopt fintech are modestly tied to security concerns. Customer attitude is highly correlated with inclination to adopt financial technology. Positive correlations between variables show that opinions and plans to use fintech are influenced by factors like how accessible and helpful people find it to be. Security concerns play a role as well.

Table 3: Descriptive Statistics and Correlation

Variables	Mean	SD	1	2	3	4	5
Perceived Ease of Use	4.1246	.64570	1				
Perceived Usefulness	4.0000	.67472	.544**	1			
Security Concern	4.1603	.71992	.425**	.444**	1		
Customers' attitude.	3.8850	.72311	.535**	.562**	.437**	1	
Intention to adopt Fintech	4.1839	.69417	.365**	.319**	.275**	.578**	1

4.2.   Assessment of Reliability and Validity

Table 4 displays the findings from the constructs' reliability and validity analyses. All of the constructions have high Cronbach's alpha values (above 0.70), indicating that the items

measuring that construct are a reliable one. Constructs have strong convergent validity, as shown by AVE values between 0.534 and 0.706, which indicate that a large amount of variation is captured by the constructs from the corresponding indicators. The reliability of the constructs is further confirmed by the fact that the Composite Reliability (CR) values are more than the required criterion of 0.70 (varying from 0.786 to 0.878). In addition, every factor loading is over 0.5 and statistically significant, proving that the items accurately reflect the targeted constructions. The overall assessment of the measurement model's reliability and validity shows that it is solid and reliable.

Table 4: Assessment of Reliability and Validity

Variable	Factor Loadings	Cronbach's alpha	AVE	CR
Perceived Ease of Use				
PEU1	.723	0.845	0.583	0.848
PEU2	.802			
PEU3	.783			
PEU4	.772			
Perceived Usefulness				
PU1	.522	0.822	0.534	0.817
PU2	.827			
PU3	.641			
PU4	.868			
Security Concern				
SC1	.769	0.782	0.553	0.786
SC2	.806			
SC3	.647			
Customers' attitude				
CA1	.777	0.873	0.706	0.878
CA2	.905			
CA3	.833			
Intention to Adopt Fintech				
IAF1	.768	0.802	0.575	0.802
IAF2	.748			
IAF3	.758			

4.3. Goodness of Fit

In table 5, we can see the goodness of fit indices for the Confirmatory Factor Analysis (CFA) and overall model, along with their respective reference values. All indices are within acceptable ranges, indicating a good fit. The RMSEA for CFA is 0.051, the GFI is 0.980, the NFI is 0.958, the CFI is 0.980, the TLI is 0.970, and the GFI is 0.965. Overall, the model has a 2 of 2.817, a GFI of 0.908, an AGFI of 0.865, an NFI of 0.909, a CFI of 0.939, a TLI of 0.920, and an RMSEA of 0.073. RMR values for both models are under 0.10. These findings indicate that the models are a good fit for the data and effectively represent the variable relationships.

Table 5 Goodness of Fit Index

Indices	Standard Value	References	CFA	Structured Model
Normed Chi-Square (χ^2)	≤ 5	Schumacker and Lomax (2004)	1.891	2.817
The goodness of Fit (GFI)	≥ 0.80	Doll, Xia, and Torkzadeh (1994), Hair, Black, Babin, and Anderson (2010)	0.965	0.908
Adjusted Goodness of Fit (AGFI)	≥ 0.80	Doll et al. (1994)	0.939	0.865
Normed Fit Index (NFI)	≥ 0.80	Forza and Filippini (1998)	0.958	0.909
Comparative Fit Index (CFI)	≥ 0.90	Hair et al. (2010)	0.980	0.939
Tucker-Lewis Index (TLI)	≥ 0.90	Forza and Filippini (1998)	0.970	0.920
Root Mean Square Error of Approximation (RMSEA)	≤ 0.08	Browne and Cudeck (1992), Awang (2012)	0.051	0.073
RMR	<0.10	Hair et al. (2010)	0.024	0.029

4.4. Structured Model: Direct and Indirect Effect

The direct relationships between the research variables are summarized in table 6. The acronyms PEU, PU, SC, CA, and IAF stand for "Perceived Ease of Use," "Perceived Usefulness," "Security Concern," and "Intention to Adopt Fintech."

Results indicate that H1 is false since there is no statistically significant relationship between PEU and IAF for financial technology adoption. We find strong evidence in favor of H2, the hypothesis that states that a person's level of PU has a direct and positive effect on their likelihood of intending to adopt fintech. Consistently strong evidence is found in favor of Hypothesis H3, which states that individuals' Intention to Adopt Fintech (IAF) is influenced directly by their level of Security Concern (SC).

Evidence for significant results for Hypotheses H4, H5, and H6 shows that Customers' Attitude (CA) significantly affects Intention to Adopt Fintech (IAF) as well as Perceived Usefulness (PU) and Perceived Ease of Use (PEU) of fintech services. This suggests that customers' views play a significant role in defining their intention to utilize fintech services, as well as their opinions of fintech's value and simplicity of use.

Results do not provide strong backing for H7, which suggests a causal relationship between Customers' Attitude (CA) and Security Concern (SC). This indicates that customer opinions regarding the adoption of fintech do not directly affect those customers' security concerns.

In conclusion, the findings stress the significance of Customers' Attitude in determining the likelihood of adopting fintech services, as well as their perceived usefulness and simplicity of use. While worries about security may have a chilling effect on fintech adoption, the perception of how easy it is to use does not appear to have any bearing on whether or not people plan to utilize the technology. These results provide useful information for banks and regulators who want to encourage more clients to use financial technology.

Table 6: Direct Effect

Hypothesis	Structural Path	β	P	Results
H1	I.A.F <--- P.E.U	0.029	.738	Rejected
H2	I.A.F <--- P.U	0.269	.094	Accepted
H3	I.A.F <--- S.C	-0.154	.013	Accepted
H4	I.A.F <--- C.A	1.127	***	Accepted
H5	C.A <--- P.E.U	0.220	.005	Accepted
H6	C.A <--- P.U	0.851	***	Accepted
H7	C.A <--- S.C	0.080	.144	Rejected

Table 7 displays the findings of the research's indirect effect and mediation analysis for the variables under consideration. The acronyms PEU, PU, SC, CA, and IAF stand for "Perceived Ease of Use," "Perceived Usefulness," "Security Concern," and "Intention to Adopt Fintech."

Results show a significant indirect effect, with a β value of 0.247 and a p-value of 0.028 for Hypothesis H8, connecting Intention to Adopt Fintech (IAF) and Perceived Ease of Use (PEU). This suggests that customers' attitudes are a significant mediator of the relationship between perceived ease of use and the intention to embrace fintech services.

There is a significant indirect impact, with a value of 0.959 in favour of Hypothesis H9, which indicates that Customers' Attitude (CA) mediates the connection between Intention to Adopt Fintech (IAF) and Perceived Usefulness (PU). The value of in favour of this hypothesis is 0.959, with a p-value of 0.001 in its favour. It is clear that other elements may possibly have a direct impact on the intention because of the mediation role played by customers' attitude in the relationship between perceived usefulness and intention to adopt fintech. Even when customer attitude mediates the association, this is still the case.

It can be deduced, therefore, that Customers' Attitude (CA) is not a mediating factor in the relationship between Intention to Adopt Fintech (IAF) and Security Concern (SC), as the p-value for Hypothesis H10 is not statistically significant (p=0.265). This shows that customers'

opinions are not a mediating factor in the relationship between their security concerns and their intention to adopt fintech.

In conclusion, the results show that Customers' Attitude strongly mediates both the relationship between Perceived Usefulness and Intention to Adopt Fintech and the association between Perceived Ease of Use and Intention to Adopt Fintech. However, the connection between customers' security worries and their will to adopt fintech is not mediated by their attitudes. These results provide light on the mediating role played by Customers' Attitude in the relationship between the two main drivers of adoption intent, the perceived value of fintech services and customer satisfaction.

Table 7: Indirect Effect and Mediation Analysis

Hypothesis	Structural Path	β	P	Results
H8	I.A.F <--- C.A <--- P.E.U	0.247	.028	Full mediation
H9	I.A.F <--- C.A <--- P.U	0.959	.001	Partial Mediation
H10	I.A.F <--- C.A <--- S.C	0.090	.265	No Mediation

5. Discussion & Conclusion

This research set out to discover what variables among bank customers in Pakistan are most influential in their decision to start using FinTech services. The study's findings provided insight into the dynamics of FinTech adoption in the country by analyzing user perceptions of the technology's usability, usefulness, security risks, and customer attitudes. Policymakers, banks, and FinTech companies can all benefit from the findings that shed light on the interplay between these factors.

Customers' inclination for adopting FinTech services is strongly influenced by their perceptions of how simple and helpful they are (Nangin, Barus, & Wahyoedi, 2020; Tun-Pin et al., 2019). To a greater extent than perceived ease of use, perceived usefulness influenced the willingness of individuals to adopt FinTech (Chuang et al., 2016). Nevertheless, it was discovered that the disposition of customers towards FinTech services played a mediating role in the connection between the perceived ease of use and the intention to adopt FinTech. That customers' attitudes are heavily influenced by their impressions of the ease and convenience of FinTech services is supported by the data. This conclusion can be used to the advantage of financial service providers and Fintech companies by focusing on improving the user experience and accessibility of their products.

The adoption of FinTech services is influenced by significant security concerns among customers. The intention to adopt FinTech is adversely affected by security concerns (Cao, 2016), indicating that customers' reservations regarding the safeguarding of their personal information and the potential risks of cyber threats are impeding the broad acceptance of FinTech services. Enhancing the perception of security and fostering trust in the security measures of FinTech offerings may play a pivotal role in bolstering the rates of adoption. In order to foster customer confidence and facilitate the adoption of financial technology (FinTech), it is imperative for policymakers and financial institutions to engage in collaborative efforts aimed at establishing comprehensive regulatory frameworks and implementing robust security measures.

This emphasizes the significance of customers' opinions regarding the benefits and advantages of adopting FinTech services, since customers' attitudes serve as a mediator between consumers' perceptions of the usefulness of FinTech and their intentions to adopt the technology. When customers have a positive attitude, adoption rates tend to be higher (Shaikh & Karjaluoto, 2015). This highlights the need for successful communication and education initiatives to promote the value proposition of FinTech services and show off their advantages to potential customers.

There are many potential applications of this research. The results of this study can be used by financial institutions like banks and brokerages to improve the quality of the FinTech services they give to their clients. They can make FinTech solutions that are well received by their intended market by giving top consideration to issues like perceived utility, convenience of usage, and security.

In contrast, fintech companies may work on improving the user experience by, for example, streamlining their interfaces, making it easier to monitor data without disrupting users, and strengthening security. Fintech companies can benefit from a better understanding of the mediation function of client attitudes by developing more persuasive marketing tactics that highlight the advantages and benefits of their services.

The results highlight the necessity for policymakers and regulators to foster an environment conducive to Fintech innovation. Strengthening data privacy and cybersecurity is critical to promoting the expansion of the Fintech industry. Policymakers may boost customers' trust in FinTech services and encourage wider adoption by working toward a more secure financial ecosystem.

The study holds equal significance in terms of its theoretical implications. By using the TAM, we now have a solid theoretical basis for analyzing consumer reactions to FinTech products and services. The TAM framework incorporates customer attitudes and intentions to use FinTech alongside aspects such as perceived ease of use, perceived usefulness, security issues, and customer attitudes and perceptions.

The findings of this study add to the growing body of research on the topic of technology adoption by providing further evidence that consumer attitudes play a mediating role. This result emphasizes the vital part attitudes play as a link between consumers' perceptions of the utility of FinTech services and their intents to adopt them, indicating that customers' ideas about the advantages of these services have a significant impact on their adoption decisions. The implications for studies of technology uptake in diverse fields are much greater as a result.

With this research completed, we now have a better understanding of what motivates Pakistani bank customers to choose FinTech services. Customers' adoption intentions were found to be significantly influenced by factors including how simple and helpful the solution was regarded to be, how safe users felt about giving their information over, and how the customers felt about the service overall. This study confirms the results of similar studies (Cao, 2016; Chuang et al., 2016; Shaikh & Karjaluoto, 2015). These insights can be used by policymakers, regulators, and FinTech companies to accelerate the spread of FinTech throughout the country. Pakistan's financial sector may embrace the digital transition and reap the benefits of FinTech innovation if it prioritizes improving the user experience, addressing security concerns, and marketing the benefits of FinTech services. In addition, the study's theoretical contributions deepen our knowledge of technology adoption, notably the role of customers' views as mediators between perceived utility and adoption intent. Overall, this study lays the groundwork for further exploration into the ever-evolving field of FinTech acceptance.

5.1. Limitation and Future research Directions

It is important to note that the study does have certain limitations. One potential limitation of the study is that its conclusions are based on a small subset of Pakistani bank clients. The samples used in future studies should be more geographically and demographically diverse. Second, it is difficult to draw conclusions about cause and effect because this study was conducted using a cross-sectional methodology. In order to give more solid proof of the causal linkages, longitudinal or experimental research would be helpful. Finally, there is the potential for response biases to be introduced through the use of self-administered surveys. To supplement the quantitative results, future studies may benefit from including qualitative methodologies.

There are various interesting avenues of inquiry that could be undertaken to deepen our knowledge of FinTech's widespread success. Some of the cultural and geographical differences in accepting and using FinTech services could be illuminated by comparative research. Increasing the reliability of FinTech services is the study of customers' faith in financial organizations and their views on data security. It is also crucial to conduct additional research on how regulatory frameworks affect FinTech uptake and consumer protection. Finally, the growth and development of the industry can be aided by learning more about how new technologies affect the spread of FinTech, and how to overcome resistance to the advances from both consumers and service providers.

References

Aboelmaged, M., & Gebba, T. R. (2013). Mobile banking adoption: an examination of technology acceptance model and theory of planned behavior. *International journal of business research and development, 2*(1). doi:https://doi.org/10.24102/IJBRD.V2I1.263

Awang, Z. (2012). *Structural equation modeling using AMOS graphic*: Penerbit Universiti Teknologi MARA.

Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological methods & research, 21*(2), 230-258. doi:https://doi.org/10.1177/0049124192021002005

Cao, W. (2016). FinTech acceptance research in Finland-Case company Plastc.

Chansaenroj, P., & Techakittiroj, R. (2015). Factors Influencing the Intention to Use Mobile Banking Services in Bangkok.

Chau, P. Y., & Hu, P. J. (2002). Examining a model of information technology acceptance by individual professionals: An exploratory study. *Journal of management information systems, 18*(4), 191-229. doi:https://doi.org/10.1080/07421222.2002.11045699

Chen, M.-C., Chen, S.-S., Yeh, H.-M., & Tsaur, W.-G. (2016). The key factors influencing internet finances services satisfaction: An empirical study in Taiwan. *american journal of industrial and business management, 6*(6), 748-762. doi:http://dx.doi.org/10.4236/ajibm.2016.66069

Chuang, L.-M., Liu, C.-C., & Kao, H.-K. (2016). The adoption of fintech service: TAM perspective. *International Journal of Management and Administrative Sciences, 3*(7), 1-15.

Chung, S., Shin, D., & Park, J. (2022). Predicting Firm Market Performance Using the Social Media Promoter Score. *Marketing Letters, 33*(4), 545-561. doi:https://doi.org/10.1007/s11002-022-09615-w

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340. doi:https://doi.org/10.2307/249008

Doll, W. J., Xia, W., & Torkzadeh, G. (1994). A confirmatory factor analysis of the end-user computing satisfaction instrument. *MIS quarterly*, 453-461. doi:https://doi.org/10.2307/249524

Forza, C., & Filippini, R. (1998). TQM impact on quality conformance and customer satisfaction: a causal model. *International journal of production economics, 55*(1), 1-20. doi:https://doi.org/10.1016/S0925-5273(98)00007-3

Gomber, P., Sagade, S., Theissen, E., Weber, M. C., & Westheide, C. (2017). Competition between equity markets: A review of the consolidation versus fragmentation debate. *Journal of economic surveys, 31*(3), 792-814. doi:https://doi.org/10.1111/joes.12176

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Advanced diagnostics for multiple regression: A supplement to multivariate data analysis. *Advanced Diagnostics for Multiple Regression: A Supplement to Multivariate Data Analysis*.

Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S. (2019). Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model. *Symmetry, 11*(3), 340.

Jarvis, R., & Han, H. (2021). Fintech Innovation: Review and Future Research Directions. *International Journal of Banking, Finance and Insurance Technologies, 1*(1), 79-102.

Kim, Y., Park, Y.-J., Choi, J., & Yeon, J. (2015). An empirical study on the adoption of "Fintech" service: Focused on mobile payment services. *Advanced Science and Technology Letters, 114*(26), 136-140. doi:http://dx.doi.org/10.14257/astl.2015.114.26

Nangin, M. A., Barus, I. R. G., & Wahyoedi, S. (2020). The effects of perceived ease of use, security, and promotion on trust and its implications on fintech adoption. *Journal of Consumer Sciences, 5*(2), 124-138. doi:https://doi.org/10.29244/jcs.5.2.124-138

Park, E. S., & Park, M. S. (2020). Factors of the technology acceptance model for construction IT. *Applied Sciences, 10*(22), 8299. doi:https://doi.org/10.3390/app10228299

Pavlou, P. A., Tan, Y.-H., & Gefen, D. (2003). *Institutional trust and familiarity in online interorganizational relationships.* Paper presented at the Proceedings of the European Conference on Information Systems (ICIS) Naples, Italy.

Rizvi, S. K. A., Naqvi, B., & Tanveer, F. (2018). Is Pakistan ready to embrace Fintech innovation? *The Lahore Journal of Economics, 23*(2), 151-182.

Romanova, I., Grima, S., Spiteri, J., & Kudinska, M. (2018). The payment services Directive II and competitiveness: The perspective of European fintech companies. *European Research Studies, 21*(2), 3-22.

Ryu, H.-S. (2018). Understanding benefit and risk framework of fintech adoption: Comparison of early adopters and late adopters.

Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling*: psychology press.

Shaikh, A. A., & Karjaluoto, H. (2015). Mobile banking adoption: A literature review. *Telematics and informatics, 32*(1), 129-142. doi:https://doi.org/10.1016/j.tele.2014.05.003

Svendsen, G. B., Johnsen, J.-A. K., Almås-Sørensen, L., & Vittersø, J. (2013). Personality and technology acceptance: the influence of personality factors on the core constructs of the Technology Acceptance Model. *Behaviour & Information Technology, 32*(4), 323-334. doi:https://doi.org/10.1080/0144929X.2011.553740

Tang, K. L., Ooi, C. K., & Chong, J. B. (2020). Perceived risk factors affect intention to use FinTech. *Journal of Accounting and Finance in Emerging Economies, 6*(2), 453-463. doi:https://doi.org/10.26710/jafee.v6i2.1101

Tun-Pin, C., Keng-Soon, W. C., Yen-San, Y., Pui-Yee, C., Hong-Leong, J. T., & Shwu-Shing, N. (2019). An adoption of fintech service in Malaysia. *South East Asia Journal of Contemporary Business, 18*(5), 134-147.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science, 46*(2), 186-204. doi:https://doi.org/10.1287/mnsc.46.2.186.11926

Xiao, J., Ye, H., He, X., Zhang, H., Wu, F., & Chua, T.-S. (2017). Attentional factorization machines: Learning the weight of feature interactions via attention networks. *arXiv preprint arXiv:1708.04617*.

Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in human behavior, 26*(4), 760-767. doi:https://doi.org/10.1016/j.chb.2010.01.013