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A Study on Consumer Satisfaction using Islamic Fintech with the Moderation Effect of Attitude toward Behavior

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ABSTRACT

This study sought to examine how perceptions of usefulness, privacy security, and perceived ease of use impact customer satisfaction with perceptions of Islamic FinTech in Pakistan serving as a moderating factor. For this study's analysis, PLS_SEM was employed on a sample size of 450 that was obtained by convenience sampling. Perceived usefulness had a positive and substantial effect on consumer satisfaction, according to the study. The Perceived ease of use also had a substantial impact on customer satisfaction. Also, it was discovered that consumer satisfaction was significantly positively impacted by perceived privacy security. The results also demonstrated that attitudes towards Islamic FinTech had a positive influence on the relationship between perceived ease of use and customer satisfaction. To make a stronger connection between perceived usefulness, perceived ease of use, privacy security, and customer satisfaction. The study further underlines the moderating influence of attitudes toward Islamic FinTech. The development and promotion of Islamic FinTech services in Pakistan will be greatly impacted by these findings. There is also a need to understand the role of Regtech (regulatory technology) along with Fintech in this new era of digitalization and VUCA(volatility, uncertainty, complexity, and ambiguity) state.

1. Introduction

Globally, the fintech sector is growing and revolutionizing financial inclusion, lending and payment systems. Financial services are changing because of innovations like blockchain, digital banking, and mobile payments. Financial inclusion policies have resulted from this, allowing people to access FinTech services through mobile accounts and giving ignored communities their economic power back (Agyemang-Badu et al., 2018). Despite difficulties in providing universal regulatory frameworks and satisfying particular Muslim desires, Islamic finance provides digital Islamic banks, investment platforms and crowdfunding services to Muslim customers globally. Fintech offers a range of services such as lending,

retail investing, crowdfunding, financial planning, remittance, and financial research. Islamic FinTech, a specialized branch of FinTech, revolutionizes the financial services industry by providing Sharia-compliant financial solutions to the expanding Muslim population, including digital Islamic banks, crowdfunding websites, and Halal investment instruments. By utilizing cutting-edge technologies and business models, banks are transforming the financial services sector (Dahlberg & Mallat, 2008). It resembles conventional FinTech with 100 Shariah-based businesses, 46% of which are in Asia and 23% of which are in MENA countries.

Only 15% of Pakistan's population is currently served by the country's top 10 remittance market, despite the banking industry providing 80% of the country's financial services. (Arshad, A.2022). New technology, government initiatives, and consumer preferences are key drivers of this shift in economies toward a cashless society and greater financial inclusion (Lu et al., 2022, Mansoor et al., 2013). By examining the moderating effects of viewpoints on usability, usefulness, privacy security, and customer satisfaction, the study intends to close the research gap on consumer satisfaction in Islamic banking and fintech.

To better create and sell Islamic FinTech (IFT) services in Pakistan, further study is required to understand how consumer attitudes towards IFT affect consumers' impressions of its usability, utility, privacy security, and customer happiness. The results of the survey will now assist banks in developing stricter policies for enhancing the services they provide, which is necessary to increase consumer satisfaction levels. This study aims to respond to the question: How might Islamic FinTech services raise customer satisfaction? The following questions are related to this primary query:

- What kind of relationship is between PU (perceived usefulness) and Customer satisfaction on Islamic FinTech with a moderation effect of attitude?
- How much impact is there between PEOU (perceived ease of use) and Customer satisfaction on Islamic FinTech with a moderation effect of attitude?
- What type of relationship between PPS (perceived privacy security) and Customer satisfaction in Islamic FinTech(financial technology) with a moderation effect of attitude?

2. Review of Relevant Literature

2.1. Islamic Financial Technology (Islamic Fintech)

According to the National Digital Research Centre of Ireland, fintech refers to financial service innovation that uses technology to increase productivity (McAuley, 2014). According to Chen et al. (2016), it has fundamentally changed the way donors and recipients interact, revolutionizing conventional transactions and displacing banks and other financial institutions in a variety of roles. The FinTech sector employs mobile technology to improve the effectiveness of the financial system and the emergence of traditional FinTech has had an impact on the growth of Islamic FinTech (IFT) (Kim et al., 2015). IFT provides Sharia-compliant goods so that customers can utilize them without worrying about the law. Prior literature reviews have examined factors influencing adoption and consumer satisfaction to establish customer loyalty (Barbu et al., 2021; Lim et al., 2019). FinTech has grown in importance, especially with e-wallets (Zhao et al., 2019).

Islamic banking technology must comply with Sharia law and navigate obstacles including crowdfunding, micro-lending and user- or software-based technologies. For increased

efficiency and client satisfaction, IFIs should use FinTech and work with businesses(Rabbani et al.,2020). To boost operational performance, client retention, accountability and transparency, Islamic FinTech must overcome problems in accordance with Islamic law. This calls for further research, innovative solutions, and integration with traditional FinTech (Hasan et al,.2020).

2.2. Technology Acceptance Model (TAM)

In the 1980s, Fred Davis developed the technology acceptance model (TAM) as a tool for evaluating and predicting consumer adoption of new product development models (Sancar-Tokmak et al., 2014). The Technology Acceptance Model (TAM) emphasizes the significance of perceived utility and usability in shaping technology acceptance, particularly in the context of Islamic FinTech, a financial technology that combines Islamic principles. According to studies, these characteristics have a significant impact on consumers' inclinations to utilize mobile banking services in the Islamic banking sector (Alalwan et al., 2017). Both PEOU and PU were important determinants of individuals' desire to use Islamic crowdfunding platforms. Adoption rates may rise if usability and accessibility are improved (Ayyub et al., 2020)

2.3. Perceived Usefulness:

In Bangladesh, customers' inclination to adopt Islamic FinTech services is significantly predicted by perceived utility(Hasan and Banna,2019) study. The perceived utility was found to have a considerable impact on mobile banking usage (Ahmad et al.,2020) and discovered that perceived utility affects users' intent to utilize Islamic banking services. (Alshater, M. M., et al.,2022) emphasize the importance of perceived usability and usability in influencing young entrepreneurs' intention to embrace crowdfunding in the context of Islamic FinTech.

Numerous research in the banking sector have evaluated perceived usefulness as a determinant of satisfaction and technology adoption (Hanafizadeh et al., 2014). According to research by (Sampaio et al.,2017), (Shankar et al.,2020) and (Verssimo, 2016), perceived usefulness (PU) is viewed as one of the benefits of mobile banking Apps and one of the key factors promoting customers' adoption and usage of mobile banking. Perceived usefulness has a detrimental effect on consumers' acceptance of and happiness with mobile financial services, claim Hanafizadeh et al. (2014), Sampaio et al. (2017), Verssimo (2016), and Zhang et al. (2018). Additionally, it immediately and favorably affects how people act. Consequently, the following hypotheses are developed:”

H1: There is a significant Perceived usefulness(PU) effect on Islamic FinTech Customer Satisfaction.

2.4. Perceived Ease of Use

Islamic crowdfunding platforms suggest that businesses should concentrate on making their platforms user-friendly and perceived ease of use (PEOU) is a significant predictor of Muslim customers' use of mobile banking in Malaysia and the adoption of Islamic banking in Pakistan (Ahmad et al., 2020). According to research (Hanafizadeh et al., 2014; Zhang et al., 2018), perceived ease of use and customer satisfaction with mobile banking applications are positively correlated. According to Zhang et al. (2018), increased app usage and satisfaction are associated with higher perceived ease of use. Based on their study of adult Bank of Portugal users (Hanafizadeh et al., 2014; Zhang et al., 2018), (Verissimo, 2016) discovered that simplicity in mobile banking has a favorable effect on customer satisfaction. According to studies, consumer happiness is positively impacted by mobile banking's simplicity. This

study (Hasyim et al., 2023; Khaliq et al., 2022).) emphasizes the significance of perceived usability in the adoption process of Sharia FinTech services. Thus, based on this literature, the following hypothesis is proposed:

H2: There is a significant perceived Ease of Use(PEOU) on Islamic FinTech Customer Satisfaction.

2.5. Perceived Privacy Security

Research demonstrates that the adoption of Islamic FinTech services such as mobile banking and Islamic crowdfunding is significantly influenced by perceived privacy and security, particularly ethical and shariah criteria. The study found that concerns about security and privacy played a significant role in the adoption of Islamic crowdfunding platforms(Alam et al., 2021).

Customers who do financial transactions online value security. Using a secure platform, (Sampaio et al., 2017) prevented the leakage of sensitive data (Jebarajakirthy et al., 2020). Indian users are discouraged from adopting mobile banking apps because they perceive them as risky. Device, network, and mobile payment-enabling application security are all part of mobile and wireless environment security (Singh & Srivastava, 2018). A sense of safety has a beneficial impact on customer satisfaction (Sampaio et al., 2017; Shankar et al., 2020; Ali & Ali, 2011). Zhang et al. (2023) investigate how consumer intentions to use fintech services are influenced by perceptions of utility, usability, and data security. Thus, the following hypothesis is proposed:

Hypothesis 3: Perceived privacy security(PPS) has a positive impact on Islamic FinTech customer satisfaction.

2.6. Customer Satisfaction

Customer satisfaction was first proposed by (Chen et al.,2012) examined customer satisfaction in FinTech banking. According to (Sampaio et al.,2017), contentment is essential for service repurchase on virtual platforms and is influenced by characteristics including speed, cost, and security. The impact of clients' impressions of Islamic banking services on satisfaction and word-of-mouth is highlighted in the study by (Rahman et al., 2023). It focuses on how crucial it is to raise the level of security, ethical responsibility, and customer service in Islamic financial institutions. (Alnsour, 2022) emphasizes how fintech helps to build client trust and loyalty. According to (Alonso-Dos-Santos et al., 2020), the level of satisfaction with prior encounters affects how frequently people utilize mobile banking. In the Technology Acceptance Model (TAM), highly satisfied users are more likely to stick with the system (Alonso-Dos Santos et al.,2020).

2.7. Attitude towards FinTech

According to research by (Gupta et al., 2017), customers' intentions to adopt new technologies are greatly influenced by their attitudes. The attitude of bank consumers affects how much they value banking services, according to (Amin et al., 2014). (Koroleva, 2022) explores attitudes towards fintech services among digital immigrants and natives, the ease of use among millennials, and the changing attitudes during the pandemic.

H4. The relationship between PU(perceived usefulness) and Islamic FinTech Customer satisfaction is positively moderated by attitude.

H5: The relationship between PEOU(perceived use of use) and Islamic FinTech Customer satisfaction is positively moderated by attitude.

H6: The relationship between PPS(perceived privacy security) and Islamic FinTech Customer satisfaction is positively moderated by attitude.

3. Methodology

3.1. Data Collection

Using demographic, sample and data-gathering approaches, the study evaluated the accuracy and dependability of the tool. Issues with reliability and validity were overcome despite difficulties. Along with descriptive and analytical approaches, both secondary and primary sources were utilized. A five-point Likert scale questionnaire was utilized. A convenience sample approach was used to choose Meezan Bank and Alfalah Bank, the two biggest Islamic banks in Pakistan. A total of 1,000 surveys were distributed, and 450 of them were examined

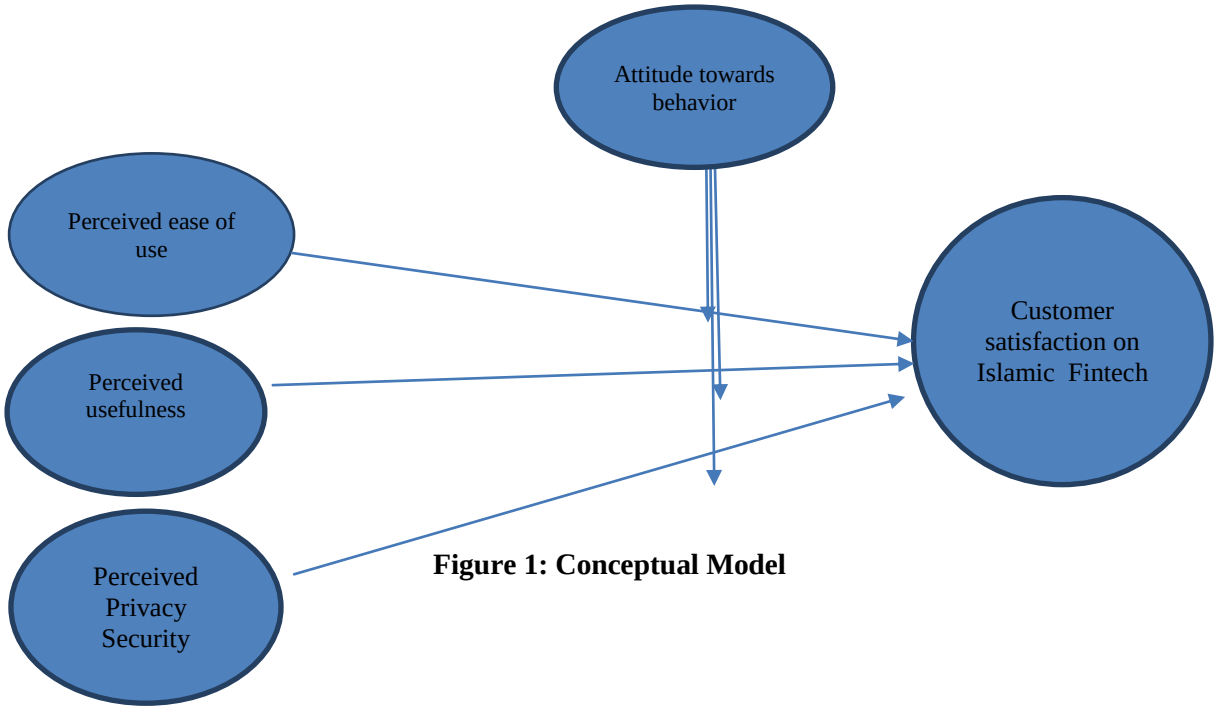

Figure 1: Conceptual Model

3.2. Response Rate and Data Screening

1000 questionnaires were given to important cities in Pakistan as part of a study on the country's Fintech users. With 650 questionnaires returned, a response rate of 65% was reached. There were 450 samples left for data analysis, 200 of which were incomplete. Identification of missing data, subjectivity, outliers, and multi-collinearity are all parts of the study's data screening process.

3.3. Internal Consistency Reliability

The research model is internally consistent and reliable when the composite reliability value for each construct exceeds 0.7. The composite reliability values of the variables in this investigation which range from .692 to .850 are shown in Table 4.1. In light of this, it is determined that the variable items possess adequate internal consistency and reliability. The

factor loadings of the items across several research constructs are used to analyze the indication reliability. When the value is in the range of 0.5 to 0.7, it is acceptable. According to (Harrison, 2010), the factor loading values listed in Table 4.1 are greater than 0.5 and range from .521 to .937.

3.4. Measurement Model Assessment

The study framework's provided constructs' quality is shown by the measurement model. Factor loadings, construct validity, and reliability are the criteria for a good measurement model.

3.5. Indicator multicollinearity

Utilizing the VIF which is acceptable up to 5, the multicollinearity of the study's independent variables is evaluated. Although multicollinearity is not an issue, the VIF values for each predictor are below the benchmark, demonstrating the validity and dependability of the study.

3.6. Factor Loadings

The factor loadings show the degree of connection between all the variables included in the study and the main variable. According to (Pett et al., 2003), the factor loading value increases in direct proportion to the degree of the items' associations with the main construct. There is a sufficient relationship between the variables' items according to the outcome presented in the table below since no factor loading value is lower than 0.50 (Hair et al., 2016). Therefore, based on the information from the current investigation, no item needed to be eliminated from the study data.

3.7. Reliability Analysis

Replicating the study's outcomes is ensured by the consistency and stability of the study instrument (Mark, 1996). Common methods for judging instrument dependability include Cronbach alpha and composite reliability. Construct dependability of the study results is further demonstrated by the values of both measures, which are both over the cutoff of 0.7.

Table 1: Reliability, AVE, Loadings, VIF

Construct	Items	Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	VIF
Attitude towards Behavior	ATTI1	0.884	0.797	0.870	0.635	2.160
	ATTI2	0.521				1.159
	ATTI3	0.867				2.641
	ATTI4	0.857				2.186
Perceived Ease of Use	PEU1	0.794	0.850	0.909	0.771	2.165
	PEU2	0.812				2.284
	PEU3	0.737				1.882
	PEU4	0.794				2.142
	PEU5	0.669				1.147
Perceived Privacy Security	PPS1	0.837	0.827	0.874	0.582	1.899

	PPS2	0.795				1.324
	PPS3	0.838				1.844
Perceive Usefulness	PU1	0.618	0.765	0.864	0.679	1.175
	PU2	0.866				2.245
	PU3	0.814				2.210
	PU4	0.568				1.165
Customer Satisfaction in Fintech	SAT1	0.765	0.692	0.814	0.529	1.553
	SAT2	0.922				3.280
	SAT3	0.937				3.597

3.8. Discriminant Validity

When the average variance square root value surpasses the actual value and the correlation is less significant, the Forner-Larker criteria demonstrate discriminant validity, which measures mutually exclusive variables (Bagozzi et al., 1991). Additionally, as seen in Table 4.1 below, each item factor loadings are highest on the related construct. The discriminant validity of the study variables is explained by the fact that the HTMT depends on the evaluation of the correlation between research variables. The threshold value for HTMT has been mentioned by a number of researchers (Kline, 2011; Cheah et al., 2018), for example, 0.85 or less and a maximum of 0.90 or less.

Table 2: Discriminant Validity

	ATB	**CSFT**	**PEU**	**PPS**	**PU**
Attitude towards Behavior	0.797				
Customer Satisfaction in Islamic FinTech	0.277	0.878			
Perceived Ease of Use	0.142	0.330	0.763		
Perceived Privacy Security	0.067	0.180	0.240	0.824	
Perceived Usefulness	0.222	0.334	0.286	0.106	0.728

Table 3: Heterotrait-Monotrait Ratios (HTMT)

	ATB	**CSFT**	**PEU**	**PPS**	**PU**
Attitude towards Behavior					
Customer Satisfaction in Islamic FinTech	0.338				
Perceived Ease of Use	0.179	0.346			
Perceived Privacy Security	0.088	0.207	0.293		
Perceived Usefulness	0.286	0.425	0.417	0.167	

3.9. Hypotheses Testing Direct Relationships

A dependent variable, customer happiness, and three independent variables, perceived ease of use (PEU), perceived usefulness (PU), and perceived privacy security (PPS), are used in the study to investigate customer satisfaction in fintech. PEU and CSAT have a statistically

significant positive relationship, with a coefficient value of 0.243 suggesting a change in PEU of 24.3% for a change in CSAT of 1 unit. When PEU changes by 1%, CSAT changes by 25.3%, and when PEU changes by 5%, CSAT changes by 10.2%. All direct association hypotheses are accepted by the study. The results indicate that PEU and PU improvements have a considerable positive impact on customer satisfaction in Islamic fintech. All direct relationship hypotheses are acceptable.

Table 4: Hypotheses Testing (Direct)

Hypothesis	Coefficient	Standard Deviation	T Statistics	P Values	Decision
Perceived Ease of Use -> Customer Satisfaction in Islamic FinTech	0.243	0.046	5.264	0.000	Supported
Perceived Privacy Security -> Customer Satisfaction in Islamic FinTech	0.102	0.050	2.033	0.043	Supported
Perceived Usefulness -> Customer Satisfaction in Islamic FinTech	0.253	0.053	4.772	0.000	Supported

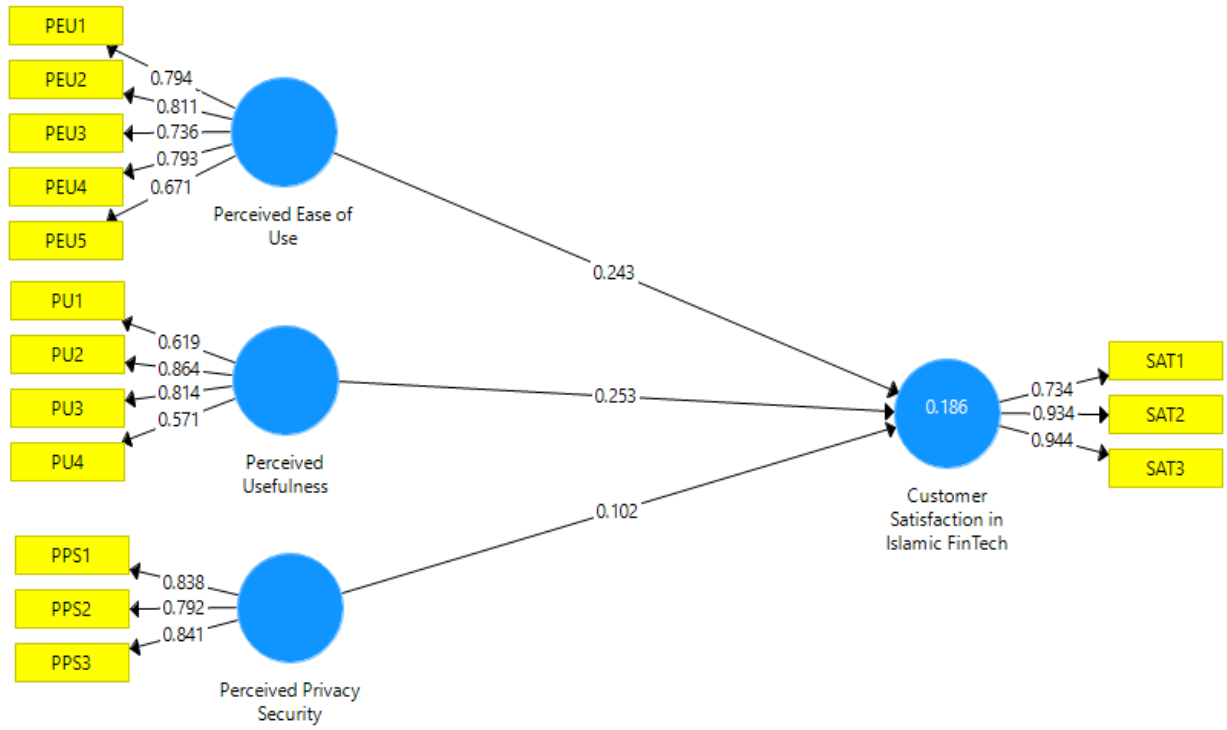

Figure 2: Graphical Representation of Direct Relationship Model

3.10. Overall Model With Moderation Hypotheses

The moderating impact of Attitude Towards Behaviour (ATB) in fintech is illustrated in Table 4.5. Customer satisfaction in fintech is significantly impacted by PEU_ATB, PU_ATB, and PPS_ATB, with moderation influencing direct relationships. According to the findings, consumer satisfaction in fintech is highly influenced by PEU_ATB, PU_ATB, and PPS_ATB

Table 5: Overall Model with Moderation Hypotheses

	Coefficient	Standard Deviation	T Statistics	P Values	Decision
Attitude Towards Behavior -> Customer Satisfaction in Islamic FinTech	0.300	0.115	2.611	0.048	Supported
PEU_ATB -> Customer Satisfaction in Islamic FinTech	0.072	0.103	3.699	.0140	Supported
PPS_ATB -> Customer Satisfaction in Islamic FinTech	-0.099	0.120	5.821	0.002	Supported
PU_ATB -> Customer Satisfaction in Islamic FinTech	0.149	0.089	3.685	0.014	Supported
Perceived Ease of Use -> Customer Satisfaction in Islamic FinTech	0.336	0.114	2.938	0.032	Supported
Perceived Privacy Security -> Customer Satisfaction in Islamic FinTech	0.191	0.086	2.234	0.038	Supported
Perceived Usefulness -> Customer Satisfaction in Islamic FinTech	0.012	0.116	4.388	0.004	Supported

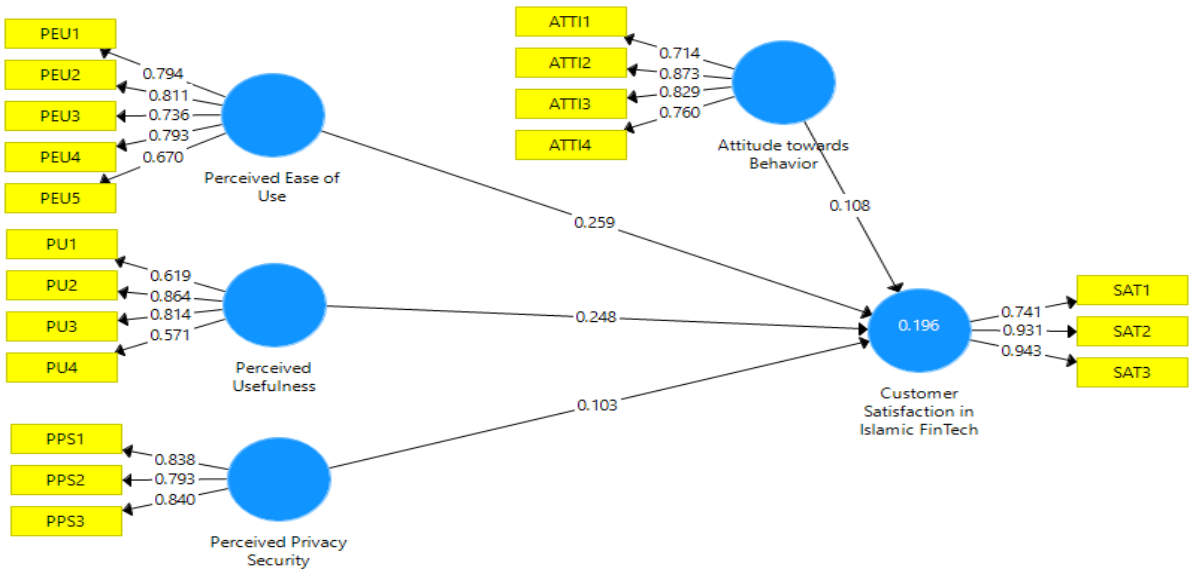

Figure 3: Graphical Representation of Model

4. Discussion and Findings

In Pakistan, the Islamic Fintech sector is expanding quickly, with consumer happiness, privacy security, and usability all playing a role in adoption. Customer satisfaction and adoption rates have grown as a result of the user-friendly mobile banking applications offered by Meezan Bank and Al Baraka Bank Pakistan that enable bill payments, transfers, and account balance checks. Previous research has shown that individuals are most likely to adopt a technology if it is beneficial and simple to use (Venkatesh et al., 2003).

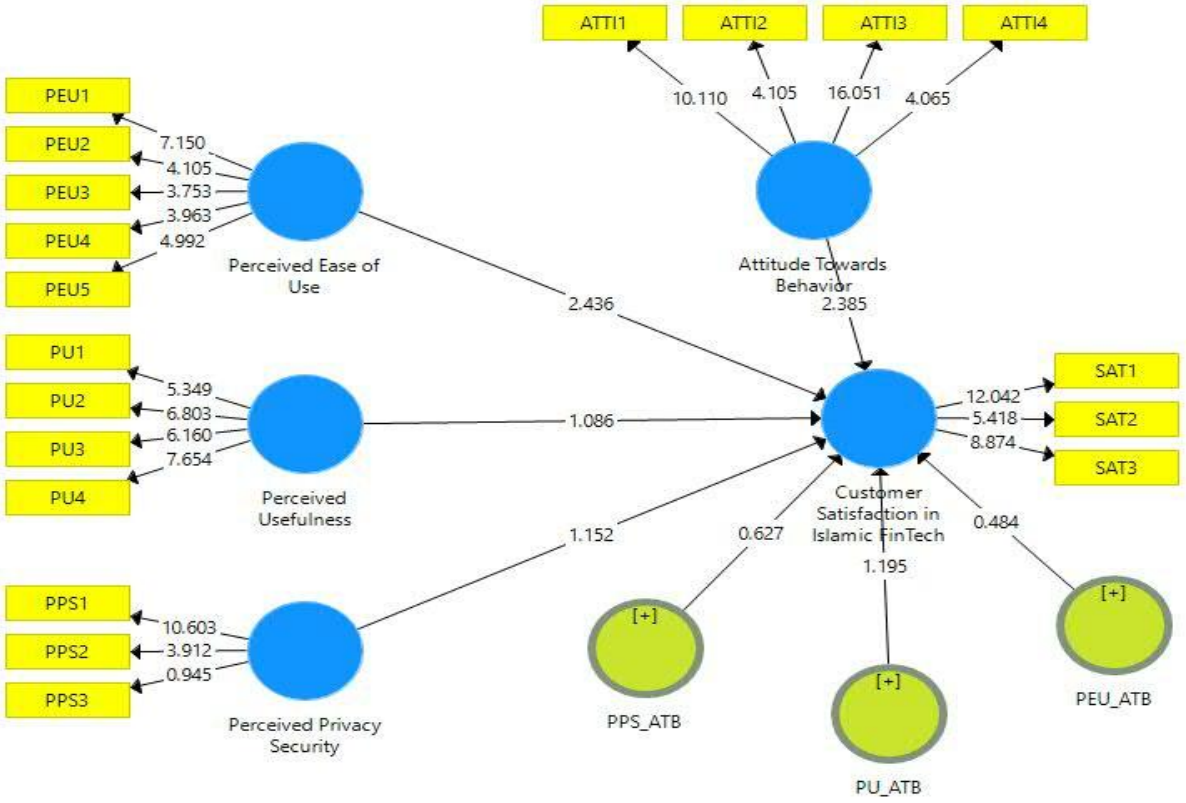

Figure 4: Graphical Representation of Overall Model

Customer satisfaction which fosters loyalty and positive word-of-mouth recommendations, is essential for corporate success. Islamic fintech businesses in Pakistan put the requirements of their clients first, providing specialized services and round-the-clock support. High levels of satisfaction have an impact on Islamic FinTech's operations, attitudes, and adoption rates. FinTech's development potential and how Islamic banking may change as a result are examined (H. Dawood, 2022).

With an emphasis on the adoption of Islamic Fintech, (Qudah et al.,2023) investigate the connection between Fintech and Islamic financing in Pakistan. (Ali and Sial, 2020). They stress the significance of religious compatibility and adoption rates are influenced by factors like usability, privacy security and consumer satisfaction. These variables have tempered views towards the adoption of Islamic Fintech despite a lack of confidence (Ali et al., 2020; Shah et al., 2021). To reduce poverty, the study recommends focusing on vulnerable populations, encouraging financial literacy, enforcing rules and putting strict security measures in place. It also advocates adding sustainability, ethical frameworks, and cross-cultural understanding.

5. Conclusion and Recommendations

The study looks at how Islamic FinTech (IFT) in Pakistan relates to consumer satisfaction, perceived privacy security, usability and convenience of usage. It was discovered that helpful and straightforward services are more appreciated, with perceived privacy and security suffering the most (Alalwan et al., 2017) & (Al-Khateeb et al., 2018). The attitudes people have towards IFT influence these connections. According to the Technology Acceptance Model (TAM), attitudes affect how perceived utility, ease of use, and behavior attitude are

related to one another. According to the study, Pakistani IFT firms should give user-friendly, private and secure services top priority while taking into account the opinions of various consumers. The findings support efforts to increase financial inclusion and apply to the local market.

5.1. Limitations and Future Recommendations

The study on Pakistani customers' satisfaction with Islamic FinTech has limitations, including limited generalizability and focusing primarily on four variables that affect customer satisfaction. Competition, regulatory issues, a lack of funding, inadequate teamwork, changes in consumer behavior, infrastructure issues with IT systems, cyber security issues, and data protection issues are a few of the challenges. To overcome these obstacles, traditional financial institutions and Fintech businesses must collaborate while also developing to satisfy new customer expectations and resolve operational issues (H. Qudah et al., 2023).

Future research should include user experience design, new trends, financial inclusion, dynamics of trust, regulatory environment analysis, competition, long-term consequences, comparative studies, behavioral analysis, privacy and ethical concerns, and social and economic impacts.

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