



Nexus between Fintech Adoptability and Customer's Perception towards Fintech in the Islamic Banking Industry

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ABSTRACT

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The prime motive of the study is to investigate the relation between customers' perceptions towards FinTech and its capacity to be adopted in Pakistan's Islamic banking industry. Additionally, it looks into how open customers are to embracing and using FinTech services in the Islamic banking industry. In order to full fill the motive of study, the primary data was collected from 385 clients of five Islamic banks operating in District Haripur, Pakistan. Structural equation modeling (SEM) and partial least square path modeling were used to analyze the data and test the hypotheses. Study found that customers' perceptions of FinTech adoption are strongly influenced by value earned, usefulness, safety, trust, and ease of use, whereas risk has only a little impact. Study recommends that Islamic banks need to strengthen FinTech to boost customer trust. Study also provide insights to decision makers and regulators in Islamic banking industry to ensure the provision of sound FinTech for its customers.

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1. Introduction

Due to the rapid development of FinTech, the financial sector, particularly the Islamic banking industry is going through substantial changes. For financial institutions to remain competitive and adjust to the changing global scene, Fintech has become essential (H. Ali, Mohamed, Hashmi, & Abbas, 2019). In this disruptive environment, the banking sector—particularly the Islamic banking sector—must embrace digital transformation to attract new customers and seize development opportunities. FinTech acts as a cutting-edge platform that supports the entry of new businesses into the market and fosters product innovation. It incorporates numerous novel features like peer-to-peer (P2P) transactions, blockchain, cryptocurrency, crowdfunding, regulatory sandbox, and digital currency like Bitcoin (Oladapo, Hamoudah, Alam, Olaopa, & Muda, 2022). These advancements in FinTech enable faster online payment channels and provide convenient and cost-effective services. FinTech has become a significant force for change in the financial markets, disrupting conventional corporate practices. For traditional financial institutions in Pakistan's Islamic banking sector to remain competitive and experience sustainable growth in the digital age, FinTech adoption is essential. By embracing new technology, Islamic banks can improve efficiency, enhance performance, and create a positive customer experience (Zouari & Abdelhedi, 2021). FinTech in the Islamic banking industry of Pakistan facilitates cost-effective and convenient financial services, improving customer convenience and leading to market growth.

The fintech sector in the banking industry has seen its potential, and various studies have looked at the factors influencing the adoption of fintech services using theories like the

technology acceptance model (TAM) and the theory of planned behavior (TPB). However, there is a research gap in understanding the perceptions of customers in the Islamic banking industry, particularly in developing countries, and limited studies have explored this using a combination of these theories. By examining the adaptation of FinTech and examining the Value earned, Usefulness, Safety, Risk, Trust, and Ease of Use in the Pakistani Islamic banking sector, this study seeks to fill this gap. The study examines the direct relationship between Value earned, Usefulness, Safety, Risk, Trust, Ease of use, and Customers' Perception to adopt FinTech by integrating determining elements from both the Technology Acceptance Model (TAM), and Theory of Planned Behavior (TPB) models. The article focuses on filling the research gap and providing insights into the customer's perception and adaptability of FinTech in the Islamic banking industry of Pakistan. The paper offers beneficial details to management, regulatory agencies, and policymakers about consumer attitudes and FinTech adoption in the Islamic banking sector. The study acknowledges the significance of comprehending customer perspectives in order to build their trust, increase their spending, and foster awareness and knowledge sharing regarding FinTech adaptation in the Islamic banking sector. This study aims to accomplish following key objectives;

1. To examine the factors influencing customers' perception towards FinTech in the Islamic banking sector.
2. To examine the relation between customers' perception and the acceptance of FinTech in the Islamic banking industry.
3. To offer practical implications for policymakers, regulators, Islamic banks, and FinTech companies to foster the adoption of FinTech and enhance customer satisfaction.
4. To broaden knowledge of the purpose and impact of FinTech in the Islamic banking sector, particularly in the context of Islamic banking sector of Haripur, Pakistan.

While keeping the aforesaid description of key components of study along with research objectives into consideration, the study addresses the following research problem;

"The rapid growth of FinTech in the Islamic banking sector of Pakistan has created a need to understand the factors influencing the adoptability of FinTech solutions and how they relate to customers' perception. Despite the increasing availability and usage of FinTech services, there is a lack of research exploring the specific nexus between FinTech adoptability and customers' perception in the context of Islamic banking industry of Pakistan".

2. Literature Review

The FinTech industry has undergone significant growth and transformation since 2014, reshaping the global financial landscape and promoting financial inclusion. The rise of financial technology (FinTech) and the digitization of transactions have garnered significant attention from regulatory bodies within the financial industry in Pakistan. The application of Artificial Intelligence (AI) has emerged as a pivotal advancement in FinTech, disrupting traditional labor-intensive working models and transforming the sector in the country (Zhou, Yang, Hyman, Li, & Munim, 2022). Even though it is still in its nascent stages, the adoption of AI technology has allowed some businesses to reposition themselves as digital-centric, creating specific FinTech departments to increase their market share. As a result, Pakistan's financial sector is expanding quickly, with the banking industry being notably affected by the growth of fintech (Oladapo et al., 2022). To adapt to the changing landscape, Pakistani banks have embraced industry dynamics by innovating their own business practices and collaborating with local FinTech start-ups (Rizvi, Naqvi, & Tanveer, 2018). These collaborations have produced ground-breaking solutions to meet the changing demands of customers in Pakistan's banking industry. By leveraging technology and partnering with FinTech firms, Pakistani banks aim to enhance their service offerings and improve customer experiences. Pakistan is well-positioned to gain greatly from the FinTech market due to its robust market, sizable population, and businesses that deal with consumers model (B2C). The availability of internet access throughout the country further enhances its potential for unique economic growth opportunities. As the Islamic banking sector in Pakistan continues to explore the adoption of FinTech, there is a clear link between the adoptability of FinTech solutions and customers' perceptions. Understanding and addressing these perceptions will be crucial for the successful integration of FinTech within the Islamic banking industry in Pakistan. By aligning customer expectations with the offerings of FinTech solutions, Pakistani banks can drive greater

acceptance and adoption of these technological advancements in the financial sector. According to the statistics of Year-2022, the Islamic banking sector in Pakistan demonstrated robust growth in transactional terms. The total assets of the Islamic banking industry in Pakistan reached PKR 7.2 trillion. Islamic banking deposits grew significantly, reaching PKR 5.2 trillion. Assets in the Islamic banking sector increased by 29% from one year to the next. The number of dedicated Islamic banking branches increased to 4086, reflecting the expansion of Islamic banking services across the country (SAEED, 2022). The State Bank of Pakistan (SBP) introduced its own FinTech regulatory framework, complete with recommendations to efficiently manage emerging risks while stimulating innovation, after realizing the influence of financial technology (FinTech) in the financial services sector (Rana, Zulfiqar, & Masuad, 2023).

An important step in fostering an environment that would support the expansion and development of FinTech in Pakistan has been reached with the adoption of the State Bank of Pakistan's (SBP) FinTech regulatory framework (SBP, 2022). Notably, this legal framework offers the Islamic banking industry a fantastic chance to fully utilize FinTech in order to provide its clients with cutting-edge, Shariah-compliant financial goods and services. The advantages of embracing FinTech are plainly obvious within the context of Islamic banking. First of all, FinTech integration enables Islamic banks to automate processes, streamline operations, lower costs, and improve efficiency while also improving the entire client experience (Alam, Gupta, & Zamani, 2019). By modernizing, Islamic banks are able to compete in a financial environment that is always changing. Additionally, Islamic banks can now reach a wider audience, especially among the unbanked and underbanked sections of society, thanks to the adoption of FinTech. Islamic banks can serve a wider range of customers while respecting the principles of Shariah by providing convenient, reachable, and inexpensive financial solutions (Alam et al., 2019). FinTech, crucially, makes it easier to adhere to Shariah rules and principles. Smart contracts, blockchain, and artificial intelligence are cutting-edge technologies that improve financial transaction transparency, accountability, and trustworthiness while smoothly integrating with Islamic banking principles (Rabbani et al., 2021). Furthermore, by offering new forms of finance, investment, insurance, and payment that uphold Islamic principles, FinTech enables Islamic banks to broaden their product portfolio (Adznan, 2018). Along with enhancing the sector's services, this diversity assures its ongoing relevance in a financial environment that is undergoing fast change.

The positive developments in the Pakistani financial sector, coupled with the increasing awareness and adoption of FinTech solutions, are expected to drive the growth of FinTech transactions in the country (Ahmad, Sohail, & Hussain, 2021). As Islamic banking holds a prominent position in Pakistan's financial ecosystem, there is a growing emphasis on integrating Shariah-compliant FinTech solutions. The Islamic banking sector in Pakistan must adopt digital initiatives, encourage collaborations, and increase its knowledge and exposure if it wants to take the lead in the rapidly growing FinTech services. This strategy is in line with the advice provided by the State Bank of Pakistan (SBP) which stress the significance of adhering to Shariah principles while implementing cutting-edge business methods (WASIM, BIN, & FAROOQ, 2021). By embracing FinTech, Islamic banking institutions in Pakistan can cater to the evolving requirements and tastes of their clients. Building trust and enhancing customer perception towards FinTech solutions are crucial for the development of the country's Islamic banking industry on a sustained basis (Alam et al., 2019). As more customers recognize the value and benefits of FinTech, the adoption rate is expected to rise. The research being considered aims to determine the nexus between Fintech adoptability and customer's perception towards Fintech in Islamic banking sector of Pakistan.

3. Theoretical Foundation and Research Framework

Many theoretical models have offered fruitful viewpoints on how users respond to technological improvements. The Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), and Technology Acceptance Model (TAM) have distinguished themselves as the most widely applied frameworks among these approaches (Ajzen, 1980). The Theory of Reasoned Action, developed by Martin Fischbein and Icek Ajzen, has broad applications in a variety of academic areas. The Theory of Reasoned Action (TRA) distinguishes itself from other cognitive theories by focusing on how an individual's intention influences their behavior, specifically regarding their acceptance of a particular action (Bagozzi, 2007). In the context of this article, TRA provides a lens through which to analyze the customer's perception and behavioral intentions regarding the adoption of FinTech within Pakistan's Islamic banking

sector. According to TRA, customers' attitudes towards adopting FinTech in Islamic banking can be influenced by their beliefs about the benefits it offers, such as convenience, efficiency, and accessibility. Additionally, client intentions to adopt FinTech are greatly impacted by ease of use, which includes social pressures and normative pressures (Bagozzi, 2007). The focus of this theory is on perception and how an action could result in the demonstration of a specific behavior, which leads to a greater knowledge of human behavior (Ajzen, 1980).

The addition of a new component known as perceived behavioral control allows the Theory of Planned Behavior (TPB) to build upon the Theory of Reasoned Action (TRA) (S. Y. Yousafzai, Foxall, & Pallister, 2010). According to TPB, people's behavioral intentions are influenced by their perceptions of control over the activity as well as their views and subjective norms. In the context of this article, examining TPB becomes essential to understand customers' perceptions and intentions regarding the adoption of FinTech services within Islamic banking sector in Pakistan. Customers' perceived behavioral control over adopting FinTech services becomes a crucial factor, encompassing elements such as their confidence in utilizing technology, trust, usefulness, risk perception, ease of use, value gained, safety, and compatibility of FinTech solutions with their needs and values. Customers who perceive a higher level of control and believe they can effectively utilize FinTech in the Islamic banking context are more likely to exhibit a stronger inclination to adopt these services (Oladapo et al., 2022).

In the area of information systems research, Fred Davis' Technology Acceptance Model (TAM) is a well-known concept that focuses on the variables affecting people's adoption and acceptance of technology (Malhotra & Galletta, 1999). According to TAM, perceived usefulness and perceived Ease of Use are the main factors affecting people's inclinations to utilize a certain technology (Muchran & Ahmar, 2019). Applying TAM to the article's context provides insights into how customers perceive the usefulness, risk, trust, safety, ease of use, and value gained from FinTech in Pakistan's Islamic banking industry. Customers' perceptions of the usefulness of FinTech include factors such as convenience, efficiency, improved access to Islamic financial products, and enhanced customer experience (Darmansyah, Fianto, Hendratmi, & Aziz, 2020). Risk, trust, and safety considerations encompass elements such as data security, operational risks, system failures, reliability, reputation, security measures, unauthorized access, fraud, and misuse. Perceived ease of use involves factors like the simplicity of the user interface, availability of support and guidance, and compatibility with existing banking practices (Ozturk, Bilgihan, Nusair, & Okumus, 2016).

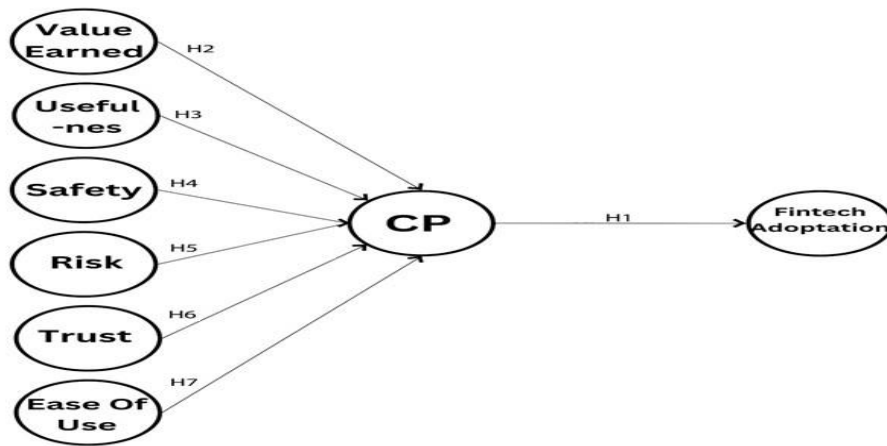
By combining TRA, TPB, and TAM, the article can delve into the intricate relationship between FinTech adoptability and customers' perceptions towards FinTech in Pakistan's Islamic banking sector. These theories offer a framework for identifying the crucial elements affecting consumers' perceptions and intents with regard to the adoption of FinTech solutions in Pakistan's Islamic banking sector. Here, each key variable that will be employed in this study is discussed in light of the TRA, TPB, and TAM theories.

Based on their complimentary roles in comprehending Fintech adoption, the Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), and Technology Acceptance Model (TAM) were chosen for this study. TRA was selected to investigate how attitudes and social norms affect people's intentions to use FinTech. TPB takes this a step further by taking into account perceived behavioral control, which reflects people's confidence in utilizing Fintech. TAM, a technology adoption model, concentrates on perceived utility and usability, two important elements driving Fintech acceptance. These theories complement one another well: TPB adds practical control issues, TRA digs into psychological factors, and TAM provides a technology-specific viewpoint. By bridging the gap between attitudes, social norms, perceived control, and technological adoption, this all-encompassing methodology provides a detailed assessment of the elements driving Fintech adoption in Pakistan's Islamic banking sector.

In this study, the dependent variable is "Fintech adaptation," and the independent variables are "Value Earned," "Usefulness," "Safety," "Risk," "Trust," "Ease of Use," and "Customer Perception towards FinTech adaptation." Customer perception of FinTech adoption is a key component that is driven by attitudes, subjective norms, perceived behavioral control, perceived utility, and perceived ease of use (TRA, TPB, and TAM). As people assess the

advantages they receive from adopting Fintech, Value Earned may be linked to the perceived utility (TAM) of the technology. Attitudes (TRA) and perceived utility (TAM) are two variables that may be used to relate safety and risk. The impression of risk and attitudes toward safety may have an influence on how beneficial Fintech is considered. Trust may influence attitudes (TRA) and perceived usefulness (TAM), among other things. An individual's attitude and impression of how useful Fintech is might be influenced by their trust in the suppliers of that technology. By offering a systematic method for evaluating how these ideas and factors interact in the context of Fintech adaptation, this theoretical framework directs the research. It enables a thorough examination of the factors that influence people's decisions to accept or reject Fintech, taking into account their attitudes, social norms, perceptions of control, utility, and usability. In light of the foregoing analysis of the literature and by incorporating TRA, TPB, and TAM theories into the context of Pakistan's Islamic banking industry, Following is the conceptual framework developed for study under consideration;

Figure 1:



Variables taken in Figure-1 are explained here along with their respective indicative hypotheses;

3.1. FinTech Adaptation

Customer view of FinTech services is greatly influenced by how well it is adopted in Pakistan's Islamic banking industry. In order for Islamic banks to remain competitive and satisfy client expectations as technology continues to change the financial terrain, they must employ cutting-edge solutions (Zouari & Abdelhedi, 2021). Understanding FinTech adoptability and customer perception is crucial for Islamic banks to strategize effectively and drive adoption. By enhancing customer experience, banks can succeed in the rapidly growing FinTech sector. The history of FinTech adoption in the Islamic banking sector of Pakistan showcases a gradual but steady progression (M. S. Khan, Rabbani, Hawaldar, & Bashar, 2022). To fulfill the growing need for convenient and accessible financial services, Islamic banks in Pakistan have embraced technology and are offering FinTech-driven solutions that correspond to Sharia. Digital channels, mobile apps, and online payments cater to tech-savvy customers' preferences (Alam et al., 2019).

Positive customer perception towards FinTech services encourages higher adoption rates, while the adoption of FinTech solutions enhances customer experience and perception (Roh, Yang, Xiao, & Park, 2022). When customers perceive FinTech services as convenient, secure, and in alignment with their personal values, they are more inclined to accept and integrate these services into their financial practices (Karim et al., 2022). Conversely, negative customer perception, often driven by concerns about security, privacy, or a lack of awareness, can hinder the adoption of FinTech in the Islamic banking sector (Razzaque, Cummings, Karolak, & Hamdan, 2020). Islamic banks may improve customer perception and promote FinTech adoption by resolving customer issues, offering helpful education, and creating flawless user experiences. This would ultimately help the sector in Pakistan develop and succeed.

3.2. Customer Perception (CP) and FinTech Adoption

Customer perception refers to the beliefs, opinions, attitudes, and expectations held by customers towards a product, service, or brand (Kang & Hustvedt, 2014). It is a subjective evaluation affected by a number of factors, including the quality of the product, pricing, marketing messages, and overall customer experience (Beneke, Flynn, Greig, & Mukaiwa, 2013). The way customers perceive a business can significantly affect their behavior, including purchase decisions and brand loyalty. Positive perception fosters satisfaction and loyalty, while negative perception leads to lost sales and a damaged reputation (Aulia, Sukati, & Sulaiman, 2016). Managing and understanding customer perception is crucial for businesses to maintain a positive reputation and achieve customer satisfaction. Factors like product/service quality, pricing, and marketing messages play a vital role in shaping customer perception (Siswati & Widiana, 2021). Businesses must make sure their goods and services comply with or exceed customer expectations for quality, maintain a competitive pricing strategy, and use successful marketing tactics to foster positive opinions. It directly affects customer behavior, influencing their purchase decisions, loyalty, and overall satisfaction. Understanding and managing customer perception is crucial for maintaining a positive image and long-term success. By prioritizing factors such as product quality, pricing, marketing messages, and customer experience, businesses can shape a positive perception and cultivate a loyal customer base (Khadka & Maharjan, 2017).

Customer perception of FinTech is influenced from a variety of sources, including demographics, financial literacy, and concerns regarding security, privacy, and trust. Young customers show a greater inclination towards digital payment systems, while older customers tend to prefer traditional banking methods (Windasari, Kusumawati, Larasati, & Amelia, 2022). Additionally, customers with higher levels of financial literacy hold more positive perceptions towards peer-to-peer lending (Oladapo et al., 2022). Convenience, accessibility, and lower transaction costs are seen as positive attributes of FinTech, while concerns about security, privacy, and regulatory issues contribute to negative perceptions (H.-S. Ryu, 2018b). By giving consumers precise details about what they offer, providing efficient customer service, and placing a high priority on security and privacy safeguards, FinTech companies can concentrate on improving consumer perception. (Fosso Wamba, Kala Kamdjoug, Epie Bawack, & Keogh, 2020). Collaborating with established financial institutions can also help build credibility and gain regulatory approval. By implementing these strategies, FinTech companies can improve customer perception, which is vital for long-term success in the industry (Wewege, Lee, & Thomsett, 2020).

The future outlook for customer perception of FinTech is positive, with significant growth expected in the coming years. The demand for FinTech services is projected to rise as more individuals become accustomed to using digital financial services (Bhat, AlQahtani, & Nekovee, 2023). However, as the market expands, maintaining consumer confidence will be a key challenge. FinTech firms must ensure high-quality, secure, and customer-centric services to meet evolving expectations and stay competitive in this rapidly growing industry. Keeping the importance of customer perception and FinTech adaptability, study intends to test following hypothesis;

H1: There is a positive relationship between Customer perception and Fintech Adaptation

3.3. Value Earned (VE) and Customer Perception (CP)

Value earned and customer perception play pivotal roles in driving FinTech adoption. Value earned refers to the benefits customers derive from FinTech products or services, such as cost savings, faster transactions, and enhanced accessibility to financial services (Lee & Shin, 2018). On the other hand, customer perception encompasses the assessment of a financial product or service's worth and quality, influenced by factors like company reputation, user interaction, and responsiveness of customer care (Hu, Ding, Li, Chen, & Yang, 2019). When customers perceive that they are receiving greater value for their money and have trust in the reliability and credibility of the FinTech organization, their likelihood of adopting FinTech products and services increases. Positive perceptions of value and trust were found to influence how widely mobile payment services are used (Liu, Kanso, Zhang, & Oлару, 2019). These results demonstrate the significance for FinTech organizations to prioritize the

delivery of value to customers and cultivate trust and positive perceptions through effective branding, user experience, and customer support. By doing so, they can establish a positive cycle of value and perception that fosters increased customer adoption and long-term loyalty. Keeping in view the importance of value earned and customer perception, study intends to test the following hypothesis;

H2: There is a positive relationship between Value Earned and Customer Perception.

3.4. Usefulness and Customer Perception

The factors of usefulness and customer perception exert significant influence on the adoption of FinTech (Chan, Troshani, Rao Hill, & Hoffmann, 2022). Usefulness pertains to the extent to which FinTech products or services meet customer needs and facilitate the attainment of financial objectives. A positive perception of the FinTech Company establishes credibility with customers, leading to higher adoption rates. Notably, Online financial services adoption has been demonstrated to benefit from client Trust (S. Yousafzai, Pallister, & Foxall, 2009). These findings collectively suggest that FinTech companies can enhance adoption rates by focusing on the provision of practical and relevant products and services that align with customer needs in context of its usefulness. Simultaneously, fostering trust and favorable perceptions through effective branding, a positive user experience, and responsive customer service is vital. By establishing this positive feedback loop between usefulness and customer perception, businesses can ultimately drive higher customer adoption and foster loyalty. Keeping in view the importance of Usefulness and Customer Perception, the study intends to test the following hypothesis;

H3: There is a positive relationship between Usefulness and Customer Perception.

3.5. Safety and Customer Perception (CP)

The essential factor of safety has a big impact on how customers perceive and use FinTech products and services (Hasan, Ashfaq, & Shao, 2021). Ensuring a secure environment for financial transactions is paramount as customers entrust sensitive personal and financial information to FinTech platforms. If a FinTech platform is perceived as lacking safety and security, customers may hesitate to adopt or discontinue its usage (Moussa, 2016). Research indicates that safety and security play a crucial part in customers' perception and usage of FinTech solutions. In Bangladesh, customers' adoption of mobile banking was strongly influenced by their sense of safety and security (Jahan & Shahria, 2022). Similarly, in India, customers' intention to adopt digital payment platforms was significantly influenced by their perceived safety and security (Chawla & Joshi, 2019). In conclusion, safety is an important aspect influencing how customers perceive and use FinTech products and services. To foster confidence and raise adoption rates over time, fintech companies must give priority to the installation of strong safety and security measures. Keeping in view the importance of Safety and Customer Perception, the study intends to test the following hypothesis;

H4: There is a positive relationship between Safety and Customer Perception

3.6. Risk and Customer Perception (CP)

An important factor in the adoption of FinTech is risk perception. Customers may perceive various risks associated with FinTech products or services, including financial risk, privacy risk, and operational risk (H.-S. Ryu, 2018a). Risk perception is influenced by variables such as customers' technological expertise, perceived sophistication of the product or service, and trust in the FinTech firm. To mitigate customer risk perception and enhance adoption rates, FinTech companies can take specific measures. Transparent and effective communication about the risks involved is crucial. This entails providing concise information about fees, terms and conditions, and security measures. Educational resources can be offered to help customers comprehend the risks and benefits associated with FinTech usage (Dapp, Slomka, AG, & Hoffmann, 2015). Building trust and credibility through strategic branding, optimal user experience, and robust customer support are additional approaches that may be used by Islamic banks to enhance the Fintech adoptability and customer's perception. The intricate relationship between risk and customer perception significantly impacts FinTech adoption. Fintech companies can boost adoption rates and cultivate lasting customer loyalty by comprehending the influencing factors of risk perception and proactively addressing

customer concerns. While looking at the importance of risk and customer perception towards FinTech adoption, the study intends to test the following hypothesis;

H5: There is a negative relationship between Risk and Customer Perception.

3.7. Trust and Customer Perception

The perception and use of FinTech products and services by customers are significantly influenced by their level of trust (Jünger & Mietzner, 2020). Trust refers to the belief that a particular offering will perform as expected and that the provider is reliable and trustworthy. The importance of trust increases in the overall climate of the fintech sector, where risks and uncertainties are pervasive. Customers require confirmation that their financial assets and personal information are secure (M. Ali, Raza, Khamis, Puaah, & Amin, 2021). Trust is vital in promoting FinTech usage. Customers' perception of trust has a positive impact on whether they plan to use FinTech services (Lu, Yang, Chau, & Cao, 2011). Likewise, trust significantly predicts customers' willingness to utilize online lending platforms (M. T. I. Khan, 2022). In summary, these findings underscore the need for FinTech companies to prioritize the establishment of trust with their customers to enhance adoption rates. Strategies such as investing in robust security measures, fostering transparency in practices, and delivering exceptional customer service are crucial. Through these efforts, FinTech companies can cultivate positive customer perceptions, leading to increased trust and adoption over time. Considering the importance of trust and customer perception towards FinTech adoption, the study intends to test the following hypothesis;

H6: There is a positive relationship between Trust and Customer Perception

3.8. Ease of Use and Customer Perception

The degree to which customers accept FinTech goods and services is significantly influenced by their ease of usage (Utami, Ekaputra, & Japutra, 2021). A technology's simplicity, intuitiveness, and user-friendliness are referred to as its ease of use (Brown, 2002). According to research, consumers are more inclined to adopt and use FinTech products and services that are simple to use and comprehend (Kim, Mirusmonov, & Lee, 2010). For example, the ease of use of mobile payment platforms and mobile banking services has a favorable impact on users' uptake of these services (Luarn & Lin, 2005). Customers' perceptions of how usable financial products and services are heavily influenced by their ease of use. Favorable perceptions of the brand, user experience, and customer support contribute to an enhanced perception of usability (Shahzad, Zahrullail, Akbar, Mohelska, & Hussain, 2022). In conclusion, the perceived ease of use is a crucial determinant of consumer acceptance of FinTech solutions, with customers' perspectives playing a significant role. Fintech companies can boost adoption rates by prioritizing user-friendly, intuitive experiences, establishing trust, and cultivating positive perceptions through effective branding and customer service efforts. Considering the importance of ease of use and customer perception towards FinTech adoption, the study intends to test the following research hypothesis;

H7: There is a positive relationship between Ease of Use and Customer Perception

4. Research Methodology

The study used the sample of 11 Islamic banks operating in district Haripur. Haripur district is highly industrialized district of Khyber Pakhtunkhwa Province of Pakistan and the 11 Islamic banks operating in entire Pakistan also operates in district Haripur. Since the size of population was unknown with respect to the usage of FinTech services of Islamic Banks, therefore, the Cochran formula was used to calculate the sample size for out study and the resultant number of 385 participants highlights the diversity of the population's perspectives on FinTech in the Islamic banking industry. The study employed a cross-sectional research design, and using a systematic questionnaire survey, the data was acquired. The researcher administered a questionnaire as part of the research. The respondents received adequate information about the goals of the study and how to complete the surveys. From clients that visited the bank offices for their banking needs, a random sampling procedure was utilized to choose the respondents. This approach was deemed appropriate because it gave people a good chance of being chosen, with a high tendency (Iliyasu & Etikan, 2021). The constructs were modified from previously validated items, and the study uses a five-point Likert scale to

solve the issue. The questionnaire was created to measure the variables. Details of the constructs are as follows;

Table 1: Details about Constructs and its Source of Measurement

S. No	Title of Variable	No. of Items	Source
1	Value Earned	5	(Singh, 2022)
2	Usefulness	6	(Singh, 2022)
3	Safety	5	(Singh, 2022)
4	Risk	3	(Singh, 2022)
5	Trust	3	(Singh, 2022)
6	Ease of Use	5	(Singh, 2022)
7	Customer Perception	3	(K. Ryu, Lee, & Kim, 2012)
8	FinTech adaptation	3	(Oladapo et al., 2022)

In order to test the reliability and validity of the research instruments, the study employed Cronbach's alpha in this regard. Cronbach's alpha is a widely used measure of internal consistency reliability for a set of items or questions within a research instrument or questionnaire. It assesses how closely related a set of items are as a group, indicating the extent to which the items in the instrument consistently measure the same underlying construct or concept.

Two cutting-edge statistical techniques, partial least squares path modeling (PLS) and structural equation modeling (SEM), were used to analyze the data. Using these techniques, we evaluate the interaction between the variables that are both dependent (Fintech adaptation) and independent variables (Value Earned, Usefulness, Safety, Risk, Trust, Ease of Use, Customer Perception towards FinTech adaptation and quantify their influence (Ramayah, Cheah, Chuah, Ting, & Memon, 2018). We were able to study the interaction between theory testing and prediction while enduring complicated models with numerous constructs, indicator variables, and structural paths using PLS-SEM, a novel approach, with no enacting assumptions about distribution on the data (Sarstedt, Ringle, Smith, Reams, & Hair Jr, 2014). This technique offers several advantages, including its ability to estimate intricate models and its flexibility in handling various data types.

To evaluate the model, we employed the criteria suggested by Garson (2016), which provide a thorough methodology for evaluating the analyses' overall quality and goodness-of-fit. Additionally, we utilized inner and outer equation models, which are fundamental components of PLS-SEM. Regression and path analysis were used to investigate the inner equation model, which represents the structural connections between variables. These analyses allowed us to determine the direction and magnitude of the connections between the structures. However, the associations between the observed indicators and hidden variables in the outer equation model were evaluated by correlation, descriptive analysis, and discriminant accuracy (Hair, Sarstedt, Ringle, & Mena, 2012). This made it easier to evaluate the indicators' measuring characteristics as well as the conceptions' accuracy. Additionally, using correlation analysis, we could determine the degree and direction of correlations between different variables, while descriptive analysis provided a comprehensive overview of the data distribution and key characteristics. Lastly, the application of discriminant validity analysis ensured the distinctiveness of the constructs under investigation, enhancing the reliability and validity of our findings (Purwanto, 2021).

5. Data Analysis and Discussion on Results

As per aforesaid laid down research methodology, the relationships between the variables were examined using structural equation modeling (SEM) in this study. In predictive research with numerous mediating and latent variables, with smaller sample sizes, partial least squares (PLS) is an effective approach.

5.1. Demographic Profile of the Respondents

The responders from Haripur are overwhelmingly male, according to their gender distribution that is 62.07% of sample while the Females are 37.92%. The majority of participants are between the ages of 18 to 30 (78.70%) while others 30 – 42 are 16.36%; 42 – 54 are 3.37% and 52 or more than are 1.55% of sample. On the level of Education, 61.29% holds a Bachelor's degree while 17.66% holds masters or higher and intermediate degree while 3.37% are completed their metric. It could be inferred from the demographic profile of

the respondents, there is a dire need of working for financial inclusion with respect to females of the region.

Table 2: Demographic Profile of Respondents

Demographic Criteria	Bank Islami	Dubai Islamic	Meezan Bank	AL Baraka	MCB	Total	Percentage of Sample
No. of Respondents	82	88	90	60	65	385	
Gender		Frequency					
Male	54	51	58	35	41	239	62.07%
Female	27	36	34	25	24	146	37.92%
Age		Frequency					
18 – 30	64	70	72	46	51	303	78.70%
30 – 42	11	13	17	10	12	63	16.36%
42 – 54	2	3	3	3	2	13	3.37%
54 - More than	1	4	0	1	0	06	1.55%
Education level		Frequency					
Matric	2	3	3	4	1	13	3.37%
Intermediate	10	19	15	13	11	68	17.66%
Bachelors	52	48	62	34	40	236	61.29%
Masters or Higher	17	19	12	9	11	68	17.66%

5.2. Descriptive Analysis

In order to provide numerical summaries of specific variables, descriptive analysis, which is described in Table 3, involves calculating the median, skewness, mean, and standard deviation as well as presenting the zero-order correlations between latent variables.

The dependent variable in this study was Islamic banking customers' adoption of FinTech, and the independent factors were Value Earned (VE), Usefulness, Safety, Risk, trust, Ease of use, and Customer Perception. The value of Mean for Value earned was 2.0198 (SD = 0.84), shows that, on average, the participants reported a moderate level of value earned from using Fintech services. The standard deviation of 0.84 indicates that the responses varied around this average value, with some participants reporting higher or lower levels of value earned and median value was 2 suggest that the distribution of values is slightly positively skewed (skewness = 0.7654), with a tail extending towards higher values. With considerable diversity in their answers, participants typically acknowledged a modest amount of value gained from using Fintech services. This answers the query of how highly Fintech services are valued.

Table 3: Mean, Standard deviation, Median and Skewness of Variables

Variables	Mean	Std.dev	Median	Skewness
Value Earned (VE)	2.0198	0.8366	2.00	0.7654
Usefulness	1.9735	0.8436	2.00	0.8296
Safety	2.1102	0.8584	2.00	0.6732
Risk	2.5753	1.0000	2.30	0.4040
Trust	2.1506	0.8620	2.00	0.7370
Ease Of Use	2.0868	0.8754	2.00	0.8018
Customer Perception(CP)	2.1236	0.8630	2.00	0.7083
FinTech adaptation	1.7056	0.5540	2.00	0.8856

The mean score for usefulness was 1.9735 (SD = 0.8436), indicating that users generally thought Fintech services were just somewhat beneficial. This shows that while Fintech services are deemed to be somewhat beneficial, participants may not find them to be very helpful. Because responses varied, as indicated by the standard deviation of 0.8436, some individuals may have perceived Fintech services to be more valuable than others. The median score of 2 indicates that a modest degree of perceived usefulness is in line with the center trend. According to the findings, participants usually thought Fintech services were of average value. Although there is some apparent value, it is not generally seen to be very beneficial. The reactions vary, and some individuals find them more helpful than others. Based on the strong positive relationships with the criteria analyzed, perceived utility probably affects the adoption of fintech.

The average participant mean for safety was 2.1102 (SD = 0.8584), which indicates that people thought Fintech services were generally safe. This shows that participants

generally believed there was a decent level of safety in Fintech services. The standard deviation of 0.8584 suggests that individuals' views of safety varied, with some reporting higher levels of safety and others maybe having worries. A center trend toward moderate safety perceptions is shown by the median value of 2. The findings also show that most of the parameters were significantly and favorably related, suggesting that safety perceptions probably affect the uptake of Fintech. Statistics show that participants, with some variation in beliefs, usually consider Fintech services to be reasonably safe. According to the study's findings, this shows that safety perceptions may have a large and advantageous influence on the adoption of fintech.

A moderate amount of risk was generally judged by participants to be connected with Fintech services, as evidenced by the mean score for Risk of 2.5753 (SD = 1.0000). This shows that while there is some risk associated with Fintech services, it is not thought to be very substantial. The standard deviation of 1.0000 indicates that there is variation in individuals' perceptions of risk, with some reporting lower risk levels and others larger risks. Because the median value of 2.30 is a little bit higher than the mean, some participants may judge their risks to be higher. The findings also show that most of the parameters were significantly and favorably related, which suggests that risk perceptions influence the uptake of Fintech. Participants often view moderate risk as being associated with Fintech services.

According to the mean score of 2.1506 (SD = 0.8620), participants generally exhibited a moderate level of trust in Fintech services. This suggests that participants had a good amount of trust in these services on the whole. The standard deviation of 0.8620 suggests that there is variation in individuals' judgments of trust, with some having greater levels and others possibly having lower levels. A central trend toward moderate trust may be seen in the median value of 2. The findings also show that the bulk of the characteristics investigated had strong, favorable relationships, suggesting that trust probably impacts the adoption of Fintech. Participants generally showed a modest level of confidence in Fintech services. This implies that individuals had a certain amount of trust at the outset, while perceptions of trust varied. Some individuals showed higher levels of trust than others did. Importantly, the data show a strong and favorable link between adoption of Fintech and trust.

The mean score for Ease of use was 2.086 (SD = 0.87) shows that, on average, the participants perceived a moderate level of ease when utilizing Fintech services. The standard deviation of 0.87 indicates that there were a variety of replies, which suggests that the participants generally felt the Fintech services to be somewhat straightforward to use, but not especially so. The median value of 2 indicates that the distribution of values is slightly positively skewed (skewness = 0.8018), with a tail extending towards higher values, whereas other participants may have found the Fintech services even easier to use. The findings also showed that the majority of the parameters investigated had meaningful and advantageous relationships. The findings show that participants, with some variation in their opinions, generally judged Fintech services to be reasonably straightforward to use. Although the majority of participants said the services were manageably easy to use, some found them to be even simpler, while some had greater difficulties.

The average participant's view of fintech services was relatively good, according to the mean value for customer perception (CP), 2.1236 (SD = 0.8630). This implies that participants had positive opinions about Fintech services as a whole. The standard deviation of 0.8630 indicates that there is variation in participants' opinions of the company, with some holding even more favorable views and some holding significantly less. A central trend toward somewhat good customer views is shown by the median value of 2. Additionally, the findings show that most of the characteristics investigated had strong, favorable relationships, which suggests that favorable consumer impressions probably influence the adoption of fintech. As customers, participants generally had a favorable opinion of fintech services, which indicates a promising future.

The mean value of FinTech adaptation was 1.7056 suggests that, on average, the participants reported a moderate level of adaptation to Fintech services in the context of Islamic banking. This indicates that the customers, as a group, have shown a reasonable degree of acceptance and usage of Fintech services provided by Islamic banks. They have likely incorporated these technological tools to a certain extent into their banking activities.

The standard deviation of 0.885 indicates that the responses varied around this average value, with some participants reporting higher or lower levels of adaptation. This shows that there is some variation in the degree of adaptability across the participants, with some clients adopting fintech more readily than others. This may indicate that these clients have largely embraced and partially utilized the technical tools provided by Islamic banks into their banking activity. Participants vary, though, with some exhibiting higher degrees of adoption and others exhibiting lower levels. These results answer the issue of how much consumers have adopted and used Fintech services in the context of Islamic banking, demonstrating a modest level of adoption overall.

The findings as per Table 3 are being supported by the Correlation Matrix in Table 4 and is as follows;

Table 4: Zero-order correlation between the variables

Variables	VE	Usefulness	Safety	Risk	Trust	Ease of Use	CP
Value Earned (VE)	1						
Usefulness	0.695	1					
Safety	0.691	0.715	1				
Risk	0.128	0.117	0.152	1			
Trust	0.552	0.593	0.657	0.117	1		
Ease Of Use	0.621	0.667	0.644	0.163	0.648	1	
Customer Perception(CP)	0.573	0.601	0.633	0.180	0.630	0.662	1
FinTech adaptation	0.656	0.580	0.513	0.029	0.404	0.394	0.360

In the -1 to 1 range of correlation values, 1 corresponds to the ideal positive correlation and 0 to the ideal negative correlation (Schober, Boer, & Schwarte, 2018). A correlation of Value Earned with Customer perception and Fintech adaptation 0.573 and 0.656 suggests a stronger positive relationship. This indicates that as customers' value improves, so does their tendency to perceive and adopt FinTech. The correlation coefficient of 0.601 between usefulness and customer perception suggests a moderate positive relationship. This indicates that as a FinTech service's Usefulness rises, customers' impressions of it tend to get better. Similarly, the correlation coefficient of 0.580 between usefulness and Fintech adaptation indicates a moderate positive relationship, implying that as usefulness increases, the level of Fintech adaptation tends to increase as well. Furthermore, all other variables have positive relationship with Customer perception and Fintech adaptation except Risk because the correlation coefficient of 0.180 between risk and customer perception indicates a weak positive relationship. Similarly, the correlation coefficient of 0.029 between risk and Fintech adaptation is very weak, implying that risk has little influence on Fintech adaptation and it does not suggest customers to adapt Fintech services. It further states that customers are more concerned about their privacy and security with respect to Fintech services. In order to test the reliability and validity of the constructs, Table 5 shows its results as;

Table 5: Validity and Reliability of Constructs-Cronbach's Alpha

Variables	Average inter Item Covariance	No. of Items in Scale	Scale Reliability Co-efficient
Value Earned (VE)	0.40	5	0.87
Usefulness	0.41	6	0.89
Safety	0.53	5	0.90
Risk	0.52	3	0.92
Trust	0.56	3	0.90
Ease Of Use	0.51	5	0.90
Customer Perception(CP)	0.52	3	0.86
FinTech adaptation	0.54	3	0.90

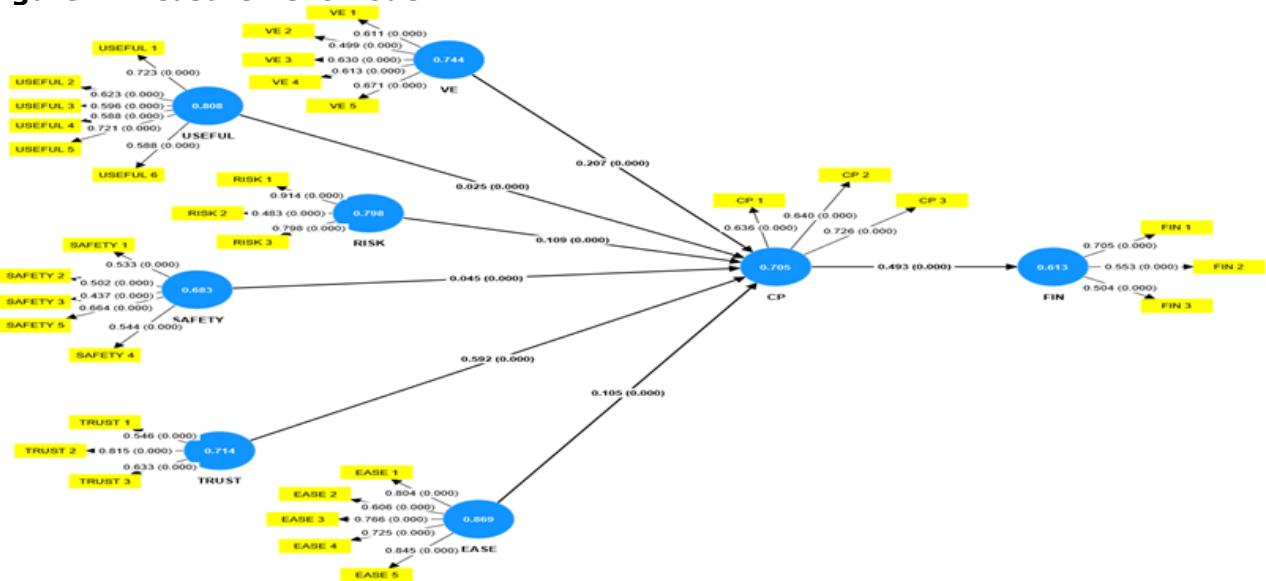
Generally, Cronbach's alpha values above 0.7 are considered acceptable, and values above 0.8 are often considered very good (Taber, 2018). All the constructs are internally consistent as per Table 5, which is generally a positive outcome. It means that the data collected and analyzed has a capability to draw inferences about the entire population.

5.3. Measurement Model Assessment

To measure the PLS path model, Henseler et al. (2009) suggested utilizing an outside model and an inner model in a pair of steps. A thorough evaluation of the measurement model

was required for the PLS-SEM application. For example, determining Average Variance Extracted (AVE) to assess convergent validity, calculating Cronbach's alpha to assess the measurement model's internal consistency, and assessing indicator loadings to determine how well each indicator represented its respective latent construct were important steps in this process. While considering the aforesaid methodology, PLS-SEM for the study is presented in Figure 2.

Figure 2: Measurement Model



Using average variance extracted (AVE), Cronbach's alpha, indicator loading, and composite reliability, construct reliability and validity tests must first be established before the outer model can be evaluated (Götz, Liehr-Gobbers, & Krafft, 2009). The outside loadings of each construct's item are studied in this study to evaluate indicator or individual item reliability (Ab Hamid, Sami, & Sidek, 2017). The value earned (VE), usefulness, safety, risk, trust, ease of use, and customer perception all have R² values of 0.617, which means that they account for 62.0% of the variance in customers' perceptions of FinTech adaptation in the Islamic banking sector. Convergent Validity of the constructs is presented in Table 6 and is as follows;

Table 6: Convergent Validity of Constructs

Variables	Items	FL	A	CR	AVE	
Value Earned	VE 1	To how much extent do you agree that using Fintech requires less effort and is provides more benefits to you?	0.611	0.744	0.748	0.495
	VE 2	To what degree Do you believe that using FinTech makes accessing different financial services less expensive?	0.499			
	VE 3	To what extent Do you believe that compared to conventional banking techniques, FinTech platforms offer access to a greater selection of financial services?	0.630			
	VE 4	How much extent do you believe that using FinTech platforms grant access to better discounts than traditional banking methods?	0.613			
	VE 5	To what extent you are satisfied with the value that is delivered to you by the FinTech platform.	0.671			
Usefulness	Useful 1	How much extent do you think FinTech can fulfill your service needs?	0.723	0.838	0.840	0.552
	Useful 2	To what degree FinTech services can saves time?	0.623			
	Useful 3	To what extent Fintech can improve efficiency?	0.596			
	Useful 4	To what extent do you agree that FinTech is useful for daily financial transactions?	0.588			
	Useful 5	To how much extent do you agree that	0.721			

		Fintech helps to conduct financial transactions quickly?				
	Useful 6	Overall, To what degree do you agree that Fintech services are useful to you?	0.588			
Safety	Safety 1	To what degree do you agree that Fintech has a good reputation?	0.533	0.761	0.764	0.516
	Safety 2	To what extent do you agree that Fintech is giving you the feeling of safety for your personal information?	0.502			
	Safety 3	In your opinion, how much extent it is safe to complete financial transactions using FinTech?	0.437			
	Safety 4	How much do you agree that Fintech has adequate security features?	0.664			
	Safety 5	To how much extent do you agree that if banks adds more security features you are more likely to use Fintech services.	0.544			
Risk	Risk 1	To what extent Are you worried that using Fintech services would reveal your private information?	0.914	0.798	0.879	0.701
	Risk 2	To what degree you believe that FinTech services make it easier for money to be stolen?	0.483			
	Risk 3	Up to how much extent do you feel Fintech services are risky?	0.798			
Trust	Trust 1	To what extent do you believe that FinTech services keep your personal information safe?	0.546	0.767	0.773	0.681
	Trust 2	To what degree do you perceive FinTech services as providing good-quality service?	0.815			
	Trust 3	Up to how much extent do you feel that Fintech services are trustable?	0.633			
Ease of use	Ease 1	To what extent do you agree that Fintech is easy to learn?	0.804	0.817	0.818	0.578
	Ease 2	To what degree do you agree that Fintech is easy to browse?	0.606			
	Ease 3	How much extent do you agree that Fintech is easy to use?	0.766			
	Ease 4	How much do you think the Fintech operating interface is user friendly and understandable?	0.725			
	Ease 5	To what extent using fintech applications take a lot of brain effort?	0.845			
Customer Perception	CP 1	To what extent do you agree that the quality of Fintech services provided by a bank is exactly what you want?	0.636	0.773	0.774	0.688
	CP 2	How strongly do you agree that the FinTech services offered by a bank will provide prompt and quick services?	0.640			
	CP 3	Up to what extent do you feel that Fintech services provided by a bank offers good value?	0.726			
FinTech Adaptation	Fin 1	To what level of attraction do you have for a bank that offers FinTech services?	0.705	0.613	0.627	0.562
	Fin 2	How much extent do you feel comfortable when you use FinTech services?	0.753			
	Fin 3	How interested are you with the use of FinTech services for financial transactions?	0.504			

Notes: AVE = Average Variance Extracted, CR = Composite Reliability, R 2 = Variance Explained, FL = Factor Loading.

Items with outer loadings less than 0.4 should not be considered for further analysis. Items with outer loadings greater than 0.7 are recommended to be kept in the model (Ali et al., 2018; Hair et al., 2017). According to Hair et al. (2014), acceptable outer loadings range from 0.40 to 0.70.

5.4. Discriminant Validity of Constructs

To verify discriminant validity, we used the HTMT (Heterotrait and Monotrait) ratio. The HTMT ratio is calculated by dividing the average correlation between items within the same construct by the average correlation between items from different constructs. A high HTMT ratio indicates that the items within each construct are more highly correlated with each other than they are with items from different constructs. This suggests that the constructs are distinct from each other, which is evidence of discriminant validity. (Yusoff, Peng, Abd Razak, & Mustafa, 2020).

Table 7: HTMT (Heterotrait and Monotrait Ratios)

	CP	EASE	FIN	RISK	SAFETY	TRUST	USEFUL	VE
CP								
EASE	0.833							
FIN	0.520	0.489						
RISK	0.230	0.202	0.085					
SAFETY	0.826	0.817	0.602	0.197				
TRUST	0.821	0.823	0.444	0.151	0.842			
USEFUL	0.746	0.805	0.667	0.143	0.848	0.745		
VALUE EARNED (VE)	0.754	0.794	0.818	0.174	0.891	0.730	0.849	

Table 7 shows that the correlations between the latent variables are all within the range of 0.85 to 0.90, as suggested by HTMT. This ensures that the constructs are discriminant, meaning that they are distinct from each other (Clark & Watson, 1995; Henseler et al., 2015; Teo et al., 2008). To test for multicollinearity, employ a strong correlation between the variables and HTMT (Oladapo et al., 2022). The variables are not multicollinear since Usefulness and Value Earned have a maximum correlation of 0.695, which is inferior to 0.70 (see Table 4). Furthermore, the HTMT ratio of the connection is lower than 0.85, indicating that there are no multicollinearity problems between the variables (Hair et al., 2019). We also evaluated the variance inflation factor (VIF), which is used to quantify multicollinearity and is the presence of high correlation among predictor variables in a regression model, to make sure that the dependent variable and the independent variables did not exhibit multicollinearity. The highest VIF value, which is lower than 3.3, was 1.918 (Shmueli et al., 2019), This means that none of the variables utilized in this study are multicollinear.

5.5. Assessment of Structural Equation Modelling (Inner Model)

The researcher moved on to the second phase of the PLS path model to assess the impact of various independent variables on the dependent variable after producing valid and trustworthy outer model estimations. The structural model examined the links between FinTech Adaptation (dependent variable) and Islamic Banking Customers' Value Earned (VE), Usefulness, Safety, Risk, Trust, Ease of Use, and Customer Perception (independent variables). Researchers employ a path coefficient of the structural model to ascertain the statistically significant nature of the path coefficients. (Table 8).

Table 8: Coefficient and p-Values

	β (coefficient)	P-Values
CP -> FIN	0.363	0.000
EASE -> CP	0.281	0.000
EASE -> FIN	0.165	0.000
RISK -> CP	0.071	0.000
RISK -> FIN	0.026	0.000
SAFETY -> CP	0.170	0.000
SAFETY -> FIN	0.143	0.000
TRUST -> CP	0.233	0.000
TRUST -> FIN	0.193	0.000
USEFUL -> CP	0.091	0.000
USEFUL -> FIN	0.133	0.000
VALUE EARNED -> CP	0.244	0.000
VALUE EARNED -> FIN	0.270	0.000

Note: $p < 0.05$; β = coefficient

Considering the findings, Customer Perception has a strong positive relationship with FinTech adaptation (H1) with $\beta = 0.363$. This relationship is statistically significant, as

indicated by the p-value of 0.000. Value Earned exhibits a moderately positive relationship with the Customer Perception for Adapting FinTech Services (H2) with $\beta = 0.244$. Usefulness and the Customer Perception of Adapting FinTech Services have a weakly positive relationship (H3) with $\beta = 0.09$. Safety also has moderate positive relationship with customers perception to adapt FinTech with (H4) $\beta = 0.170$. Risk and customers' perception of adopting FinTech services have a moderate positive relationship with (H5) $\beta = 0.071$. Trust and the Customer Perception to Adopt FinTech Services (H6) have a Moderately the positive Relationship (H6) with $\beta = 0.233$. Ease of Use exhibits a moderately positive relationship with Customer Perception of adapting FinTech services (H7) with $\beta = 0.281$.

The study's overall findings strongly indicate a clear and positive relationship between all the variables with customer perception. Importantly, these correlations and results are statistically significant, as evidenced by a very low p-value of 0.000. It's worth noting that customer perception acts as a mediator, meaning it strongly impacts how the other factors, which are the study's major emphasis, effect the adoption of FinTech. Results in Table 8 indicates that if Islamic banks intends to enhance the customer perceptions towards Fintech adoption, then they must have to consider the ease of use, risk, safety, trust, usefulness an value earned components in a sophisticated manner by ensuring a robust Fintech facility for their customers.

6. Conclusion

The primary goal of the study was to examine the relationship between consumers' perception towards Fintech adoptability Islamic banking sector of Haripur, Pakistan. It also examines how receptive consumers are to adopting and utilizing FinTech services in the Islamic banking sector. The primary data was gathered from 385 clients of five Islamic banks operating in Pakistan's District Haripur in order to fully satisfy the study's objectives. The data was analyzed, and the hypotheses were tested, using structural equation modeling (SEM) and partial least square path modeling. According to a study, value earned, usefulness, safety, trust, and ease of use have a significant impact on customers' perception of FinTech adoption, whereas risk has less of an effect. According to a study, Islamic banks should strengthen FinTech to increase client trust. Additionally, the study offers guidance to regulators and decision-makers in the Islamic banking sector to guarantee the provision of reliable FinTech for its clients. The study supported the narratives of Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), and Technology Acceptance Model (TAM). Study provided the insights for regulators and policy makers to develop regulations that are conducive and friendly towards Fintech adoption.

This study has some limitations, like only focusing on Islamic bank customers in Haripur, it should include a wider range of finance industry stakeholders to get more complete results, especially if it expands to other areas. Considering the influence of demographic factors like age, gender, education level, and income will also give significant insight into distinct groups. Using multiple analytical tools, combining them, and including interviews in addition to the questionnaire survey would further enhance the validity and robustness of the research findings.

Future studies should investigate how customers' perceptions of FinTech differ in Pakistan's Islamic and conventional banking sectors through comparative studies. Furthermore, study to examine the ways in which emerging technologies like biometrics, artificial intelligence, block-chain, and value earned are influenced by variables like usefulness, safety, risk, trust, and ease of use. This examination can assist with distinguishing the particular parts of innovation that add to positive customer perception.

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