The effect of fintech on the user's trust, satisfaction, and continuance intention in Islamic banks – the perspective of a developing country

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ABSTRACT

Fintech, which involves the use of new technology in delivering financial services, enhances customer satisfaction, results in better customer retention, and fosters business growth. This study aims to investigate the effect of Fintech on customer trust, satisfaction, and continuance intention. A comprehensive questionnaire was administered, and data were collected from a sample of 113 customers of Islamic banks in a developing country. As a case study, Somalia was selected due to its rapid growth in the use of Fintech and the limited research conducted on the subject. A PLS-SEM was utilized to analyze the primary data collected and test the hypothesized associations. The results of the study show that the user's trust in Fintech services is significantly influenced by perceived ease of use and service quality, but not by perceived usefulness. Trust also has a significant positive effect on customer satisfaction. Moreover, we found that the continuance intention is significantly and positively affected by trust and customer satisfaction. The study makes a valuable contribution to the literature on Fintech while shedding light on the use of Fintech in the Somali context. Furthermore, the study provides valuable insights to regulators, policymakers, the academic community, and Islamic bank stakeholders.

Contribution/ Originality: This study contributes to the literature by considering relevant theories to gain insight into the use of fintech in Somalia. Moreover, the study identifies valuable findings that show the significant role that service quality and trust play in enhancing customer satisfaction and the intention to continue using fintech.

1. INTRODUCTION

Fintech, which denotes financial technology, is the use of technology in providing financial services to give customers efficiency, convenience, service quality, and flexibility in meeting their financial service needs. The use of fintech has gained significant prominence in the last two decades, becoming one of the most important technological disruptions impacting the financial services industry [1, 2]. In its global fintech adoption index, Ernst & Young reported that 3 out of 4 global consumers use money transfer and payment fintech services, while 96% of global consumers are aware of at least one money transfer and payment fintech service [3].

The global adoption rates of fintech. Cumming, et al. [4] assert that the objective of fintech is to enable financial institutions to provide financial services that are highly efficient, easily accessible, and affordable from a cost perspective. While the use of fintech came to the surface in the 1970s, significant development in fintech took place in the last two decades following heavy investments made by the banking industry [2, 4]. The growth in fintech helped enable enhancements that led to the efficient and effective provision of financial services [5].

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Fintech is attractive to customers as it is associated with lower transaction costs, efficient financial services, and direct access to customers [6]. Fintech significantly enhances the transparency and efficiency of financial transactions while reducing costs and expanding access [7, 8]. Moreover, it cultivates increased customer loyalty and assists financial institutions in retaining clients by providing innovative, technology-driven services that are both affordable and convenient [1].

Islamic fintech is centered on the application of technology to provide Shariah-compliant financial services, primarily for Islamic financial institutions. Its objective is to furnish innovative, technology-enabled services to clients while maintaining adherence to Shariah regulations and principles Alshater, et al. [5]. Ali, et al. [6] assert that Islamic fintech constitutes one of the most substantial disruptions within the contemporary Islamic finance sector, enriching the customer experience through the provision of efficient and convenient services, all while reducing transactional costs. Cumming, et al. [4] assert that despite the significant growth of fintech over the last two decades, there remain substantial opportunities for innovation in fintech services, indicating the potential for further growth for financial institutions and broader outreach to underrepresented customers. Furthermore, while a significant number of studies have been conducted covering fintech in other regions, there is scant research on fintech related to the East African countries, especially Somalia. This highlights the need for undertaking this study to fill this research gap and contribute to the literature by shedding light on the use of fintech and its impact on customers.

The main aim of this study is to investigate the effect of certain fintech characteristics such as perceived usefulness, ease of use, and service quality on customer trust, satisfaction, and continuance intention in the Islamic banking industry in Somalia, an area that is under-researched. This study makes significant contributions. The study provides essential insight to Islamic bank stakeholders and regulators on the use of fintech and regulations related to fintech. The study also furthers our understanding and helps us gain a better understanding of the use of fintech in Somalia and its impact on customers. The paper is divided into the following sections. Following the introduction, sections two and three provide an overview of the development of fintech in Somalia as well as the evolution of fintech research in general. Section four provides a critical analysis of the relevant literature and proposes the theoretical framework and conceptual model adopted for the study. Section five discusses the hypotheses adopted for the study based on prior studies and the conceptual research model. Section six presents the research methodology, and sections seven and eight discuss the results of the study and provide a concluding statement based on the findings of the study.

2. THE DEVELOPMENT OF FINTECH IN THE SOMALI BANKING INDUSTRY

The case of Fintech in Somalia provides an excellent case study for resilience, innovation, and recovery. The country sank into anarchy and chaos following the collapse of the central government in 1991, resulting in civil war and various warlords fighting for power and control. Along with the governmental institutions, the Somali Central Bank collapsed, and so did the various banking institutions. In the years that followed, a new informal financial system known as the 'Hawala system' filled the vacuum, allowing people from the diaspora to send much-needed money to their relatives back home to provide them financial support during the civil war. The informal Hawala system became the lifeline for many Somali families and provided a much-needed venue for money to reach distressed families and those who are in desperate financial need.

The re-establishment of the central bank in 2009 marked a new beginning for the use of fintech in providing financial services, paving the way for the return of normal banking services to the country. Taking advantage of the nascent regulatory environment and the availability of internet services and access to smartphones, several new banks have started offering financial services through mobile applications. Hormuud Telecom, the largest telecommunications company in Somalia, estimates that nine out of ten Somalis have a mobile phone[1].

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[1] Source: Immigration and Refugee Board of Canada. Reported accessed at: https://irb-cisr.gc.ca/en/country-information/rir/Pages/index.aspx?doc=458790&pls=1.

The World Bank estimates that 70% of the population is connected to a telephone network and 63% have access to a money account [9, 10]. Despite the significant regulatory challenges and political instability facing the country, Somalia's fintech adoption rate approximates that of the global average [4]. Today, many financial services in Somalia are offered through online applications or digital platforms. These services include paying bills, making payments, and sending or receiving money. Additionally, customers can conveniently use these financial technologies to shop, buy and sell, and engage in financial transactions both in their individual and business capacities [11].

3. THE EVOLUTION OF FINTECH RESEARCH

Research interest in fintech has grown substantially during the last decade due to the exponential growth in the use of fintech to provide convenient and cost-effective financial services to customers. Figure 1 shows the evolution of research in fintech since the year 2010. The figure indicates that there has been a significant increase in research output related to fintech since 2016.
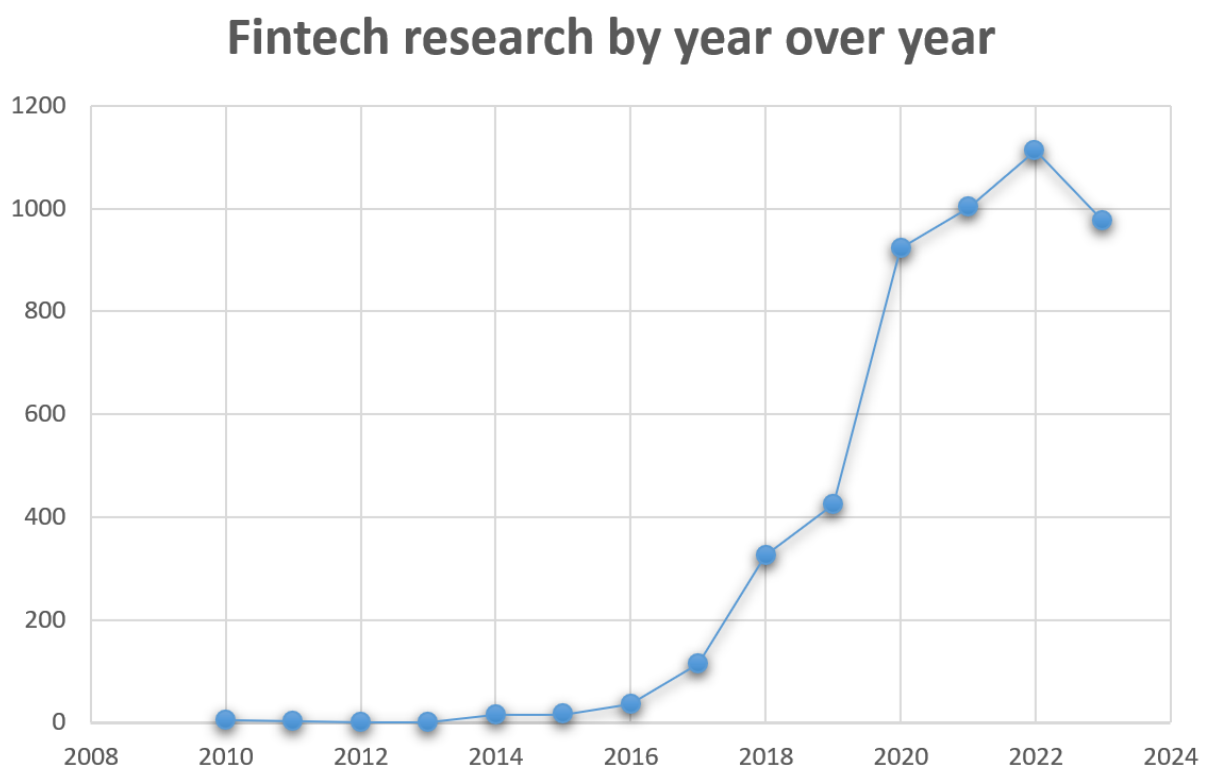

Figure 1. Evolution of fintech research over the years.

Source: SCOPUS database analytics.

While there have been numerous studies on fintech in the context of developed countries and emerging economies, there have been limited studies on fintech from the perspective of developing countries, particularly Somalia [12]. As shown in Figure 2, most fintech research was conducted in developed economies such as China, the United States, and the United Kingdom. Similarly, a notable body of fintech research exists in emerging economies such as Saudi Arabia and Turkey, while research covering developing countries, especially Somalia, is almost nonexistent. This study aims to fill this gap and provide insight into the use of fintech in the Somali context and examine its impact on customer satisfaction and retention.
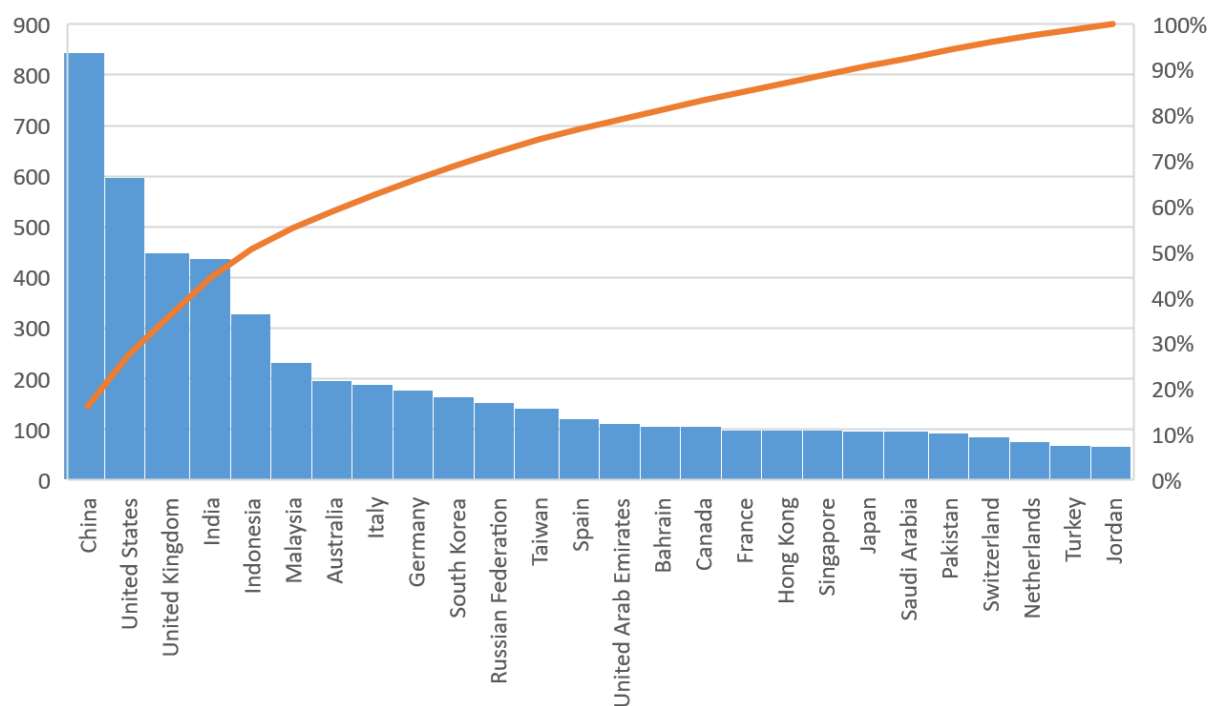
Figure 2. Fintech research by country.

Source: SCOPUS database analytics.

The significant recent increase in fintech research is largely focused on studying the behavioral aspects of fintech. An examination of the prior literature indicates that various behavioral aspects of fintech are studied. These include perceived usefulness, ease of use, trust, quality of service, customer satisfaction, and intention to continue usage. However, the literature shows that there is little research done that focuses on the role of trust in enhancing customer satisfaction and the overall intention to continue the use of fintech services [13]. Moreover, it is noted that there are few studies examining fintech in the context of developing countries, especially those in East Africa, such as Somalia. This study extends the existing literature by examining the role of trust within the context of a developing nation.

4. LITERATURE REVIEW
4.1. The Perceived Benefits and Risks of Fintech and Their Impact on Customer Satisfaction and Retention

Numerous prior studies suggest that specific characteristics of financial technology (fintech), such as perceived usefulness, ease of use, trust, and service quality, have an impact on customer satisfaction and retention in fintech. According to Davis [14], perceived usefulness refers to the extent to which a person believes that the use of a specific system would improve their job performance. Alshater, et al. [5] performed a systematic literature review on fintech in Islamic finance and found that the perceived usefulness of fintech is one of the most thoroughly researched areas. The literature shows that implementing fintech is associated with greater customer satisfaction due to the convenience it offers users. This is because fintech allows customers to conduct their financial transactions—including making payments or receiving funds—at any time and from any place, as long as they have internet access [15].

Mainardes, et al. [16] conducted a study involving a sample of fintech users in the Brazilian markets, revealing that perceived usefulness significantly enhances customer satisfaction. Vijai, et al. [17] also reached similar conclusions, reporting that both the perceived usefulness and ease of use of fintech services significantly influence customer satisfaction. Furthermore, they indicated that trust, innovation, and ease of use improve customer satisfaction. Collectively, these factors empower fintech service providers to retain their existing customers and facilitate greater business growth.

Akhtar, et al. [18] studied the factors that affect users' intentions to adopt fintech services in Pakistan and China. They examined several determinants, including perceived usefulness, social influence, culture, and perceived ease of use. They found that perceived usefulness, social influence, and perceived ease of use significantly affect customers' intentions to adopt fintech services. Similarly, Hassan, et al. [19] examined the factors that impact user intention to adopt fintech services in the Bangladeshi market. They discovered that perceived benefit, trust, and social influence have a significant effect on customers' intention to use fintech services.

Using the extended technology acceptance model, Hu, et al. [20] examine the factors impacting the adoption of fintech. Their study finds that trust significantly impacts customers' intentions to adopt fintech services. Conversely, they found no influence from perceived ease of use or perceived risk. Ali, et al. [6] investigated similar factors affecting customer adoption of fintech services, focusing on Islamic finance. They discovered that trust has a strong positive impact on customers' intentions to adopt fintech. Additionally, they reported that both perceived benefits and risks influence the level of trust. Dospinescu, et al. [21] analyzed various determinants of customer satisfaction for fintech services within the Romanian market. They identified that ease of use, the strength of fintech regulations, and lower costs, among other factors, contribute to higher levels of customer satisfaction. The literature suggests that satisfied customers tend to remain loyal to their financial institutions, thereby supporting these institutions' customer retention strategies.

Despite the wealth of literature on financial technology (fintech) across various markets, a significant gap remains in the literature for research focusing on fintech within East Africa, particularly in the Somali context. This study aims to enhance the existing body of literature and address this identified gap by exploring the impact of fintech on trust, customer satisfaction, and the intentions of Islamic bank users in Somalia regarding their ongoing use of fintech solutions.

4.2. Theoretical Background and Research Conceptual Model

The relevant theories considered in studying fintech include the theory of reasoned action (TRA), the theory of planned behavior (TPB), and the theory of the technology acceptance model (TAM). The TRA is mainly used to explain how an individual's beliefs, attitudes, and norms affect his or her actual behavior [1]. In this context, TRA holds that the individual's beliefs and attitudes become key predictors of their actual behaviors. For instance, if an individual has strong intentions and a positive attitude towards adopting certain technology, such as fintech, he or she is likely to act on his or her intention and adopt the technology [22]. The TRA further enunciates that the stronger the individual's attitude towards adopting a particular technology or system, the greater the chances that such an attitude will result in the actual behavior of adopting the technology [23].

Building on the Theory of Reasoned Action, many studies have employed the Theory of Planned Behavior (TPB). The TPB sheds light on how an individual's intentions relate to their behaviors by considering the individual's attitudes, social norms, and perceived behavioral control [24]. The individual's perceived behavioral control denotes his or her belief in their ability to perform the specified behavior. The TPB suggests that when a person maintains a positive attitude towards a particular behavior and is highly confident in their control over that behavior, there is a greater chance that he or she will engage in that behavior [15].

The Technology Acceptance Model (TAM) is recognized as the most widely used theoretical framework and research paradigm for studying users' attitudes toward financial technology (fintech) and its overall effect on customer satisfaction and continuance intention [13, 18]. TAM is traditionally used to clarify and predict how customers adopt technology. This study merges TAM with aspects of perceived usefulness, retention, and satisfaction [14]. The TAM framework is based on the idea that technology use is influenced by users' intentions and attitudes. TAM has proven effective in clarifying and providing a structured way to examine factors influencing fintech adoption, including perceived usefulness, user attitudes, and perceived ease of use [18, 25]. Furthermore, TAM has been shown in various studies to be helpful in exploring other variables relevant to fintech, such as trust [19, 25].

Recently, some studies have utilized the Unified Theory of Acceptance and Use of Technology (UTAUT) to combine several theories, enhancing our understanding of the behavioral and technological factors that shape users' attitudes toward adopting fintech services and their intention to continue using them [13, 15].

Considering the previously discussed theories and in accordance with prior research, we establish a conceptual framework for executing the present study, which aims to identify the determinants affecting fintech users' trust, satisfaction, and their intention to persist in utilizing fintech services within the context of Somalia.

To complement and improve upon the theory of reasoned action, several studies utilize the theory of planned behavior. The TPB aims to explain the relationship between an individual's intention and behavior, considering not only attitudes and social norms but also the individual's perceived behavioral control [24]. Behavioral control refers to the individual's belief and confidence in their ability to perform the behavior. The TPB explains that when an individual has a positive attitude toward a certain behavior and has a strong belief that he/she has control over that behavior, there is a greater likelihood that the individual will actually perform that behavior [15].

However, the technology acceptance model (TAM) is the most widely used theoretical framework and research model for studying users' attitudes towards fintech and the overall impact of fintech on customer satisfaction and continuance intention [13, 18]. TAM is generally used to describe and predict how customers accept technology. This study utilizes the TAM and combines it with perceived usefulness, retention, and satisfaction [14]. The TAM model is based on the premise that the usage of technology is influenced by the intentions and attitudes of users. TAM has been used to explain and provide a framework for studying factors influencing fintech usage, such as perceived usefulness, attitudes, and perceived ease of use [18, 25]. TAM is also found in some studies to be useful in studying other variables related to fintech, such as trust [19, 25].

More recently, some studies have used the Unified Theory of Acceptance and Use of Technology (UTAUT) to integrate a number of theories to better understand the behavioral and technological factors that influence users' attitudes towards the adoption of fintech services and their intention to continue using them [13, 15].

Considering the theories discussed in the aforementioned and in line with prior studies, we put forth a conceptual framework for this study to determine the factors that influence fintech users' trust, satisfaction, and intention to continue using fintech services in the context of Somalia. Figure 3 depicts the conceptual model employed in this study. The model explains the research problem shown in the literature review. It comprises five independent variables (IV): perceived usefulness, perceived ease of use, service quality, trust, and satisfaction, and three dependent variables (DVs): trust, satisfaction, and continuous intention to use fintech services.
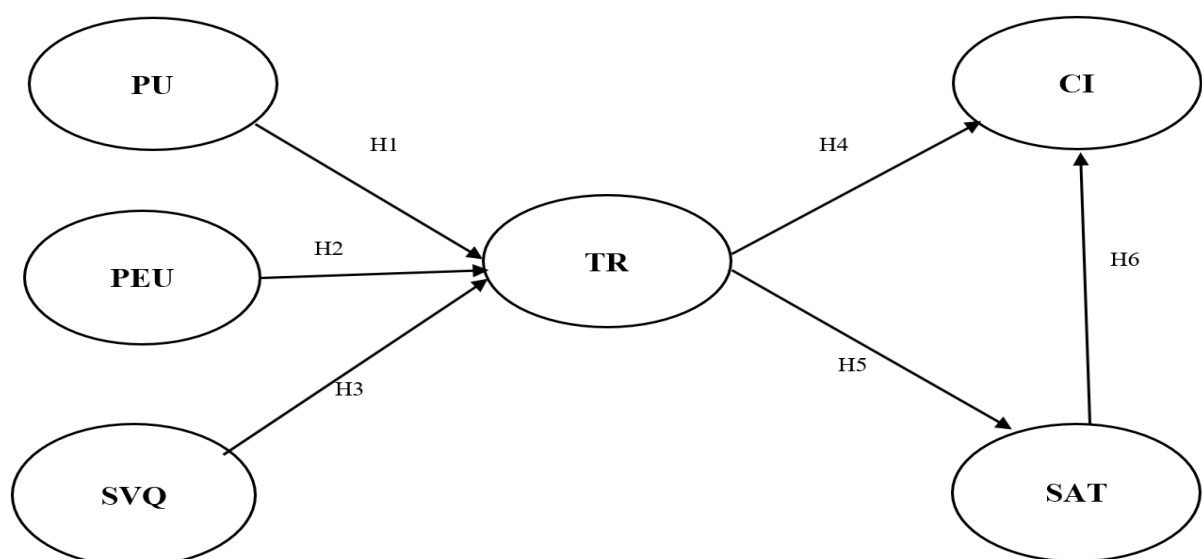

Figure 3. Research model and conceptual framework.

5. HYPOTHESES DEVELOPMENT

Using the above model, the study aims to answer the following research question: What is the impact of Fintech's perceived usefulness, ease of use, and service quality on customer trust, and is there any association between customer trust, satisfaction, and continuance intention in Islamic banks? To address the main research question, we developed the following six hypotheses.

5.1. Perceived Usefulness

The perceived usefulness of fintech services affects the extent of customer satisfaction. Perceived usefulness concerns how users view fintech services and whether they perceive them as fully meeting their needs. The perception by users of fintech services is crucial to the overall acceptance of these services and their desire to continue using them [26]. Given its importance as a key indicator of user attitudes toward fintech services, numerous studies have examined the effect of perceived usefulness on the trust users have in these services, as well as their overall satisfaction and intention to continue using them.

Akhtar, et al. [18] studied a group of fintech users in Pakistan and found that perceived usefulness significantly affected users' intention to adopt fintech services. Similarly, Denaputri and Usman [27] concluded that perceived usefulness greatly affects users' intention to use fintech services. Additionally, Hasan, et al. [28] demonstrated that perceived usefulness is crucial in influencing users' intention to engage with fintech services in a sample from the Netherlands. Finally, Hikmah, et al. [29] reported a notable correlation between perceived usefulness and customers' attitudes toward fintech services. Bergmann, et al. [30] reported in their study that perceived usefulness has a significant effect on user trust. However, some studies find that perceived usefulness is not associated with fintech adoption or user satisfaction. For instance, Abdul-Halim, et al. [31] found that fintech's perceived usefulness is not a significant determinant of users' intention to continue using fintech services. Considering the overall results shown in prior studies, we propose the hypothesis below.

H₁: The perceived usefulness of fintech is positively associated with users' trust.

5.2. Perceived Ease of Use

Ease of use has been used in the literature as one of the main explanatory variables for the level of trust, intention to continue the use of fintech services, and overall customer satisfaction. Perceived ease of use refers to the user's perception that the financial technology is user-friendly and allows the user to efficiently and conveniently complete their financial transactions, such as making payments, without requiring additional training or acquiring new technology skills [30].

Research suggests that perceived ease of use helps enhance customer trust. This is because when the customer perceives the fintech system to be easy to use and helps him or her to perform their financial transactions with ease and convenience, it is more likely that he or she will have more trust in the system [29].

Numerous studies examine the impact of ease of use on customer trust. Hasan, et al. [28] found that perceived ease of use has a significant impact on customer intention to use fintech services. Hikmah, et al. [29] study the impact of certain fintech characteristics on trust, including perceived ease of use, for a sample of Indonesian users. Their study concludes that perceived ease of use has a significant effect on trust. In a similar vein, Bergmann, et al. [30] found that perceived ease of use is significantly associated with user trust. Accordingly, the following hypothesis is proposed.

H₂: Fintech's perceived ease of use has a significant positive effect on the user's trust.

5.3. Service Quality

Service quality is critical to instilling trust and achieving high levels of customer satisfaction. Service quality is chiefly concerned with ensuring that the services offered by the financial institution fully meet the customers' needs

[32]. While there is a scant number of studies examining the direct relationship between service quality and trust, several studies examine the impact of some elements of service quality on trust. Several studies investigate the role of service quality in fintech services; however, most of these studies focus on its direct effect on customer satisfaction and continuance intention. Few studies have considered the impact of service quality on users' trust in fintech services. Hu, et al. [20] study the effect of the quality of the company's brand and its image on the trust customers place in its fintech services. Aldaarmi [33] studied the impact of certain fintech characteristics, including service quality, on the extent of customer satisfaction. The author concluded that fintech service quality has a significant positive effect on customer satisfaction, leading to enhanced customer retention. Roh, et al. [22] find that service quality has a significant effect on customer trust for a sample of Chinese fintech consumers. Based on these studies, the following hypotheses are proposed.

H₃: Service quality in fintech has a significant positive impact on the user's trust.

5.4. Trust

Trust plays a pivotal role in augmenting users' overall satisfaction and fostering their intention to continue utilizing fintech services, thereby enabling companies to engage with customers in delivering products and services consistently [13, 34]. The academic community has expressed sustained interest in investigating the relationship between trust and a customer's intention to persist in using company services, particularly in sectors where trust is of utmost importance, such as fintech services. Customers who possess a heightened level of trust in the fintech service provider's competency, reliability, security, and integrity tend to exhibit greater satisfaction with the services and are more inclined to maintain their usage of fintech offerings. Numerous studies indicate that trust significantly influences customer satisfaction and their intention to utilize fintech services. For example, Malaquias and Hwang [35] identified that trust profoundly affected the degree of customer satisfaction with fintech services. Additionally, Ayinaddis, et al. [32] examined various fintech service quality and reliability-related variables among users of the Ethiopian banking system, uncovering a substantial positive correlation with customer satisfaction.

Hu, et al. [20] posited that trust is pivotal in consumers' adoption of fintech services. In their investigation, the authors indicated that Ali, et al. [6] determined that trust significantly and positively influences consumers' intentions to utilize fintech services provided by Islamic financial institutions. Nelloh, et al. [36] explored the effects of various fintech determinants, including trust, within a sample of Indonesian consumers. Their findings demonstrated that trust substantially impacts the intention to persist in utilizing mobile payment services. Likewise, Ahmed and Ali [11] uncovered that trust significantly and positively affects the intention to continue employing mobile money transfer services among users in Somalia. Considering these studies, the present research posits the following hypothesis.

H₄: There is a significant positive relationship between trust and the extent of customer satisfaction with the fintech services.
H₅: Trust is positively associated with the customer's intention to continue using fintech services.

5.5. Customer Satisfaction and Continuance Intention

Customer satisfaction is a crucial metric that allows institutions to meet or exceed their customers' expectations regarding their products and services [37]. Consequently, it has been identified as one of the key factors in previous studies investigating fintech utilization and customers' intentions to continue using fintech services. Current literature indicates that customer satisfaction is positively linked to the intention to use fintech services. When customers are satisfied with the services provided by an institution, they are more likely to trust the system and continue using the services [37]. Continuance intention enables companies to maintain customer loyalty and continue to sustain and grow their business by providing fintech services, which customers are willing to continue using to access the products and services provided by the financial institution [37].

Ahmed and Ali [11] explored the effect of customer satisfaction on users' intention to continue utilizing mobile money transfer technologies in Somalia. Ali, et al. [6] discovered that trust significantly and positively influences customers' intentions to use fintech services offered by Islamic financial institutions. Choudhary, et al. [34] proposed that fintech is positively associated with customer satisfaction, allowing financial institutions to retain customers and expand their businesses. Liu, et al. [38] investigated the factors influencing customer satisfaction and the intention to use fintech services based on a sample of 481 Chinese users. Their findings indicated that several factors, including service quality, influence customer satisfaction. Their study demonstrated that customer satisfaction positively impacts the intention to continue using fintech services. Ayinaddis, et al. [32] found that customer satisfaction has a significant positive impact on customer loyalty and their intention to continue the use of fintech services. Accordingly, the following hypothesis is proposed.

H_6: Customer satisfaction has a significant positive effect on their intention to continue using fintech services.

6. RESEARCH METHODOLOGY

6.1. Sampling Approach and Data Collection

The present study uses a structured questionnaire to collect data from a sample of Islamic fintech users in a developing country, which aligns with relevant prior studies [11, 39]. The study employs a quantitative method with a self-administered survey, based on the research question, to test the hypotheses and quantify the data findings from a sample of a study with varied evaluations conveying the relationship between outcome measure variables and how these variables relate to each other, subsequently to be analyzed [40, 41].

Ghanad [42] discusses the characteristics of the quantitative method, highlighting that a crucial aspect of the quantitative method is the comprehensive planning of all research phases before data collection. This meticulous planning ensures the systematic and methodical execution of the study, contributing to the reliability and validity of the research outcomes. Concerning statistics, reasoning, logic, and an objective viewpoint, researchers use tools such as questionnaires to collect numerical data. It emphasizes numerical and statistical data in non-textual forms like tables, charts, and figures.

The quantitative method uses snowball sampling to test numerical data by comparing the correlations among the subjects so that the general findings can be applied to the whole population. This approach was considered appropriate due to the lack of statistical data that would allow the researchers to draw a probability sample.

6.2. Research Measures

The current study utilizes a structured survey questionnaire to collect data and perform the analysis. Six latent constructs are used in the hypothesized model, namely perceived usefulness, perceived ease of use, service quality, trust, satisfaction, and continuance intention. Each of the latent constructs is comprised of five items. These items were adopted from prior studies to establish their face validity.

We employed the Likert scale to measure the latent constructs. In this format, the participants are provided with a series of choices where they can either agree or disagree, which describes the attitudes and views of a sample population to test the numerical data observed [40, 43, 44]. Given the close-ended questions, quantitative research is considered appropriate, as it is usually answered with objective data such as 'how many' or a precise descriptive response, such as what an object is or how it is used [43].

6.3. Data Analysis

This study employs a quantitative method and uses a structured questionnaire consistent with relevant prior studies [11]. Quantitative research helps to objectively examine associations and defines existing theories or tests the possible impact on the results. We chose a quantitative method in line with the research questions to test the hypotheses and examine the associations among the variables, and explore how these variables relate to one another.

Creswell and Creswell [40] and Rajasekar, et al. [41] assert that quantitative analysis enables the researcher to reason with several concepts. Neuman [45] suggests seven steps for conducting quantitative research: formulating the research question, developing the hypotheses, collecting data, analyzing the results, and making conclusions based on the findings.

This study employed Partial Least Squares (PLS) Structural Equation Modeling (SEM) for the purposes of both descriptive and inferential analysis, as well as hypothesis testing, in accordance with relevant prior studies [1, 8, 15]. PLS-SEM is deemed suitable for this research, given the small sample size and the presence of multiple latent variables [1, 11]. Previous studies suggest that PLS-SEM constitutes a superior methodology for analyzing data from small samples, providing flexibility and yielding more insightful results [15]. Furthermore, as this study investigates various constructs and diverse relationships among fintech-related variables, PLS-SEM is optimally positioned to thoroughly analyze these associations, thereby enabling researchers to derive significant conclusions [11].

7. RESULTS

In the realm of quantitative data collection, independent and dependent variables play a crucial role in defining the study's objectives and clarifying the established relationships between them. The survey questions are carefully designed to thoroughly investigate the research question and provide evidence supporting or contesting the hypothesis. Data collected from the survey research will be at the level of measurement. Interval data is commonly collected using Likert-type scales [46]. The survey sampling employed snowball sampling. SPSS software was used for descriptive analysis, and Smart-PLS 4 software was used to test the theoretical model.

7.1. Descriptive Statistics

Table 1 shows the socio-demographics in terms of gender, occupation, age, and education level.

Table 1. Socio-demographic.

Variable	Categories	Frequency	Percentage
Gender	Male	84	74.3
	Female	29	25.7
	Total	113	100.0
Age	Under 20 years	14	12.4
	21-30 years	63	55.8
	31-40 years	22	19.5
	41-50	12	10.6
	Over 50	2	1.8
Occupation	Professional	27	23.9
	Academic	33	29.2
	Government staff	12	10.6
	Student	31	27.4
	Self-employed	8	7.1
	Total	113	100.0
Education level	Secondary	2	1.8
	University degree	101	89.4
	Postgraduate	10	8.8
	Total	113	100.0

7.2. Construct Reliability and Validity Analysis

A reliability test was carried out using Cronbach's Alpha coefficient and composite reliability indices. We found that the test results were in line with previous studies [47, 48]. A variable is considered reliable if its alpha score is above 0.70. The reliability test involved four major variables included in the proposed model. As shown in Table 2,

an acceptable level of reliability ranges from 0.71 to 0.86 for Cronbach's alpha and from 0.84 to 0.90 for composite reliability for all study variables.

Table 2. Construct reliability and convergent validity.

Constructs	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)
CI	0.81	0.87	0.63
PEU	0.79	0.87	0.62
PU	0.82	0.88	0.65
SAT	0.86	0.90	0.64
SQ	0.78	0.85	0.53
TR	0.71	0.84	0.63

7.2.1. Discriminant Validity Testing

In this study, discriminant validity was determined using two methods, namely the Fornell-Larcker criterion and the heterotrait–monotrait criterion (HTMT). Tables 3 and 4 provide a summary of the acceptance criteria for the reported values for the purpose of validity and reliability of the scale [49]. As shown in Table 3, the square root of the AVE was found to be higher than the relationships among the constructs, thus providing support for the discriminant validity. In addition, the second method (HTMT) supports the discriminant validity as the values of all constructs in the model were within the acceptable range (i.e., below 90) [50, 51]. Therefore, it can be concluded that all values within the model have sufficient levels of reliability and validity.

Table 3. Fornell-Larcker criterion.

Constructs	CI	PEU	PU	SAT	SQ	TR
CI	0.80					
PEU	0.56	0.79				
PU	0.48	0.71	0.81			
SAT	0.67	0.58	0.48	0.80		
SQ	0.54	0.58	0.57	0.71	0.73	
TR	0.55	0.64	0.57	0.59	0.68	0.80

Table 4. Heterotrait-monotrait ratio (HTMT) – Matrix.

Constructs	CI	PEU	PU	SAT	SQ	TR
CI						
PEU	0.69					
PU	0.57	0.87				
SAT	0.80	0.71	0.57			
SQ	0.68	0.73	0.70	0.84		
TR	0.72	0.84	0.73	0.75	0.89	

7.3. Model Testing

PLS-SEM was used with the objective of performing inferential analysis to examine the impact of one or more independent variables on numerous dependent variables or of numerous independent variables on one dependent variable. As illustrated below, we have performed a series of inferential analyses to test the proposed hypotheses. H1, H2, and H3 assess the effect of perceived usefulness, perceived ease of use, and service quality on trust, while H4 and H5 test the influence of trust on customer satisfaction and their continuance intention. H6 evaluates the effect of customer satisfaction on the intention to continue the use of fintech services. A few items were removed from the model due to low factor loadings, ranging from 0.059 to 0.68.

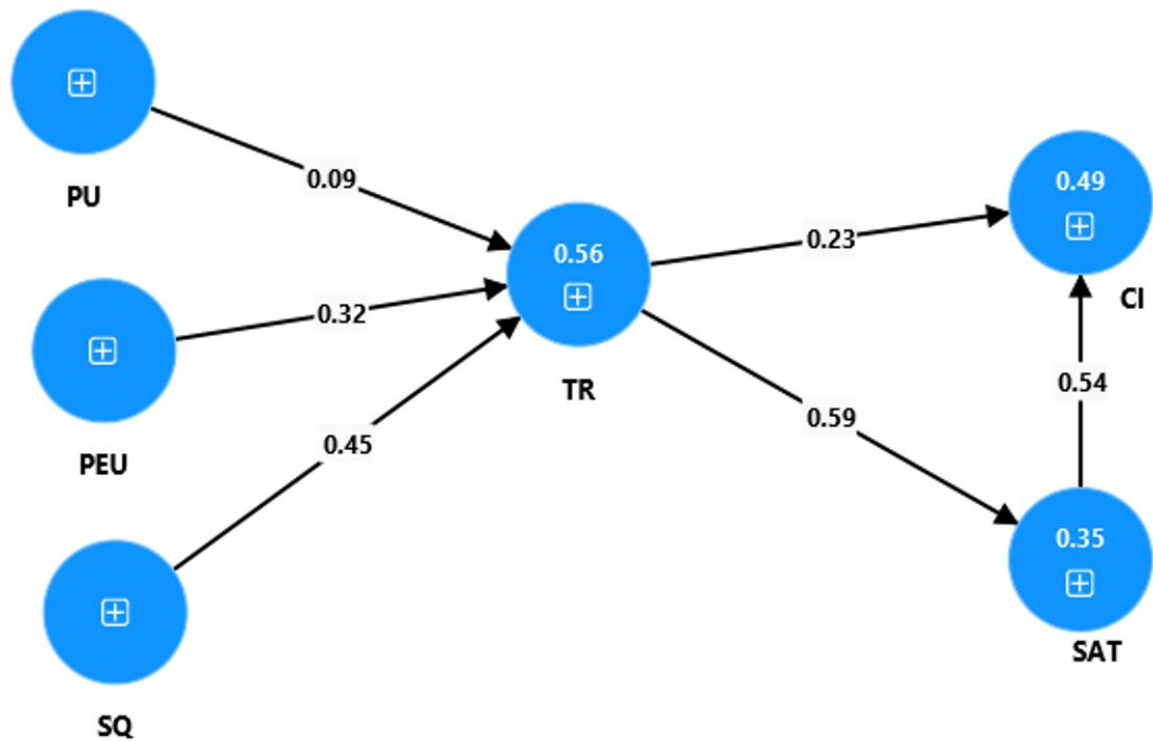Figure 4 illustrates the path coefficients of the structural model.

Figure 4. Path coefficients of the structural model.

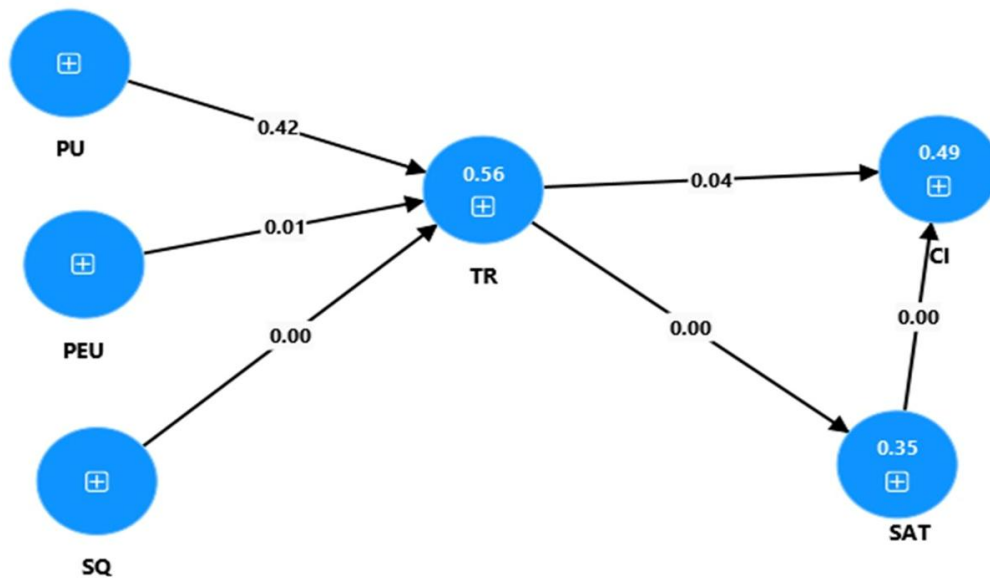Figure 5 illustrates the bootstrapping techniques with p-values.

Figure 5. Bootstrapping techniques with p-values.

Table 5. Result of the structural model hypotheses testing.

Hypothesis	Path of the variables	β	T values	P values	Remarks
H1	PU -> TR	0.09	0.81	0.42	Not supported
H2	PEU -> TR	0.32	2.67	0.01	Supported
H3	SQ -> TR	0.45	3.83	0.00	Supported
H4	TR -> CI	0.23	2.07	0.04	Supported
H5	TR -> SAT	0.59	9.25	0.00	Supported
H6	SAT -> CI	0.54	4.71	0.00	Supported
R-square		CI = 0.49	SAT = 0.35	TR = 0.56	
R square adjusted		CI = 0.48	SAT = 0.34	TR = 0.55	

Note: PU = Perceived usefulness; PEU= Perceived ease of use; TR = Trust; SQ = Service quality; SAT = Satisfaction; CI = Continuous intention to use.

8. DISCUSSION

This study examines the impact of certain fintech service characteristics on trust, as well as the effect of trust on customer satisfaction and the continuous intention to use fintech services. These characteristics are perceived usefulness, perceived ease of use, and service quality. The first part of the structural model, exhibited in Table 4 above, evaluates the relationship between perceived usefulness, perceived ease of use, service quality, and the customer's level of trust. The study found that perceived usefulness has no impact on the level of trust among consumers. Therefore, the hypothesis (H1) is not supported. The findings are inconsistent with prior studies, such as Ali, et al. [6] and Bergmann, et al. [30], which found that perceived usefulness has a significant positive effect on trust. While inconsistent with prior studies, the findings suggest that perceived usefulness may not always play an essential role in user trust, and there may be other factors, such as service quality, on which customers place greater significance.

On the other hand, the results suggested that there is a significant positive relationship between perceived ease of use and trust ($\beta = 0.32$, t = 2.67, p = .01 < 0.05), thus lending support to the hypothesis. Accordingly, the hypothesis (H2) is accepted. The results are consistent with Ali, et al. [6], who found that some aspects of ease of use have a significant effect on trust. It is also consistent with the study conducted by Bergmann, et al. [30] and Hikmah, et al. [29], which revealed a significant positive association between perceived ease of use and trust. The current study found that service quality has a significant positive effect on trust ($\beta = 0.45$, t = 3.83, p = .00 < 0.05). The hypothesis H3 is, therefore, fully supported by the data. The findings are consistent with prior studies, which indicate that perceived ease of use and service quality contribute to greater trust among fintech users. For instance, Roh, et al. [22] examine the effect of service quality on trust for a sample of customers in the Chinese fintech industry. Their study found that service quality has a significant positive impact on customer trust. As shown in Table 5, all three constructs (perceived usefulness, perceived ease of use, and service quality) explained 56% of the variance in trust in fintech services.

The second part of the structural model, exhibited in Table 4 above, evaluates the relationship between trust and customer satisfaction and their continuous intention to use fintech services. The results suggest that there is a significant positive relationship between trust and continuous intention ($\beta = 0.23$, t = 2.07, p = .04 < 0.05), indicating that trust has a significant impact on continuous intention and retention among the customers of fintech services. The hypothesis is fully supported by the data, and therefore, H4 is accepted. The results are consistent with prior studies such as Denaputri and Usman [27]; Ali, et al. [6] and Hassan, et al. [19], which suggest that users who trust fintech services provided by Islamic banks are more likely to continue their use and stick with the financial institution, thus supporting its retention strategies. However, the results contrast with those reported by Ahmed and Ali [11]; Abdul-Halim, et al. [31] and Hikmah, et al. [29], which suggest that trust has a negative or no significant effect on the customer's intention to continue the use of fintech services.

The results also revealed that trust has a significant positive impact on customer satisfaction ($\beta = 0.59$, t = 9.25, p = .00 < 0.05), indicating that customers who have greater trust in the reliability and quality of the fintech services are likely to be more satisfied with the financial institution. Therefore, the hypothesis (H5) is accepted. The results are consistent with Hasan, et al. [28] and Mainardes, et al. [16] who found that higher levels of trust lead to better and more satisfying customer experiences with fintech services. It is worth noting that the trust construct explained 35% of the variance in satisfaction. Refer to Table 5 for further details.

The third part of the structural model, exhibited in Table 4 above, evaluates the relationship between customer satisfaction and their continuous intention and retention of fintech customers. The results suggested that there is a significant positive association ($\beta = 0.54$, t = 4.71, p = .00 < 0.05) between customer satisfaction and the intention to continue using fintech services. Accordingly, the hypothesis (H6) is fully supported. The findings are consistent with prior studies, such as those by Ahmed and Ali [11]; Abdul-Halim, et al. [31] and Liu, et al. [38] which suggest that users who are satisfied with fintech services are more likely to continue using them and consequently be retained by

the financial institution. The data, as presented in Table 5, also show that trust and satisfaction explain about 50% of the variance in continuance intention.

9. CONCLUSION

The purpose of this study was to examine the impact of fintech characteristics, such as perceived usefulness, perceived ease of use, service quality, and trust, on overall customer satisfaction and their intention to continue using the Islamic bank's fintech services. The study found that fintech characteristics, such as perceived ease of use and service quality, significantly impact trust. Trust also significantly affects customers' satisfaction levels and their intention to continue using fintech services. The study results indicate that greater fintech adoption in Islamic banks contributes to higher customer satisfaction and retention. This suggests that fintech offers significant growth opportunities for Islamic banks, enabling them to attract new customers and retain existing ones.

The paper makes significant contributions. It fills the research gap in the literature by shedding light on the impact of certain fintech-related behavioral elements on overall customer satisfaction and retention in the East African context, a region less explored in prior studies. The paper also helps to better understand the mediating role that trust plays in determining the impact of fintech on customer satisfaction and retention. Additionally, it provides insights to Islamic bank stakeholders and regulators on the use of fintech and regulations related to fintech. The study also contributes to the literature on fintech and helps us gain a better understanding of the subject in the context of the Somalia environment. Furthermore, it assists Islamic bank management in making informed decisions about investments in fintech, which could help improve customer satisfaction, thereby enabling the Islamic bank to enhance customer retention through the continuous use of its fintech services.

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