

RESEARCH

Open Access



Service quality dimensions as predictors of customer loyalty in mobile payment services: moderating effect of gender

Pamela Liana^{1*} , Jan-Erik Jaensson² and Goodluck Mmari²

Abstract

The changes in market dynamics, customer-to-customer interactions, and the use of artificial intelligence have created a great concern among marketers in understanding customer behaviours such as customer loyalty. Policymakers account for the provision of quality service in terms of subscription numbers. However, little explains the impacts of these dynamics. Drawing up the service quality model, theory of planned behaviour (TPB) and customer loyalty model, the study examined the influence of service quality, technical quality (TQ), functional quality (FQ), and reputational quality (RQ) on customer loyalty (CL). Specifically, the study focuses on moderating gender differences to enhance robustness. Data were collected from 379 respondents and analysed using structural equation modelling (SEM) with smart PLS (partial least square). The results suggested that customer assessment of reputational quality was vital in m-payment services for both males and females. Female customers depicted a more significant positive relationship than male customers, meaning the former are more loyal than the latter. Technical quality negatively influences attitudinal customer loyalty, while functional quality affects behavioural loyalty. The study contributes towards understanding the role of the dimensions of service quality (dSQ), customer loyalty and gender differences. Theoretically, the foundation of this research adds up to the consideration of the moderation effect of gender and their differential assessment of technical and functional quality as predictors of customer loyalty. Implication to managers is improving marketing strategies, and policymakers provide a more enabling environment for m-payment service.

Keywords Technical quality, Functional quality, Reputational quality, Customer loyalty, m-payment

JEL Classification M3, M31, M39

Introduction

Customer loyalty (CL) in m-payment services is one of the growing concerns in the service-marketing literature today. There has been a great concern for understanding

customer loyalty as a part of consumer behaviours due to digitalization, the change in market dynamics and complexities that arose from consumer behaviour perspectives [8, 48, 49]. Some reasons for the current trend include access to big data, utilization of artificial intelligence robotics, increased marketing channels, traditional to online social networks and changes in consumer spending patterns [8, 30] [8, 30, 32]. This means service provision changed because of technological advancements, such as more personalized services and availability in unpleasant environments. Indeed, service providers need to work on customer loyalty in a competitive business environment, which benefits sales revenue and

*Correspondence:

Pamela Liana
pamela.liana2013@gmail.com

¹ Department of Marketing and Enterprise Management, Moshi Co-Operative University (MoCU), Sokoine Road, P.O Box 474, Moshi, Kilimanjaro, Tanzania

² Department of Marketing, Entrepreneurship and Management, The Open University of Tanzania, P.O Box 23409, Dar Es Salaam, Tanzania



© The Author(s) 2023. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

customer retention. Likewise, m-payment services play a key role in customers' lives with quick, convenient, and borderless services to retailers, manufacturers, businesses, and all essentials of life. For example, in the US, info graphics revealed that companies spend approximately \$2.47 billion on loyalty management [34].

Indeed, in the context of m-payment services, customer loyalty is defined as "a composition of attitudes arranged in a series of purchasing behaviours among competing companies logically" [61]. This study operationalizes that customer loyalty is a compilation of attitudes and behaviours towards m-payment services that repeat among customers, leading to competition among service providers. This study raises a question about how customer loyalty occurs in mobile payment services.

Scholars (i.e. Parasuraman Grewal [45]) argue that artificial intelligence algorithms might affect customer attitudes and behaviours, cutting off social contact, and such processes have consequences for customer loyalty. Elsewhere Mbawuni and Nimako [35] revealed that customers lack digital orientation and suggested that research practitioners should embark on studying consumer behaviour and reputation quality. This is especially true because a service customer exposed to mobile technologies is challenged by various services offered via digital devices and the absence of service employees, which may also affect the perception of service quality.

Consequently, customer loyalty is questionable when service providers address customer perceptions of service quality without focusing on the customer perspective. Some scholars including [5, 35] revealed that there was disloyalty due to "unfair practices, unfulfilled services and poor interactions with customers among telecom-based services". This means there is a need to understand the concept of service quality among m-payment customers. Likewise, previous studies [26, 37, 44, 55] found that service quality influenced customer loyalty. These studies were based on banking, blood donation, and educational services, contending that loyalty is formed by trust and commitment, and not by attitude and behavioural considerations. Furthermore, [27] conceptualized service quality in mobile banking services which involve bank services but the nature of contractual relationship differs with m-payment services. However, empirical finding is needed because the m-payment service is provided by telecoms, whose service is blended with normal calls and internet-related services.

Several studies consider m-payment customer loyalty based on satisfaction, intimacy and trust [26] switching intention [12], which could not give attention to customer attitudes and loyal behaviours. Indeed, in such circumstances, more research that is academic is needed to explain how customer loyalty is formed or developed or

how each service provider manages, obtain their customers and customer loyalty. In this paper, service quality is expressed in terms of Technical Quality (TQ) as the "outcome of service", functional Quality (FQ) as "what of the service", and Reputational Quality (RQ) as the "customers' perception of company attributes" [36].

Moreover, the view on TQ, FQ and RQ to customer loyalty was previously based on the firm's performance, trust, switching, speed and customer satisfaction [7], Cheng, n.d.; [40, 62]. Elsewhere, [11] suggested contrasting results, contending that there is a negative influence of the dimensions on customer loyalty, but used only SERVQUAL (Service Quality) measures. However, the debate is ongoing because there is the lack of consensus among scholars on customers' attitudinal and behavioural loyalty. For instance [61], addressing attitudinal and behavioural loyalty as dimensions of customer loyalty conceptualize and report the construct as a combination or separate, generates mixed views among marketing scholars. In addition, the constructs are originally different; they have to be built in line with their differences, which contradict the views of other scholars, such as [37], who argue for the combination of the constructs.

In the context of Tanzania, the country benefits from e-commerce and cross-border payment services as an object of extending the digital economy [44]. Info graphs further revealed that m-payments have higher penetrations than bank accounts in enhancing financial inclusion. There are 26 million mobile money users and 48.1 million telecom subscribers [60], whereby customers can have more than one m-payment service provider. However, the up scaling of service usage associates customers with different experiences; thus, it is necessary to understand the industry marketing aspect. Thus far, relying on the customer base to conceptualize issues such as customer loyalty takes time and effort. In addition, the industry faces challenges such as poorly applied regulations, high costs for small transactions, network coverage and connectivity [57, 59, 60].

However, the challenges in service provision disrupt customer assessment of service quality and its impact on customer loyalty. It may be unfair to evaluate service quality in terms of m-banking services in the same way as m-payment because the latter is peculiar to the telecom provider. In addition, these services are rendered concurrently with calling and Internet-related services. In these circumstances, in the developing world, where people are initially looking for affordable services and demand for the service is greater than the supply, customers are likely to choose the service because that is what the market can offer. Hence, marketers seek to develop marketing strategies according to their context and economic position, and emphasis on customer recommendation

and repurchasing may be a prerequisite for understanding the industry [57]. Besides, in Kalia [28] moderation role of gender in telecom service was studied on prepaid and post-paid customers but not on m-payment.

In the Tanzanian context, the m-payment business model, which resembles the Kenyan m-pesa, allows customers to handle different transactions via mobile devices. This differentiation makes this more interesting; hence, the paper intended to fill the knowledge gap. The study aims to answer attitudinal and behavioural loyalty questions to understand better the influence of service quality dimensions on customer loyalty as a marketing outcome. In addressing this knowledge gap, the current study employed the theory of planned behaviour [1], the service quality model by Gronros [30] and the customer loyalty framework by [13]. In previous studies, Kalia [28] and Hadi et al. [20] used different measures of service quality employed 5 dimensions of service quality moderated by gender and connection type, while [20] employed five dimensions of SQ mediated by customer satisfaction and switching cost. However, these studies were on cellular user and not payment services. Results obtained in this study contribute theoretically to the inclusion of attitudes and behaviours to match factors such as network and flat availability. To managers, there is a need to improve marketing strategies, and to policy makers, there is a need to provide a more enabling environment for the availability of service. Specifically, the paper examines the influence of service quality dimensions (i.e. technical quality, functional quality and reputational quality) on attitudinal and behavioural customer loyalty in m-payment services in DSM city.

The interest of the current study was on understanding mobile payment, customer's attitudinal and behavioural loyalty. The metaphor of customer loyalty being the symptom for unleashing payment service quality dimensions. Generally, the theory of planned behaviour (TPB) is one of the most applied theories in consumer behaviour studies. The theory is propounded by [1], as an extension of the theory of reasoned action [2], which explains the attitudinal and behavioural aspects fitting this research context. TPB is explained by behavioural intention, which explains elements that influence behaviour and the extent a person can agree to perform behaviour. Perceived behavioural control explains that attitude towards the behaviour can be favourable or unfavourable. The theory is useful to this study because it accommodates personal behaviour, considering behavioural control. This implies that unfavourable and favourable individual attitudes exerted behaviour and social norms surrounding behaviours [1].

In addition, scholars have pinpointed mixed information, contending that the theory needs to be revised in

consumer behaviour studies. One of the reasons is that consumer decision-making needs to be better expressed in digital era because customers are involved in service development, but also female and male customers respond differently to stimuli [8, 55]. The debate continues because other scholars (i.e. [31]) utilize online contexts in non-normal situations due to the challenge of digital skills among users [39]. The theory needs more empirical investigation, as the interest in this study is to investigate how attitudinal loyalty and behavioural loyalty are formed among m-payment customers. This led to the incorporation of Dick and Basu's [13] model of customer loyalty, which explains loyalty as conditions where a customer may have a highly favourable attitude towards the service yet have low repurchase behaviour. In addition, a customer may have high repurchase behaviour and yet have a low favourable attitude towards the service. However, the customer has a more loyal narrative way of integrating attitudes and behaviours, yet in a complex and context-bound, which necessitates conceptualizing them separately contending disloyalty [35, 40].

Since m-payment services operate with a customer who interacts with mobile devices, there are perceived controls of behaviours, yet other factors may play a part in the formation of attitudinal and behavioural loyalty. These factors may include network coverage [20], customer literacy/skills [39] towards the service and the influence of family members, friends and colleagues. For example, the m-payment customer may prefer to send money to a friend who uses the same service network provider but fails to do so because the location has low network coverage/unavailable network; hence, he/she sends money via another service provider. This scenario demonstrate a different domain; thus, it is interesting, to understand this relationship better. The current study employed [19, 36] model of service quality and considered the three dimensions [30] explained in the previous section.

The research model and hypotheses development

Service quality is one of the important predictors of marketing outcomes, such as customer loyalty in telecom services [11]. It is among the aspects that impact customer behaviours in terms of their attitudes and behaviours [14, 41]. Subsequently, research done by [18] on m-payment services in India revealed that customer loyalty is enhanced by trust and stimuli but could not explain the aspect of behaviours and attitudes of customers. The proposed research model elaborates concepts from other literature in response to the research questions. The model explains the relationship between the technical, functional, and reputational quality variables. The dependent variable is customer loyalty, explained

by behavioural customer loyalty (BCL) and attitudinal customer loyalty (ACL) in mobile payment services. The customer who evaluates service quality regarding TQ, FQ, and RQ becomes loyal to the m-payment services.

Customer loyalty is obtained during service offering whereby a customer can repeatedly recommend a service to others and repurchase the service, meaning that attitude and behaviours are favourable to the service [13]. This study examines customer loyalty by focusing on ACL and BCL dimensions, as drawn from [27] and [30]. In providing service in a mobile-based environment, quality is integrated with features of mobile/digital devices and customers' involvement in completing the service. This implies that TQ, FQ, and RQ provide a good picture of customer evaluations and the manner in which they influence ACL and BCL.

Service quality and customer loyalty

According to scholars (i.e. [11, 20]), service quality negatively influences customer loyalty to mobile phone services using measures of both attitude and behaviour; the paper explained mobile phone services such as phone calls but not m-payment services. A comparative quality or TQ was carried out in Pakistan involving other determinants such as customer satisfaction and switching costs. The findings have shown an insignificant relationship with customer loyalty. In addition, [20] found service quality to influence customer loyalty negatively. The study conceptualized service quality using SERVQUAL scales not only among Colombian telecom services, but also incorporated other loyalty measures, such as commitment and trust. This means that the constructs for this study are useful for the context of m-payment studies.

Technical quality and customer loyalty

According to Gi-Du Kang [29], technical quality refers to the outcome of the service, but further research has modified the dimension based on the service setting, for instance, transformative quality in education services [56] and comparative quality in cell phone services [28]. Additionally, [9] contends that speed and network are linked with customer satisfaction as part of technical quality in the mobile telecom market. These differences in services suggest a difference in the evaluation of the outcome of the service. This study defines the outcome of the service as where a customer evaluates technical quality as technical solutions provided in smothering service completion—for example, a cell phone service outcome compared with an m-payment service outcome. Similarly, technical quality studies on the effect of customer loyalty on mobile phone services lack empirical links to

attitudinal or behavioural loyalty [28]. They may or may not be significant to mobile network services [47].

H_{o1} Technical quality will significantly influence the relationship with attitudinal customer loyalty.

H_{o4} Technical quality will significantly influence the relationship with behavioural customer loyalty

Functional quality and customer loyalty

Functional quality in the m-payment study was adapted using [27, 46] Perspectives of mobile banking service quality. This was suitable because mobile application quality and banking service quality measures are consistent with m-payment service. According to [27], FQ explains continuous improvement, understanding customers, reliability, responsiveness, credibility, communication and courtesy. However, the operationalization of mobile banking services and m-payment services differs; integrating customer bank accounts and mobile phone services opposes the integration of telecom m-payment services and related services in the country. The infancy and lack of literature on m-payment services compel researchers to adapt banking sector measurement scales. According to Henao Colorado and Tavera Mesías (2022), functional quality and attitudinal loyalty negatively influence customer loyalty, which implies that it is useful to understand this relationship in this study.

H_{o2} Functional quality will significantly influence the relationship with attitudinal customer loyalty.

H_{o5} Functional quality will significantly influence the relationship with behavioural customer loyalty

Reputational quality and customer loyalty

Reputational quality refers to a company's reputation as an influencing factor of customer loyalty. This includes contributing to society and feeling that the company is superior, successful, and has a good reputation [30]. Customers are more focused on these criteria in the m-payment service, specifically when dealing with finances. Some scholarly empirical reviews (i.e. [9, 14]) have generated contradictory results regarding customer evaluations of reputation quality, suggesting no effect on loyalty, while others (i.e. [56]) have suggested a positive influence on customer loyalty. This is useful for m-payment services because the literature has yet to agree.

The following hypothesis is developed from this discussion:

H_{o3} Reputational quality will significantly influence the relationship with attitudinal customer loyalty.

H_{o6} Reputational quality will significantly influence the relationship with behavioural customer loyalty

Moderating effect of gender on the relationship between SQ dimensions and attitudinal loyalty

This study dwells on the moderation effect of gender on the relationship between RQ, TQ and FQ, and attitudinal. The purpose is the unleashing of male and female differences in enhancing customer loyalty. A loyal customer is important to a marketer because they acquire customers who can buy services and rebuy in a competitive business environment, which requires extra effort. In the context of m-payment service providers, increase the understanding of marketing trends and customer purchasing behaviour. According to Kalia [28], service quality dimensions such as assurance and empathy are more important to male than female customers. However, this study was on telecom services in India and conceptualized customer loyalty with trust and commitment dimensions, which do not reflect focus of this study. In Oly Ndubisi, [43], the study revealed that the perspective of gender is crucial. Female customers have shown more impact to loyalty in terms of expressing high level of trust than their male counterparts based on the trust-loyalty link in banking services in Malaysia. In contrast to these findings Faqih and Jaradat [15] found that gender differences in mobile commerce has no effect on the adoption of the service in developing countries. Being male and female do not affect consumer behaviour towards the adoption of new technology. The study only based on undergraduate students but they were not well exposed to mobile commerce activities. Understanding individual differences is important for marketing in making strategies but in the context of mobile services. Indeed other scholars [17, 38, 58], considered the adaption of the mobile service but this study has extend the construct to customer usage behaviour such as attitudinal customer loyalty aspect. The following are the hypothesis developed,

H_{7a} Gender will significantly moderate the influence of the relationship between technical quality and attitudinal customer loyalty.

H_{7b} Gender will significantly moderate the influence of the relationship between functional quality and attitudinal customer loyalty.

H_{7c} Gender will significantly moderate the influence of the relationship between reputational quality and attitudinal customer loyalty.

Moderating effect of gender on the relationship between SQ dimensions and behavioural customer loyalty

Gender differences are important in understanding customer variations in behaviours, which helps managers in developing strategies. For example, Glavee-geo and Shaikh [17] contended that in mobile banking services females presented a greater perception of usefulness of mobile banking service as compared to men. On the other hand, Mlambiti and Mori, [38] in Tanzania conceptualize gender's differences in the adoption of mobile banking, and found out as unimportant.

There is mixing information between dimensions of service quality technical quality, functional quality and reputational quality and customer loyalty. For instance, Teeroovengadum et al., [56] pinpointed that reputation quality have a positive influence on customer loyalty. In this context, the study extends further to the behavioural loyalty, which explains customer decision-making in repurchasing m-payment services. In addition, the lack of consensus presents a need for more empirical findings and inclusion of demographic factors such as gender.

Still, this study conceptualizes the customer behavioural loyalty and aspect rather than the usage of m-banking services. Besides, a study on Malaysia traditional banking services contended that a study on gender differences is crucial and has implications in marketing whereby women have higher impact to their loyalty than males [43]. The mobile payment sector involves personalized experience because it happens on one's mobile device, which is important to understand customer loyalty formation to different sexes. Thus, the study hypothesized as follows:

H_{7d} Gender will significantly moderate the influence of the relationship technical quality and behavioural customer loyalty.

H_{7e} Gender will significantly moderate the influence of the relationship between functional quality and behavioural customer loyalty.

H_{7f} Gender will significantly moderate the influence of the relationship between reputational quality and attitudinal customer loyalty.

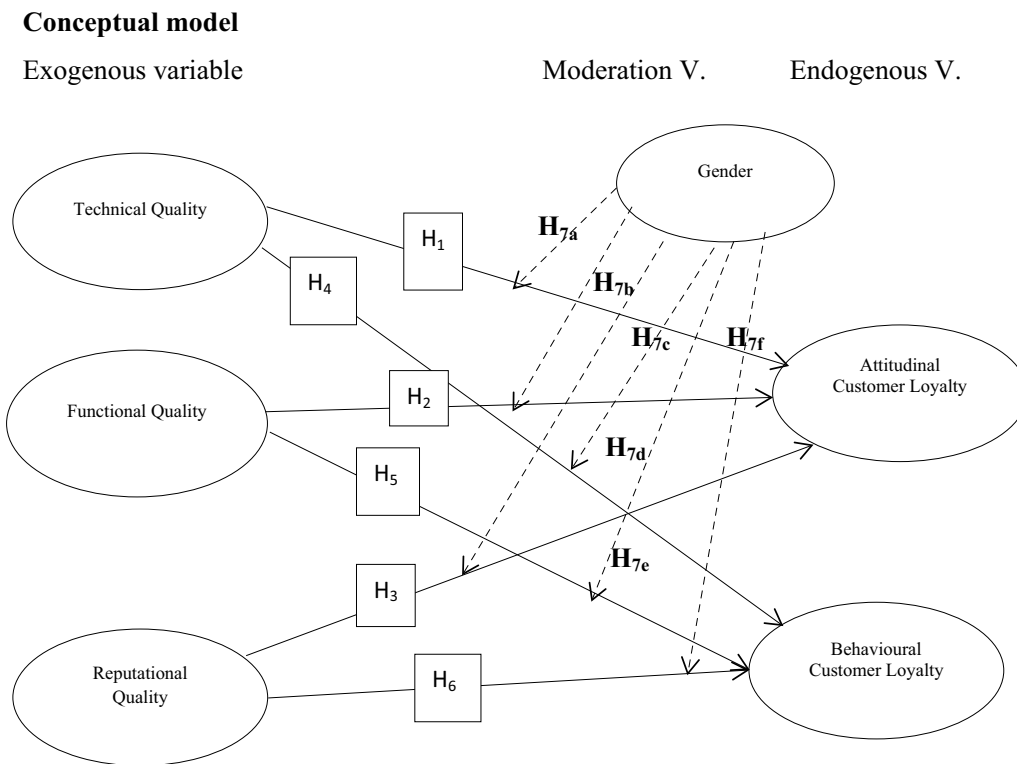


Fig. 1 Conceptual framework of this study

Conceptual model

Dick and Basu [13] proposed the customer loyalty model. According to this model, customer loyalty is formed on conditions such as true loyalty, spurious loyalty, no loyalty, and latent loyalty. This model claims that true loyalty is formed when there is integration between attitudes and behaviour. Indeed, a relative attitude has a relationship to the relative behaviour. The present study seeks to extend the understanding of customer loyalty by assessing the customer evaluation of service quality (which is in three dimensions: technical quality, functional quality and reputation quality). The service quality perspective in this study comes from the Gronroos [19] model of service quality.

Mobile payment service favours changes in market dynamics, customer-to-customer interactions, and the use of artificial intelligence because of advancements in technology. In the same situation, the customer is involved in a multichannel mobile service, which principally enhances the use of the service. For example, mobile payment customer is serviced by both the device and vendors. The Tanzanian experience demonstrates that a customer is able to send and buy several services, for instance, on the same device and on the same platform. Likewise, the customer uses m-payment service for other substituting services within the device and requires

transactions from that platform. Meanwhile, the service obtained from the vendor involves the use of the same device at the vendor’s office, which normally works for other services/competitors. This is interesting and creates a great concern among marketers in understanding customer behaviours such as customer loyalty. In addition, policymakers account for a provider’s quality of service in terms of subscription numbers, but little explains the impacts of these dynamics and customer behaviours and attitudes.

Moreover, the study is innovative in the sense that to enhance understanding of customer attitudes and behaviour; the study added the moderating effect of gender to expand the scope and make the study more rigorous. Figure 1 is based on previous literature explaining the moderation effect of gender on the relationship between the dimensions of service quality and customer loyalty.

Methods and analysis

Research design

This paper adopted a quantitative research method, which was specifically using a survey strategy. The cross-section research design was employed in order to examine the moderating effect of gender on the causal effect of technical quality, functional quality and reputation quality on attitudinal customer loyalty and behavioural

customer loyalty. This design allows the collection of data using a questionnaire, and this was conducted following the initial pre-test of the questionnaires.

The sample population and data collection

The target sample population in this paper was mobile payment customers from three major m-payment providers: M-pesa, Tigopesa, and Airtel Money in Dar es Salaam City (the major business hub in the country). Respondents were chosen based on a non-probability sampling technique because of the nature of customer; mobility, confidentiality, security, and sensitivity of m-payments. Convenience sampling was selected in this study based on the respondents' availability [20, 38]. The researcher waited at high streets and vendor shops, asking about respondents' willingness to participate. In addition, an opportunity for each case to be chosen is unknown due to the busiest aspect of the respondents in the city. This was followed by ensuring the respondent had used the service for the past year. This was also in line with studies on banking customers, in which the study asked respondents' willingness to participate in responding to questionnaires [55].

Pre-test study

Pre-testing of the contents of the questionnaire was conducted to test respondent's understanding and correctness of the questions. In addition, marketing professionals were consulted to provide opinions together with statistical experts to review the questions. A language expert was added to enhance evaluating face and content validity for clarity and testing, which ensured response bias.

In this study, data were collected between January and March 2021 and translated by experts into Swahili, which is mostly used in Tanzania. In total, 400 questionnaires were distributed and returned questionnaire was 379, with a response rate of 94.75 per cent after data cleaning, which is a high rate [28].

Instrumentation

The current study operationalized the constructs; the dependent variable was customer loyalty using a 7-point Likert scale ranging from "I strongly agree..." to "I strongly disagree..." with eight construct items. This scale measured m-payment customers' loyalty based on two key dimensions of customer loyalty adopted in this study: attitudinal and behavioural loyalty.

The independent variables were the dimension of service quality; the measures of the items were modified by other scholars (i.e. Gi-[29], and [27]). The three key dimensions were modified to suit the m-payment services' context as follows: (i) *technical quality* using six

items adapted from the studies by [8] [62], including technical solution, technical support, network performance, interaction with employees and speed. The study added two more items, performance and speed, from [8] because of the nature of m-payment services.

(ii) *Functional quality* was adapted from Kang and James [30] and included communication, credibility, responsiveness, access, understanding customers, continuous improvement, reliability, courtesy, and competence. The dimensions originated from an m-banking qualitative study and required systematic results [19].

(iii) *Reputation quality* adapted items from [30] comprise contribution to society, reputation, superior technology, honesty to customers and excellent service.

Data analysis

We employed PLS-SEM, multivariate techniques, which is useful for estimating and testing complex and multifaceted models. We particularly select Smart PLS3, software created by [50]. The PLS-SEM technique is also useful for determining the measurement and structural models. In addition, the PLS-SEM technique is suitable for this study because of its characteristics, such as improved major outcome variables, data distribution assumptions, and non-normal data for social science research [54]. Similar studies such as [3, 28] successfully applied the PLS-SEM technique based on service-marketing measuring attitudes and behaviours.

Results and discussion

This section explains the results and discussion of the study. Initially, the study explains the descriptive results, followed by an assessment of the measurement model. The discussions of the structural equation model followed, and the summary of the hypotheses. The subsection of the tested hypothesis follows explaining the moderation effect of the constructs under study. Finally, the section ends with subsections, which include contribution and implication to the theory, managerial implication, and limitations for future study.

Descriptive statistics results

The descriptive result in this study explains the sample characteristics of the respondents, showing that 53 per cent were males and 47 per cent were females. Age of the respondent includes; 78 per cent below forty-five years and 22 per cent forty-six years and above. The information about respondents' occupations shows that 72 per cent were self-employed, 21 per cent were full-time and 7 per cent were unemployed. In addition, 68.7 per cent were users for the duration of the past 5 years, while 28.8 per cent were using the service between 6 and 11 years,

and 2.5 per cent used for 12 years and above. These findings imply that the respondents have a considerable demand for m-payment services (Table 1).

Multicollinearity test

To evaluate multicollinearity, the study assessed multicollinearity among constructs. According to Shmueli et al.

[54], multicollinearity issues are detected when the value of the variance inflation factor exceeds 3. All constructs employed in the study confirmed no collinearity by conforming to the threshold value of the variance inflation factor. All the VIF values were below 3, which is also supported by [42]. The following are the results of the variance inflation factors: FQ-ACL had VIF of (1.327), TQ-ACL (1.243), FQ-BCL (1.093), RQ-ACL (1.493) and TQ-BCL (1.093).

Table 1 Respondent’s profile

Age	Percentage
45 years and below	78
46 years and above	22
Gender	Percentage
Male	53
Female	47
Occupation	Percentage
Self employed	72
Employed	21
Unemployed	7
M-payment usage	Percentage
For the past 5 years	68.8
For the past 6–11 years	28.8
12 years and above	2.5

Assessment of measurement model

Initially, the measurement model was extracted to compute the convergent validity. Results are reported to assess the measurement model as suggested in other studies (Joseph F. [22, 54]. The Common Method Bias (CMB) was ensured, and the study employed the Harman single-factor test for identifying CMB. There are several ways that CMB can occur before and after data are collected. The test used SPSS 26 to compute the Harman single test using principal component analysis. The results obtained show that the single-factor variance explained was 31.27 per cent, which meets the threshold of not exceeding 50 per cent. Thus, the results obtained depict that there was no CMB. Table 2 presents factor loadings, Cronbach alpha (CA), composite reliability (CR) and average variance extract (AVE).

Table 2 Measurement model assessment

Constructs	Items	Loadings	CA	CR	AVE
ACL	I always consider my m-payment provider as my first choice	0.867	0.709	0.838	0.635
	I consider myself to be a loyal customer	0.813			
	I encourage sharing information about m-payment providers with friends, family members and colleagues, close people	0.700			
BCL	I will keep using the m-payment service provider	0.833	0.705	0.833	0.626
	I will use this provider the next time I need a new service	0.757			
	I occasionally consider switching to another service provider	0.780			
FQ	Whenever I am paying my bills, I receive service with promptness	0.573	0.727	0.810	0.580
	I received mobile payment services correctly, as I expected	0.521			
	My provider improved customer service and offered	0.600			
	When I call the service centre, I find them willing to help with my inquiry	0.618			
	I get personal attention when calling the service centre	0.695			
	There is continuous improvement in mobile payment services	0.685			
	My provider keeps me informed on important information	0.606			
RQ	My provider provides an excellent service	0.795	0.867	0.900	0.601
	My service provider is successful	0.816			
	My service provider makes many contributions to society	0.725			
	It has superior mobile phone technology in m-payment services	0.797			
	My provider is sincere with her customers	0.731			
TQ	My provider has a good reputation	0.782	0.784	0.827	0.617
	My mobile payment services provider completed the service successfully	0.816			
	Mobile payment services can be completed without interaction	0.856			
	When I wrongly transfer money to an unexpected person, I get a technical solution	0.674			

Table 3 Results of Discriminants validity analysis: Heterotrait–Monotrait ratio (HTMT)

	Attitudinal CL	Behavioural CL	Functional quality	Reputational quality	Technical quality
Attitudinal CL					
Behavioural CL	0.657				
Functional Q	0.724	0.530			
Reputational Q	0.742	0.771	0.645		
Technical Q	0.622	0.567	0.655	0.626	

CL Customer loyalty, Q Quality

This paper tested the reliability using the composite reliability (CR) in Table 2; the value exceeded the recommended threshold of 0.7 and above. According to scholars (i.e. Joseph [22]), composite reliability is more acceptable in PLS-SEM analysis than Cronbach's alpha because of the ability to measure the weight of the constructs. To test, the validity initially included constructing validity that entails checking with three marketing experts on the constructs developed in the questionnaires linking them with the hypotheses. Second, the face validity followed, whereby a pilot test of 25 surveyed questionnaires were distributed to a sample in Morogoro, and suggestions and comments were added to the respective constructs. Moreover, the convergent validity was then computed to check whether the measurement model was above 50 per cent to show that it exceeded the prescribed threshold [4, 24]. As presented in Table 2, the convergent validity was adequate, with the AVE values ranging from 0.580 to 0.635. Thus, the convergent validity assessment supports the study.

Furthermore, we assessed the discriminant validity. We studied the constructs as shown in Table 3, whereby we compared the loadings of these items with their cross loading. Table 3 illustrates the discriminant validity assessment employed in this study, the Heterotrait–Monotrait (HTMT) criterion, which is explained by the average variance were extracted in squared values of the construct correlation [25]. The threshold value of the HTMT criterion is 0.95 and below, which is also found in Bhatta et al. [6].

Structural equation modelling analysis

Initially, the measurement model estimation was conducted using PLS modelling to determine the measurement and structural models. According to scholars (i.e. Joseph [22]), structural model assessments explain robustness checks such as no collinearity. The variance inflation factor (VIF) was computed to check collinearity between the pair of latent variables, which should be below the threshold of 3, which was necessary to reduce bias in path analysis results ([9] et al.) [51]. The values obtained indicate that the VIF values ranged from 1.251

to 2.371, which confirms the absence of collinearity issues among indicator constructs.

The R^2 explains the variance of each dependent variable, meaning that the results of the model explanatory power [54] obtained for males and females using the model fit were achieved with acceptable R^2 values for attitudinal customer loyalty, males 0.417 and females 0.330, while in behavioural customer loyalty, the value was 0.403 for males and 0.340 for females. According to scholars (i.e. [53, 54]), endogenous variables should have R^2 , which indicates predictive accuracy of 0.3–0.5 as acceptable Foroudi et al. [16]. Based on these results, the structural model has explanatory power, and the value of R^2 is acceptable in marketing studies [20, 45]. Moreover, the predictive accuracy Q2 in this study is CL 1(0.210), CL2 (0.207), CL 4(0.103), CL 5(0.129), CL 6(0.095) and CL 8(0.071). The results involve endogenous constructs which have threshold values exceeding 0, 0.025, and 0.5, which explains the small, medium and larger predictive relevance [54]. The endogenous variable's indicators explain a medium predictive power, which is acceptable in marketing research.

Direct effect relationships

The study embarked on establishing a direct relationship between the service quality dimensions and customer loyalty before working on gender roles. The coefficient of determination R^2 for the direct relationships indicates that BCL was 35.9 per cent while ACL was 31.0 per cent, explaining the importance of model predictive power, which enhances managerial commendations. Table 4 presents the direct effect relationships of the hypothesis testing.

Reputational quality and customer loyalty (H_3 and H_6)

The direct relationship in Table 4 illustrates that, RQ on ACL and RQ on BCL revealed that the relationships align with the conceptual framework that shows that the RQ influences both attitudinal and behavioural customer loyalty. The findings show further that RQ has the most significant influence with ($b=0.335$, $p<0.05$); for ACL, the hypothesis was supported, and ($b=0.510$, $p<0.00$)

Table 4 Hypothesis testing of the direct relationship

No	Hypotheses	β	Standard deviation (STDEV)	T statistics	P values	Results
H ₁	TQ→ACL	0.111	0.058	1.917	0.056	Rejected
H ₂	FQ→ACL	0.240	0.076	3.151	0.002	Accepted
H ₃	RQ→ACL	0.335	0.066	5.063	0.000	Accepted
H ₄	TQ→BCL	0.156	0.053	2.951	0.003	Accepted
H ₅	FQ→BCL	0.011	0.067	0.170	0.865	Rejected
H ₆	RQ→BCL	0.510	0.060	8.493	0.000	Accepted

with BCL, the hypothesis was supported. The findings revealed a strong positive influence of RQ towards customer loyalty, which implies that RQ is important in customer loyalty formation in the context of m-payment services. This also implies that RQ, customer perceptions of the service provider's excellent service, contribution to society and good reputation influence the recommendations and repurchasing. Indeed, customer evaluations of the RQ of the m-payment service provider influence customer attitudes and behaviour, hence customer loyalty towards the service. These findings contradict those in the previous studies (i.e. [9, 20]), which found that BCL had no relationship with customer loyalty.

Technical quality and customer loyalty (H₁ and H₄)

The two hypothesized components of customer loyalty, namely ACL and BCL in m-payment services, generate contrastive findings. The findings shown in Table 4 from the BCL in hypothesis H₄ revealed that the TQ effect is stronger for BCL and had a path coefficient with ($b=0.156$, $p<0.03$), which was accepted. On the other hand, the results from hypothesis (H₁) were accepted, revealing that ($b=0.111$, $p<0.056$) TQ causes a negative influence on technical quality and attitudinal loyalty relationship.

This implies that TQ needs more importance in changing their attitude, such as recommending m-payment service providers to others. This reflects the peculiarity of m-payment in the developing world, where the demand for m-payment services exceeds the supply, where digital orientations and better connectivity could be more adequate; thus, m-payment customers may likely tolerate the situation but may not say anything positive about the service to others. This finding is also accepted by other findings from empirical studies [62].

Functional quality and customer loyalty (H₂ and H₅)

The findings from Table 4 indicate that the H₂ and H₅ imply that the FQ in hypothesis H₂ indicated a positive effect on ACL ($b=0.240$, $p<0.02$), which was accepted. In contrast, H₅ indicated that the FQ negatively influences BCL ($b=0.011$, $p<0.865$); this was rejected. This

Table 5 Goodness of fit for gender difference

Estimated parameter	Estimated models	
	Control group (Males)	Treatment group (Females)
Chi-Square	597.393	625.888
SRMR	0.062	0.058
d_ULS	1.683	2.409
NFI	0.667	0.540

implies that promptness of service, continuous improvement, communications, access and reliability influenced customer recommendations and, hence, attitudinal loyalty. Likewise, as these occur during the evaluation of the service process (FQ), which negatively influenced repurchasing and occasionally switching, there was no BCL. This implies that, even if m-payment is one of the most convenient forms of payment, repurchasing is not probably affected by the reliability and continuous improvement of the service. The findings confirm the view that communication with a customer, well-addressed complaints, continuous improvement of the service and the ability to understand customers may have a positive influence on attitudinal loyalty, but this may not necessarily be the case with behavioural loyalty for some services such as m-payment, which reported contrastive findings regarding functional quality-loyalty relationship [11, 62].

Fit indices

Table 5 explains that model goodness of fit for gender differences, which was tested using SRMR for male and female respondents, which was (0.058) for females and (0.062) for males revealing sufficient goodness of fit below the threshold of 0.8, which is the acceptable amount. The structural model consists of the hypothesized constructs indicated in hypotheses one to six. In the path analysis, the bootstrapping technique was adopted for a minimum sample of 5000 (Joe F. [21]). The measurement model contains the outer loadings of the

Table 6 Moderating effect of males on the relationship between the dimensions of service quality and customer loyalty

Path hypotheses	Control group (male respondents)					
	ACL			BCL		
	$R^2 = 0.417$			$R^2 = 0.403$		
	Coef(β)	t	p-value	Coef(β)	T	p-value
FQ	0.272	3.111	0.002**	0.054	0.754	0.451*
RQ	0.388	5.627	0.000	0.536	9.001	0.000***
TQ	0.110	1.368	0.172	0.119	1.596	0.111***

* Correlation is significant at 0.05 level,

**Correlation is significant at 0.01 level,

***Correlational is significant at 0.001 level

observed items to the latent variables, and the structural model contains the inner loadings of the latent variables. In Table 5, the study indicates the estimated model for male and female respondents.

Testing for the moderating effect of gender

The test for the moderating effect of gender involved three dimensions of service quality (technical quality, functional quality and reputational quality) effects on attitudinal customer loyalty and behavioural customer loyalty. We conducted PLS-MGA, which was also suggested by Oly Ndubisi, [43]. TQ, ACL, and BCL results were divided into two groups: the control group/male respondents and the treatment group/female respondents.

Moreover, the structural model assessment for moderation necessitated the evaluation of moderation and the explanation of the endogenous construct (Joseph F [23]). The threshold value for f^2 should be 0.02, termed small, 0.15, termed medium and 0.35 as the large effect size [10].

The value of effect size is obtained in the following mathematical computation

$$f^2 = \frac{R2_{included} - R2_{excluded}}{1 - R2_{included}}$$

where by f^2 = effect size.

R^2 included and excluded = are the values of R^2 of the dependent variable in control and treatment.

The results obtained include f^2 for ACL; $(0.417 - 0.333) / (1 - 0.417) = 0.144$ and.

f^2 for BCL; $(0.403 - 0.346) / (1 - 0.403) = 0.09$. Thus, this study met the standard cut-off point for f^2 . Explaining the predictor relevance of the dependent constructs is concise for further analysis.

The results in Table 6 reveal that male respondents portray a significant positive relationship between RQ and ACL ($b = 0.388, p < 0.00$), RQ and BCL ($b = 0.536,$

$p < 0.000$), and FQ and ACL ($b = 0.272, p < 0.002$). In contrast, male respondents portray a significant positive relationship towards TQ and ACL ($b = 0.111, p < 0.172$), TQ and BCL ($b = 0.119, p < 0.111$), and FQ and BCL ($b = 0.054, p < 0.451$). This implies that male respondents are likely to recommend the service when the mobile provider is reputable, communicative and responsive and makes some improvements to the service. Indeed, this group of respondents considers TQ assessment less important and does not affect their recommendation/ACL. Male customers strengthen the relationship between dimensions of service quality and attitudinal customer loyalty, which is different from female counterpart.

Table 7, on female respondents, reveals that there is a significant positive relationship between RQ and ACL ($b = 0.321, p < 0.007$); RQ and BCL ($b = 0.387, p < 0.000$); FQ and ACL ($b = 0.319, p < 0.005$); FQ and BCL ($b = 0.158, p < 0.045$); and TQ and BCL ($b = 0.205, p < 0.007$). On the other hand, the relationship between TQ and ACL ($b = 0.101, p < 0.225$) was different, with a significant negative relationship. Drawing the same reasons for the significant positive relationships, women have portrayed an individual result compared to males and the direct relationship of constructs. This implies that women tend to rely on each other, supporting each other with a second opinion in buying or decision-making [33]. Likewise, a better assessment of received technical solutions and less interruption propel them to repurchase m-payment services, portraying BCL. This is further explained by the nature of mobile payment services, which can sometimes be more personal, as women consider it difficult to share their experiences regarding their encounters, probably for security reasons. Our study further confirms that women’s assessment of service quality dimensions exerts a stronger impact on their behavioural customer loyalty in the mobile payment context compared to male counterparts.

Table 7 Moderating effect of females on the relationship between the dimensions of service quality and customer loyalty

Path hypotheses	Treatment group (Female respondents)					
	ACL			BCL		
	$R^2 = 0.333$			$R^2 = 0.346$		
	Coef	T	p-value	Coef	t	p-value
FQ	0.319	2.796	0.005*	0.158	2.006	0.045
RQ	0.321	2.723	0.007*	0.387	4.585	0.000
TQ	0.101	1.215	0.225***	0.205	2.685	0.007

* Correlational is significant at 0.05 level,

** Correlational is significant at 0.01 level

***Correlational is significant at 0.001 level

Contributions and implications to the theory

Initially, the results in this study extend empirical and contextual understanding by combining service-marketing studies with mobile financial-based services, integrating the literature, and providing an experience from sub-Saharan Africa. Although scholars (i.e. [52], and [55]) considered the moderating effect of gender difference and the relationship between dimensions of SQ and customer loyalty, there is a conceptual difference between dimensions of service quality (dSQ) and ACL and BCL. This is unique because it utilized the service quality model in mobile payment services where financial services are handled with customer self-service, including the presence of a multichannel that is personal devices and service vendors, but mobile apps were not the interest of this study.

The study focused on understanding gender differences in the relationship between the dimensions of service quality (reputational, functional and technical quality) and attitudinal customer loyalty, as well as dimensions of SQ and behavioural loyalty. Although scholars (i.e. [52, 55]) considered moderating effect of gender difference, the relationship between dimensions of SQ and customer loyalty, the current dSQ contributes to the TPB, customer loyalty model and service quality model [1, 13, 19]. The study employed complex model search as PLS-SEM, which is capable of handling multifaceted constructs search as customer loyalty and service quality together with the multigroup analysis to add methodological rigour and an opportunity for future studies in the context.

The moderating effect of gender shows an important practical and theoretical contribution whereby the dSQ is context-specific. The findings show that females and males in the context of m-payment service have differences on how they strengthen the relationship between the dimensions of service quality and customer loyalty. Male respondents have more impact on attitudinal customer loyalty than behavioural customer loyalty while

female respondents have more impact on behavioural customer loyalty than attitudinal customer loyalty. The results are in contrast with other studies (i.e. [19]), which was the foundation of the model projecting saloon and medically related service, which in the digital era proves differently that what influences customer behaviour and attitudes is more than the availability of network and vendor's float (available cash).

Managerial and practical implications

This study's findings bring scientific value as they are useful for managerial decision and forming marketing strategies, which are necessary for mobile operators. The operators should work on the technical part of the service to enhance attitudinal loyalty and the functional part, that is, how the service improves behavioural loyalty. The study further suggests that service providers/mobile operators should consider their marketing strategies following customer recommendations about their services (TQ and FQ), examples are those who air out their problems on social networking sites. In addition, the study is practically useful for managers and customer service vendors, emphasizing mobile operators to pay attention to male and female customers to capture such important gender differences. Moreover, policymakers should provide a more enabling environment for mobile phone service providers, thus promptly enhancing attending to customer needs, and maintaining customer loyalty.

Limitations and future studies

This study specifically aimed to examine the assessment of service quality dimensions and their influence on customer loyalty with the moderating effect of gender. A limitation was that the study was conducted in Dar es Salaam city, where business transactions are enormous with budget constraints, and the research needed to cover nearby places. Therefore, further studies should focus on customer loyalty in m-payment services to generate more

insights into consumer behaviour in the digital era. The study's methodological choice can be enriched by adding moderators such as duration of service usage, marketing channels and regulatory framework. Other studies could examine contextual aspects outside the major cities, which do not have any business, such as those found in the cities, which means that studies can extend to other regions. In addition, comparison between developed and developing countries where there is a difference in network availability will bring other insights. Other future studies may embark on other moderators, such as demographic variables, for more insights into the m-payment context. Lastly, this was a quantitative study; thus, future research can use the mixed method, including obtaining combined insights with a qualitative perspective.

Conclusion

The study examined two key objectives: the influence of service quality dimensions (i.e. technical quality, functional quality and reputational quality) on attitudinal and behavioural customer loyalty. The second is to check the moderating effect of gender differences on search relationships in m-payment services.

We found out that female customers depicted high impact on attitudinal customer loyalty than male counterparts. On the other hand, female respondents expressed high impact on behavioural loyalty than male customers. TQ portrayed a significant negative relationship to males than to females on attitudinal customer loyalty, and a positive behavioural loyalty. This means that customers find TQ less important in assessing attitudinal loyalty but consider it when assessing repurchasing. Recalling, network and connectivity challenges might be causing this variation and the use of digital devices in rendering the service and customer service provider/service employee connection is reduced; hence, there is no choice. The study was conducted in a major city that is Dar Es Salam, where there are many businesses, and the service is highly used.

The study employed complex model such as PLS-SEM, which is capable of handling multifaceted constructs search as customer loyalty and service quality together with the multigroup analysis to add methodological rigour and an opportunity for future studies in the context. This is unique because it utilized the service quality model [13, 19, 30] in mobile payment services where financial services are handled with customer self-service, including the presence of multichannel, that is, personal devices and service vendors, but mobile apps were not the interest of this study. This study's findings bring scientific value as they are useful for managerial decision-making and forming marketing strategies, which are necessary for mobile operators.

Abbreviations

M-payment	Mobile payment
CL	Customer loyalty
ACL	Attitudinal customer loyalty
BCL	Behavioural customer loyalty
SQ	Service quality
dSQ	Dimensions of service quality
TQ	Technical quality
FQ	Functional quality
RQ	Reputation quality
TCRA	Tanzania communication regulatory authority
PLS-MGA	Partial least square multigroup analysis
SEM-PLS	Structural equation model-partial least square

Acknowledgements

The author would like to thank all the anonymous reviewers and the editors for their insightful comments.

Author contributions

PLN collected data, designed the methodology and wrote all sections in the manuscript under the guidance of JJ and GM. All authors agreed to the publication of this work.

Funding

Not applicable.

Availability of data and materials

The data employed in the present study are mainly obtained by individually visiting point of sales, vendors and referrals from previous respondents within Dar es Salaam city, namely Ilala, Temeke and Kinondoni. A total of 400 questionnaires were distributed and 379 questionnaires were used for further analysis.

Declarations

Ethics approval and consent to participate

This material is the author's original work which has not been previously published somewhere else. Also this paper is not under consideration for publication elsewhere. All participants approved their information to be included in this paper.

Consent for publication

This paper do not contain any individual person's data of any form hence is not applicable.

Competing interests

The author declared no potential of interest regarding the research authorship and publication of this research paper.

Received: 19 June 2023 Accepted: 14 November 2023

Published online: 02 December 2023

References

1. Ajzen I (1991) The theory of planned behaviour. *Organ Behav Human Decis Processes* 50(1):179–211. <https://doi.org/10.47985/dcidj.475>
2. Ajzen I, Fishbein M (1980) Understanding attitudes and predicting social behavior. Prentice-Hall, Englewood Cliffs
3. Amin M, Ryu K, Cobanoglu C, Rezaei S, Mawar M (2020) Examining the effect of shopping mall attributes in predicting tourist shopping satisfaction and behavioral intentions : variation across generation X and Y. *J Qual Assur Hosp Tour* 22:367–394. <https://doi.org/10.1080/1528008X.2020.1818667>
4. Anderson JC, Gerbing DW (1988) Structural equation modeling in practice: a review and recommended two-step approach. *Psychol Bull* 103(3):411

5. Bhatnagar SB, Mishra JK, Syed AA (2019) Customer disloyalty in retail banking services: attitudinal and behavioural dimensions. *Asia-Pacific J Bus Adm* 11(1):46–67. <https://doi.org/10.1108/APJBA-08-2018-0124>
6. Bhatta DD, Sarfraz M, Ivascu L, Pislaru M (2023) The nexus of corporate affinity for technology and firm sustainable performance in the era of digitalization: a mediated model. *Sustainability* 15(12):9765
7. Birch-Jensen A, Gremyr I, Halldórsson Á (2020) Digitally connected services: improvements through customer-initiated feedback. *Eur Manag J* 38(5):814–825. <https://doi.org/10.1016/j.emj.2020.03.008>
8. Cham J, Huei T, Cheah H, Ali M, Kim M, Fam S, László J (2022) Digitalization and its impact on contemporary marketing strategies and practices. *J Mark Anal* 10(2):103–105. <https://doi.org/10.1057/s41270-022-00167-6>
9. Cheng S-I (2011) Comparisons of competing models between attitudinal loyalty and behavioral loyalty. *Int J Bus Soc Sci* 2(10):149–166
10. Cohen J (1988) *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum
11. Colorado H, Laura C, Tavera M, Fernando J (2022) Understanding antecedents of consumer loyalty toward an emerging country's telecommunications companies. *J Int Consum Mark* 34(3):270–297. <https://doi.org/10.1080/08961530.2021.1951917>
12. Dey BL, Al-Karaghouli W, Minov S, Babu MM, Ayios A, Mahammad SS, Binsardi B (2020) The role of speed on customer satisfaction and switching intention: a study of the UK mobile telecom market. *Inf Syst Manag* 37(1):2–15. <https://doi.org/10.1080/10580530.2020.1696526>
13. Dick AS, Basu K (1994) Customer loyalty: toward an integrated conceptual framework. *J Acad Mark Sci* 22(2):99–113. <https://doi.org/10.1177/0092070394222001>
14. El-Manstrly D, Harrison T (2013) A critical examination of service loyalty measures. *J Mark Manag* 29(15–16):1834–1861. <https://doi.org/10.1080/0267257X.2013.803139>
15. Faqih KMS, Jaradat MIRM (2015) Assessing the moderating effect of gender differences and individualism-collectivism at individual-level on the adoption of mobile commerce technology: TAM3 perspective. *J Retail Consum Serv* 22:37–52. <https://doi.org/10.1016/j.jretconser.2014.09.006>
16. Foroudi P, Gupta S, Sivarajah U, Broderick A (2018) Investigating the effects of smart technology on customer dynamics and customer experience. *Comput Hum Behav* 80:271–282. <https://doi.org/10.1016/j.chb.2017.11.014>
17. Glavee-Geo R, Shaikh AA, Karjaluo H (2017) Mobile banking services adoption in Pakistan: are there gender differences? *Int J Bank Mark* 35(7):1090–114
18. Goel P, Garg A, Sharma A, Rana NP (2022) I won't touch money because it is dirty: examining customer's loyalty toward M-payment. *Int J Bank Mark* 40(5):992–1016. <https://doi.org/10.1108/IJBM-06-2021-0272>
19. Gronroos C (1984) Article information. *Eur J Mark* 18(4):36–44
20. Hadi NU, Aslam N, Gulzar A (2019) Sustainable service quality and customer loyalty: the role of customer satisfaction and switching costs in the Pakistan cellphone industry. *Sustainability* 11(8):1–17. <https://doi.org/10.3390/su11082408>
21. Hair JF, Ringle CM, Sarstedt M (2011) PLS-SEM: indeed a silver bullet. *J Mark Theor Pract* 19(2):139–152. <https://doi.org/10.2753/MTP1069-6679190202>
22. Hair JF, Risher JJ, Sarstedt M, Ringle CM (2019) When to use and how to report the results of PLS-SEM. *Eur Bus Rev* 31(1):2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
23. Hair JF, Hult GT, Ringle CM (2017) *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). Sage Publication Inc.
24. Hair JF, Ringle CM, Sarstedt M (2013) Partial least squares structural equation modeling: rigorous applications, better results and higher acceptance. *Long Range Plan* 46(1–2):1–12. <https://doi.org/10.1016/j.lrp.2013.01.001>
25. Henseler J, Hubona G, Ray PA (2015) Using PLS path modeling in new technology research : updated guidelines. *Indus Manag Data Syst* 116(1):2–20. <https://doi.org/10.1108/IMDS-09-2015-0382>
26. Herhausen D, Kleinlercher K, Verhoef PC, Emrich O, Rudolph T (2019) Loyalty formation for different customer journey segments. *J Retail* 95(3):9–29. <https://doi.org/10.1016/j.jretai.2019.05.001>
27. Jun M, Palacios S (2016) Examining the key dimensions of mobile banking service quality: an exploratory study. *Int J Bank Mark* 34(3):307–326
28. Kalia P (2021) Determining the role of service quality, trust and commitment to customer loyalty for telecom service users: a PLS-SEM approach. *TQM J* 33(7):377–396. <https://doi.org/10.1108/TQM-04-2021-0108>
29. Kang GD (2006) The hierarchical structure of service quality: integration of technical and functional quality. *Manag Serv Qual* 16(16):37–50
30. Kang GD, James J (2004) Service quality dimensions: an examination of Grönroos's service quality model. *Manag Serv Qual Int J* 14(4):266–277. <https://doi.org/10.1108/09604520410546806>
31. Khan FN, Arshad MU, Munir M (2023) Impact of e-service quality on e-loyalty of online banking customers in Pakistan during the Covid-19 pandemic: mediating role of e-satisfaction. *Future Bus J* 9(1):1–12. <https://doi.org/10.1186/s43093-023-00201-8>
32. Kim J, Steinhoff L, Palmatier R (2021) An emerging theory of loyalty program dynamics. *J Acad Mark Sci* 49:71–95. <https://doi.org/10.1007/s11747-020-00719-1>
33. Ma E, Qu H, Eliwa RA (2014) Customer loyalty with fine dining: the moderating role of gender. *J Hosp Market Manag* 23(5):513–535. <https://doi.org/10.1080/19368623.2013.835250>
34. Market research report (2020) *Fortune business insight*. <https://www.fortunebusinessinsights.com/industry-reports/infographics/loyalty-management-market-101166> retrieved 22.09.2021 at 9:39 AM
35. Mbawuni J, Nimako SG (2016) Why dissatisfied mobile subscribers stay: role of service use experience, commitment and corporate reputation. *Int Bus Res* 9(6):112–119. <https://doi.org/10.5539/ibr.v9n6p112>
36. Medberg G, Grönroos C (2020) Value-in-use and service quality: do customers see a difference? *J Serv Theory Pract* 30(4–5):507–529. <https://doi.org/10.1108/JSTP-09-2019-0207>
37. Melián-Alzola L, Martín-Santana JD (2020) Service quality in blood donation: satisfaction, trust and loyalty. *Serv Bus* 14(1):101–129. <https://doi.org/10.1007/s11628-019-00411-7>
38. Mlambiti R, Mori N (2020) Determinants of customers' adoption of mobile banking in Tanzania: further evidence from a diffusion of innovation theory. *J Entrepreneurship Manag Innov* 16(2):203–230. <https://doi.org/10.7341/20201627>
39. Nandonde F A (2018) Stand-alone retail owners' preference on using mobile payment at the point of sales (POS): Evidence from a developing country. In: *Marketing and mobile financial services: a global perspective on digital banking consumer behaviour* (pp. 159–177). <https://doi.org/10.4324/9781351174466>
40. Närvänen E, Kuusela H, Paavola H, Sirola N (2020) A meaning-based framework for customer loyalty. *Int J Retail Distrib Manag* 48(8):825–843. <https://doi.org/10.1108/IJRD-05-2019-0153>
41. Ngobo PV (2017) The trajectory of customer loyalty : an empirical test of Dick and Basu's loyalty framework. *J Acad Mark Sci* 45:229–250. <https://doi.org/10.1007/s11747-016-0493-6>
42. Olaleye S, Ismaila S, Jari S (2020) Mobile customers' experience and loyalty : a study of tablet gender divergence in Finland. *Int J Internet Mark Adv* 14(3):275–298
43. Oly Ndubis N (2004) Effect of gender on customer loyalty : a relationship marketing approach. *Mark Intell Plan* 24:48–61. <https://doi.org/10.1108/02634500610641552>
44. Paelo A, & Robb G (2020) Competitive dynamics of telecommunications markets in South Africa, Tanzania, Zambia, and Zimbabwe. <https://doi.org/10.35188/UNU-WIDER/2020/840-5>
45. Parasuraman A, Grewal D (2000) The impact of technology on the quality-value-loyalty chain: a research agenda. *J Acad Mark Sci* 28(1):168–74
46. Parasuraman A, Zeithaml V, Berry L (1985) A conceptual model of service quality and its implications for future research. *J Mark* 49(4):41–50
47. Patharia I, Pandey A (2021) A systematic literature review on factors affecting customer's loyalty towards mobile network service providers. *Int Manag Rev* 17(1):39–54
48. Pekovic S, Rolland S (2020) Recipes for achieving customer loyalty: a qualitative comparative analysis of the dimensions of customer experience. *J Retail Consum Serv* 56(May):102171. <https://doi.org/10.1016/j.jretconser.2020.102171>
49. Rana S (2021) Digitalization as a vehicle to balance new vs old practices of consumers and organizations. *FIIB Bus Rev* 10(3):193–195. <https://doi.org/10.1177/23197145211044528>
50. Ringle C M, Wende S, & Becker J M (2015) *Ringle C M.pdf*
51. Sarfraz M, Khawaja KF, Han H, Ariza-Montes A, Arjona-Fuentes JM (2023) Sustainable supply chain, digital transformation, and blockchain

- technology adoption in the tourism sector. *Humanit Soc Sci Commun* 10(1):1–13. <https://doi.org/10.1057/s41599-023-02051-9>
52. Sarstedt M, Hair JF, Ringle CM, Thiele KO, Gudergan SP (2016) Estimation issues with PLS and CBSEM: where the bias lies! ★. *J Bus Res* 69(10):3998–4010. <https://doi.org/10.1016/j.jbusres.2016.06.007>
53. Sarstedt M, Ringle CM, Hair JF (2020) *Handbook of Market Research*. Springer International Publishing, Cham, In *Handbook of Market Research*
54. Shmueli G, Sarstedt M, Hair JF, Ting H, Ringle CM (2019) Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *Eur J Mark*. <https://doi.org/10.1108/EJM-02-2019-0189>
55. Teeroovengadam V (2022) Service quality dimensions as predictors of customer satisfaction and loyalty in the banking industry: moderating effects of gender. *Eur Bus Rev* 34(1):1–9. <https://doi.org/10.1108/EBR-10-2019-0270>
56. Teeroovengadam V, Nunkoo R, Gronroos C (2019) The effect of Internet service quality on consumers' purchase behavior: the role of satisfaction, attitude, and purchase intention. *Qual Assur Educ* 27(4):427–445
57. Tong S, Luo X, Xu B (2020) Personalized mobile marketing strategies. *J Acad Mark Sci* 48(1):64–78. <https://doi.org/10.1007/s11747-019-00693-3>
58. Trabelsi-zoghalmi A, Berraies S, Yahia K. Ben (2018) Total quality management & business excellence service quality in a mobile-banking-applications context: do users' age and gender matter? *Total Qual Manag*. <https://doi.org/10.1080/14783363.2018.1492874>
59. UNCTAD. (2020). United republic of Tanzania rapid e-trade readiness assessment. United republic of Tanzania rapid e-trade readiness assessment, 70. <https://doi.org/10.18356/6a9ee652-en>
60. URT (2020) TCRA Quarterly communications statistics Apr–June 2020. *Q Commun Stat*
61. Watson G, Beck JT, Henderson CM, Palmatier RW, Beck JT (2015) Building, measuring, and profiting from customer loyalty. *J Acad Mark Sci* 43:790–825. <https://doi.org/10.1007/s11747-015-0439-4>
62. Zarei G, Asgarneshad N, Bagher, & Nasim, N. (2019) The effect of Internet service quality on consumers' purchase behavior: the role of satisfaction, attitude, and purchase intention. *J Internet Commer* 8:197–220. <https://doi.org/10.1080/15332861.2019.1585724>

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Submit your manuscript to a SpringerOpen[®] journal and benefit from:

- ▶ Convenient online submission
- ▶ Rigorous peer review
- ▶ Open access: articles freely available online
- ▶ High visibility within the field
- ▶ Retaining the copyright to your article

Submit your next manuscript at ▶ [springeropen.com](https://www.springeropen.com)
