

# Assessing the acceptance of mobile phone technology in Tanzanian SMEs

The role of  
service quality

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## Abstract

**Purpose** – This study investigates the acceptance of mobile phone technology in Tanzanian small- and medium-sized enterprises (SMEs) using the Technology Acceptance Model (TAM) with a special focus on service quality.

**Design/methodology/approach** – The conceptual framework was designed by extending the TAM with an additional construct, service quality, before testing a model in a survey of 155 respondents and analysing using Smart PLS 4.

**Findings** – Service quality was found to be among the significant factors in the acceptance of mobile phone technology among SME employees.

**Research limitations/implications** – This implies that the higher the quality of service offered, the more employees accept and use mobile phone technology in their duties and improve the productivity of SMEs.

**Practical implications** – The aspects of quality of mobile phone technology usage such as call dropouts, network quality, speed, etc., must be improved significantly.

**Social implications** – The Mobile Network Operators and Regulators must understand that employees are offered the most accurate and reliable mobile phone services for its usefulness to be realised.

**Originality/value** – The originality is a modified version of a TAM that accommodates service quality that has been tested in the Tanzanian context.

**Keywords** Small- and medium-sized enterprises, Mobile phone technology, Service quality, Structural Equation Modelling

**Paper type** Research paper

## 1. Introduction

Small- and medium-sized enterprises (SMEs) play an important role in the county's economy (Hourali, Fathian, Montazeri, & Hourali, 2008; Kilangi, 2012). SMEs provide employment and income generation opportunities in many ways (Kilangi, 2012). From the perspective of Tanzania, SMEs contribute up to 27% of the Gross Domestic Product (GDP) and employ more than 20% of the workforce (Mushi, 2020).

The context in which SME employees use mobile phones is different from the context in which they use desktop computers (Kilangi, 2012). Thus, mobile phones can be used to complete employees' tasks, no matter where and when they are at headquarters, in remote locations or at home (Yueh Lu, & Lin, 2015).

Employees are also likely to have to work using their mobile phones anytime, anywhere, even if it's not during regular business hours, evenings or weekends (Kilangi, 2012; Mushi, 2018). The nature of the operation of mobile phone technology involves an effective operation on various sides including mobile devices (phones or other mobile devices), the Mobile



Network Operators (MNOs) and the middle subsystems such as satellites and the signal distribution centres. As a result, it is difficult (almost impossible) to ensure quality of service at a single point. Therefore, service quality is probably among the factors which need not be taken for granted.

For technology to be fully used successfully, it must be voluntarily accepted by users (Venkatesh & Bala, 2008). For this reason, it is paramount to explore whether or not service quality is among the factors necessary for the acceptance of mobile phone technology in the context. This study will contribute to the existing literature on service quality based on the Technology Acceptance Model (TAM). This study is also significant for the managers of the service sectors in Tanzania as it will enable them to influence the attitude of SME employees in favour of their job roles and will also help them to adjust strategies to enhance their intention to use mobile phones for work. Given that there are not enough studies on mobile phone adoption in developing countries such as Tanzania, this research will be valuable to mobile app designers and researchers with an integrative view of technology adoption and service delivery.

Examples of models applied by researchers to explain technology acceptance include the (TAM) and the Unified Theory of Technology Acceptance and Use (UTAUT). The TAM and UTAUT explain the adoption of technology in different geographical contexts, industries and company sizes of its use (Davis, 1989; Venkatesh, 2000). While developing a conceptual framework, this study extends the TAM with an additional structure explaining the aspect of service quality before testing using Structural Equation Modelling (SEM) (Awang, 2015). The interest of this study was to assess whether the quality of services has a significant impact on employee adoption of mobile phone technology in small and medium enterprises. The remainder of this study is organised as follows. The second part deals with aspects of technology acceptance. The third section defines SMEs, while section four defines service quality and its role in this research. Section five discusses the methodological details, and section six discusses the methodological aspects. Section seven presents the Results and Discussion, while section eight provides critical analysis. Section nine represents the Conclusion of this paper.

## 2. Acceptance of technology

Sometimes, the terms “technology acceptance” and “technology adoption” are used interchangeably. Making a distinction between these two concepts is crucial. As per the Oxford Dictionary, adoption is the act of claiming something as one’s own, whereas acceptance is the act of receiving it (Oxford, 2009). In this sense, deciding whether to accept or reject a certain technology requires consideration of the variables that may affect its application in a specific situation.

Comparably, the process of adopting technology begins the moment users learn about it and ends when they fully embrace it and incorporate it into their daily tasks (Addotey-Delove, Scott, & Mars, 2022). This implies that adoption entails more than merely embracing technology. Users of technology should be able to use it without external pressure and with comfort. Consequently, research must be done to determine and investigate the variables that might affect its application in various situations.

There are many models in the literature that explain the variables that affect people’s acceptance of technology. In these models, the causal relationships between variables are examined to ascertain how they affect people’s intentions to use technology now and in the future (Alsharida, Hammood, & Al-Emran, 2021; Mushi, 2020). Some models that explain technology acceptance at the individual level include the Theory of Planned Behaviour (TPB) (Ajzen, 1991), the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the UTAUT (Venkatesh, Morris, Davis, & Davis, 2003) and the TAM (Davis, 1989).

As employees of SMEs perform their duties using mobile phone technology, various factors tend to influence their adoption behaviours. Some research has explored factors which influence the acceptance of mobile phone technology from an SME perspective based on extending or adjusting the well-tested individual models such as UTAUT, TAM, and TRA (see [Mushi, 2018, 2020](#); [Prieto, Migueláñez, & García-Peñalvo, 2015](#)). This research follows necessary steps by extending TAM service quality as guided by relevant literature to propose hypotheses and formulate the conceptual framework of the study before testing in a survey.

### 3. Small- and medium-sized companies

SME definitions vary depending on the situation. For instance, the definition varies from nation to nation depending on the size or degree of development ([Bracci, Tallaki, Ievoli, & Diplotti, 2021](#)). The number of employees, annual turnover and total investments are frequently used to categorise them. According to the World Bank, SMEs are businesses that, on a microscale, employ fewer than 50 people; on a small scale, employ 50 people; and on a medium scale, employ between 50 and 200. SMEs are defined by the Organization for Economic Co-operation and Development (OECD) as businesses with fewer than 500 employees ([OECD, 2004](#)). Conversely, SMEs in Britain are defined as businesses with fewer than 200 paid employees or an annual turnover of under £2 million, whereas SMEs in Australia are defined as businesses with 5 to 199 employees ([Afolayan, Plant, White, Jones, & Beynon-Davies, 2015](#)).

The definition of SMEs from the Tanzania Small Industries Development Organization (SIDO) adds more insight by asserting that in the event of an enterprise falling under more than one category, the level of investment will be the deciding factor.

The Tanzania Revenue Authority (TRA) defines SMEs as companies that have an annual taxable turnover of less than Tanzanian Shillings (TZS) 40 Million (USD 22,500), while the Tanzania SMEs policy document includes micro-enterprises in the group of SMEs. Since this study is conducted in the Tanzanian context, the definition which will be adopted will be summarised in [Table 1](#).

In comparison, large companies which have material advantages due to their greater capacity to support research and development as compared to SMEs have behavioural advantages that stem from their greater flexibility and ability to adapt to changes in the market ([Bracci et al., 2021](#)). SMEs are primarily run by their owners making snap decisions in response to changing circumstances. SMEs are vulnerable to failure at times because they are forced to make less informed decisions about various aspects of their operations due to a lack of forecasting ([Moeuf, Pellerin, Lamouri, Tamayo-Giraldo, & Barbaray, 2018](#)). Using generalists rather than specialists is another trait shared by SMEs. This implies that they can carry out a variety of tasks with less emphasis on particular details.

In terms of ICT, SMEs find it challenging to adopt and use newer technologies because of the steep learning curve they must overcome. As a result, SMEs rarely have specialised skills unless they are primarily concerned with technological innovations ([Mushi, 2020](#)). Additionally, SMEs rely on short-term plans, which prevents them from anticipating future developments ([Bracci et al., 2021](#)). Because ICT is evolving so quickly, SMEs must recognise the need to plan for the future and implement effective change management in their operations.

Type of enterprise	Micro	Small	Medium	Large
No. of employees	0–4	5–49	50–99	100 and above
Working capital	<\$2.8k	2.8k to \$111.1k	111.1k to \$444.4k	>\$444.4k

Source(s): [Mushi \(2020\)](#)

**Table 1.**  
The description of the  
definition of Small,  
Medium and Large  
enterprises

One of the reasons SMEs do not use advanced software and applications is that ICT demands providing users with ongoing upgrades of innovations (Mushi, Jafari, & Ennis, 2017). Another characteristic of SMEs is that they have very little or no budget for ICT (Leea, Kimb, & Chungc, 2002; Mushi, 2018; Prieto *et al.*, 2015). SMEs continue to hesitate to successfully integrate ICT into their operations because innovations are so expensive.

According to this SME policy document, there was a total of 25,000 enterprises of which 97% of them had less than ten employees. This means the number of Tanzanians who work in SMEs is significantly larger than those who work in large companies. Therefore, research in this area has the potential impact on a large part of the Tanzanian economy and society. Tanzania is set toward becoming a middle-income country as the economy grew by an average of 6.5% per year in the past decade. The “Tanzania Development Vision (TDV) 2025” highlighted the SMEs sector as one important contributor to the country’s long-term development. It is estimated that Tanzania’s SME sector consists of more than 3 million enterprises which contribute to 27% of overall GDP. It is also estimated that the SMEs constitute more than 90% of enterprises in Tanzania (The Citizen, 2022). However, key constraints remain for SME development, especially in unfavourable legal and regulatory frameworks, undeveloped infrastructure, poor business development services, limited access to financing, and ineffective and poorly coordinated institutional support framework (Moeuf *et al.*, 2018; The Citizen, 2022).

The data collected from different sources show that Tanzania has significantly low internet penetration rates accounting for 18%, whereas mobile penetration is 70%, and fixed-line penetration stands at 0.3%. This might be due to the large size of the country. According to recent reports in the year 2022, there were 53.81 million cellular mobile connections in Tanzania at the start of 2022 where mobile connections in Tanzania were equivalent to 86.2% of the total population in January 2022, and the number of mobile connections in Tanzania increased by 3.0 million (+6.0%) between 2021 and 2022 (DigitalReportal, 2022). This shows that Tanzanians are more likely to depend more on mobile phone technology to facilitate their activities including accessing internet services. Indeed, such contextual settings might be the reason why more attention from employees of Tanzanian SMEs has shifted to finding the best way of utilising mobile phone technology to fulfil their obligations.

The research shows that Tanzanian SMEs have a small number of employees compared to large companies (Migiro, 2006). Also, the low financial capabilities of the SMEs mean that they are likely to rely on mobile phone technology as the leading technological option. On the other hand, since SMEs have a smaller number of staff, it is expected that the usage of mobile phones is more autonomous in comparison to desktop computing. In that case, understanding the aspects which are associated with the usage of mobile phone technology in Tanzanian SMEs is vital.

#### 4. Service quality

In every delivery of service, quality is among the important aspects to be considered. According to the fundamentals of technology acceptance, the output quality of any service can reflect how well the system performs its tasks and hence influence individuals to accept or reject a technology (Venkatesh & Davis, 2000). From a mobile phone technology perspective, the storage of data and processing performance are not as perfect as compared to desktop computers. As a result, mobile phone technology does not always offer the realistic outputs needed in SME processes, such as spreadsheets and word processing capabilities. Instead, they are more suitable for providing lightweight services. Therefore, the most appropriate way of measuring the perceptions on its service quality aspects is by using the service quality instead of output quality (Leea *et al.*, 2002; Venkatesh & Bala, 2008).

## 5. Hypotheses formulation and conceptual framework

This study expands on the TAM, which postulates that when users are provided with technology, there are variables at play that affect their choices about how and when to use it (Davis, 1989; Yueh Lu, & Lin, 2015). Two key metrics, perceived usefulness (PU) and perceived ease of use (PEU) are the foundation of the TAM. PEU describes the degree to which the system will free users from effort, whereas PU indicates whether the technology will augment or improve the user's job performance (Davis, 1989). One of the reliable and consistent models in the literature, the TAM has been effectively extended from several other models. Few of the previous studies that used the TAM as a benchmark included the context of maternal preschool teachers in acceptance of mobile phones where they found that PU of the technology and PEU tend to statistically influence the behavioural intention (BI) (Tavakol & Dennick, 2011). PEU primarily influences PU because it indirectly affects the intention to adopt technology and, ultimately, the utilisation of it. In relation to the context of mobile acceptance of technologies, the factors and significance relationships were previously been tested in researches on mobile phone technologies in other contexts (see Mushi, 2018, 2020; Prieto *et al.*, 2015). In philosophical point of view, this research relies on positivism in which the main aim is to test the theory (truth) and in this context, it is based on deriving hypotheses and testing them. Since the later research has mainly focused on the acceptance of mobile phone technology, all the factors of the TAM can be adopted in this research. Therefore, the following theories are then put forth:

- H1a.* PEU of mobile phones will positively influence the employee's BI in Tanzanian SMEs.
- H1b.* PEU of mobile phone technology will positively influence the employees' PU in Tanzanian SMEs.
- H1c.* PU of mobile phones will positively influence the employee's BI in Tanzanian SMEs.
- H1d.* Employees' BI of using mobile phones will influence their actual usage (U) in Tanzanian SMEs.

Previous studies have shown a strong correlation between perceived usability and service quality. For example, McFarland and Hamilton (2006) discovered a relationship between system usage and service quality. Leea *et al.* (2002) replaced output quality with the service quality of mobile internet services for personal users, and they found that it influences PU. Also, Park and del Pobil (2013) demonstrated that one of the most important factors influencing service consumption was perceived system quality. Additionally, Park and Kwon (2016) investigated the connection between PU and service quality and discovered a positive one. In another case, Ahmad, Bhatti, and Hwang (2019) found that the delivery of online banking services has a significant influence on PU. On such grounds, this hypothesis was predicted to be relevant to be involved when formulating the associated hypothesis. Therefore, this study hypothesised the following:

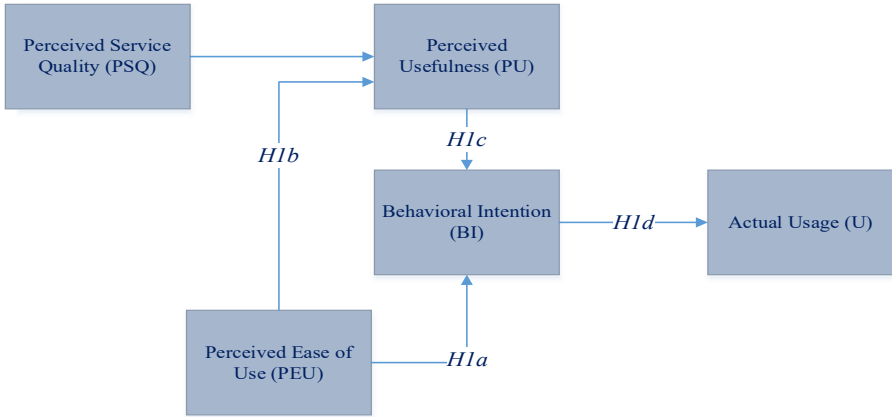
- H2a.* Perceived service quality (PSQ) will positively influence the PU of mobile phone technology.

The derived hypotheses resulted in the conceptual framework for this research depicted in Figure 1.

## 6. Research methodology

A sample involving Tanzanian respondents with prior experience using mobile phones while working with SMEs participated in this study. Given that Kiswahili is Tanzania's official language, linguistic experts translated the questionnaires from English to Kiswahili to ensure

**Figure 1.**  
The conceptual  
framework of the  
research



Source(s): Author

translation accuracy. A second linguistic expert then translated the Kiswahili version back to English to determine whether the original and final English versions shared the same meaning. The gathering of data took about 115 days. There were 169 questionnaires given in all, but only 155 of them were completed, meaning that the response rate was 91.7%. There were 75 males and 80 females in the sample.

Since most Tanzanians currently utilise mobile phones and have been used them for long time in various situations, the majority of respondents were qualified to produce results that could be trusted; hence, a random sample technique was employed. While the majority of the questionnaires were distributed manually, some were sent to the respondents online. In several cases, more attempts were made to persuade respondents to set aside time to complete the questionnaires.

This survey consists of twenty three (23) measurement items as seen in [Table 2](#). Following information systems research methodologies, assessments were conducted using a multiple-item Likert scale ([Tavakol & Dennick, 2011](#)). According to related previous research ([Alsharida et al., 2021; Tavakol & Dennick, 2011](#)), constructs were measured using the Likert scale, where 1 represents “Strongly Disagree” and 5 represents “Strongly Agree.” Since every survey participant spoke Swahili, it was necessary to precisely translate survey forms from English into the dialect of Swahili. Thus, back translations were carried out, a method widely used in numerous cross-cultural surveys ([Brislin, 1970](#)).

Based on Variance-Based Structural Equation Modeling (VB-SEM) method ([Ringo & Busagala, 2012](#)). After conducting descriptive analyses, the analysis was divided into two phases: assessments of the current measurement models and assessments of the current structural models. A one-step evaluation is inferior to this two-stage analytical approach and consists of a measurement model and a structural model evaluation. According to [Awang \(2015\)](#), the measurement models explain how constructs are measured, and the structural models specify how constructs relate to one another. The measurement items, which were used, were adopted from previous research and details are shown in [Table 2](#).

Partial Lease Square (PLS-SEM 4) was used for the analysis in this study, which made use of SEM ([Awang, 2015](#)). Using Cronbach’s alpha, which has acceptable levels of alpha of 0.8 and higher as good, and satisfactory levels of alpha of 0.7 and lower as unacceptable, the questionnaire’s reliability was assessed. The outliers were assessed using Squared Mahalanobis Distance ( $D^2$ ). To assess the multivariate normality of the datasets, the

				The role of service quality
Construct	Item	Description	References	
Perceived ease of use	PEU1	My mobile phone is easy to use	Karaiskos, Drossos, Tsiaousis, Giaglis, and Fouskas (2012)	
	PEU2	It is convenient to access my mobile phone at work	Byomire and Maiga (2015)	
	PEU3	It is easy for me to become skillful at using mobile phones	Karaiskos <i>et al.</i> (2012)	
	PEU4	My interaction with my mobile phone is clear and understandable	Byomire and Maiga (2015)	
	PEU5	I find it easy to get my mobile phone to do what I want it to do	Karaiskos <i>et al.</i> (2012)	
Perceived usefulness	PU1	Using my mobile phone enables me to accomplish my work tasks quickly	Byomire and Maiga (2015)	
	PU2	Using my mobile phone enhances my task effectiveness	Karaiskos <i>et al.</i> (2012)	
	PU3	Using my mobile phone increases my productivity in accomplishing tasks	Karaiskos <i>et al.</i> (2012)	
	PU3	Using my mobile phone provides me with the flexibility to accomplish tasks anywhere	Karaiskos <i>et al.</i> (2012)	
	PU5	Using a mobile phone helps communicate with clients and colleagues in the workplace	Davis (1989)	
Behavioural intention	BI1	I plan to use my mobile phone to work in the future	Karaiskos <i>et al.</i> (2012)	
	BI2	The nature of my work will require me to use a mobile phone in future	Pedersen (2005)	
	BI3	The functionalities of future mobile phones will fit well with my work demands	Pedersen (2005)	
	BI4	I expect to use a mobile phone in the near future	Karaiskos <i>et al.</i> (2012), López-Nicolás, Molina-Castillo, and Bouwman (2008)	
Perceived service quality	PSQ1	The quality of calls and SMS is enough to perform my duties	Leea <i>et al.</i> (2002)	
	PSQ2	Internet speed is reasonable for use in my workplace	Leea <i>et al.</i> (2002)	
	PSQ3	There is quality of life in using mobile phone apps to perform work-related activities	Leea <i>et al.</i> (2002)	
	PSQ4	The network infrastructure is better for effective service	Leea <i>et al.</i> (2002)	
Actual use	U1	It is a long time since I started to use a mobile phone in my work	Byomire and Maiga (2015)	
	U2	Using a smartphone/mobile phone helps finish work tasks during office hours	Kim (2008)	
	U3	I use my mobile phone frequently	Davis (1989)	
	U4	Using a mobile phone helps communicate office matters with clients/colleagues/management	Davis (1989)	
	U5	Using a mobile phone helps browse web pages during office hours	Mushi (2020)	
Source(s): Author				Table 2. Measurement items of the study

investigation of the deviation of variances and covariances from the centroid was performed (DeCarlo, 1997). In the case of model fitness, absolute fit was assessed using Chi-square ( $\chi^2$ ), incremental fit through the Confirmatory Fit Index (CFI), and parsimonious fit was assessed by Chi-square/df ( $\chi^2/\text{df}$ ).



7. Results and discussions

The structural model consisting of 5 constructs, and 23 measurement items was modelled in Smart PLS 4 as seen in Figure 2. It was then tested for reliability and validity before proceeding to further steps of analysis. It can be seen that all the factor loadings are >0.5 indicating that the model has attained unidimensionality condition.

The construct reliability and validity parameters of the model are seen in Table 3. It can be seen that all values of Cronbach’s alpha are above 0.5 and the composite reliability (rho\_c) are above 0.7, indicating that the model is valid and reliable to produce results for path analysis.

The results of the discriminant validity assessment are performed using heterotrait-monotrait ratio of correlations (HTMT) and the results as seen in Table 4. The results show that all values are <0.9, indicating that the model is reliable because each construct has the strongest relationships with its indicators in the PLS path model.

The results on collinearity are seen in Table 5 where each measurement item seems to have values that are <5 indicating that the constructs are all independent.

The analysis of the model’s power in testing the hypotheses was performed using Q<sup>2</sup>, and the results can be seen in Table 6. The results show that all values are above 0 indicating that the model is strong enough to be able to predict the relationship between the constructs.

The results on the path analysis are seen in Table 7 where all hypotheses and their associated p-values are indicated. The snapshot illustrating the structural model of the study and associated analysis metrics is shown in Figure 3.

7.1 The direct influence of perceived ease of use on perceived usefulness (H1b)

This study proposed that employees’ perceptions of the PU of mobile phone technology were directly influenced by their perceptions of its ease of use. Certain research regarding the use of mobile phone technology has corroborated this (Gallego, Luna, & Bueno, 2008; Mushi et al., 2017).

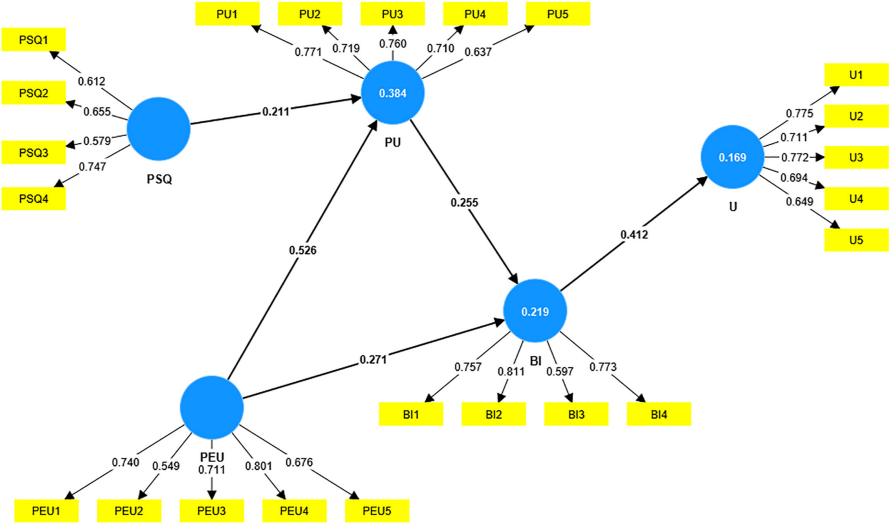


Figure 2. Structural model of the study

Source(s): Author



Table 7 presents the study's findings, which demonstrate that H1a was statistically significant. This indicates that the hypothesis is validated. Therefore, this study implies that employees' perceptions of the usefulness of mobile phones increased with their perception of their ease of use. This is in line with the findings of Mushi (2020) and Byomire and Maiga (2015).

The role of service quality

Path	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)
BI	0.719	0.733	0.826
PEU	0.734	0.745	0.826
PSQ	0.56	0.58	0.745
PU	0.768	0.77	0.843
U	0.77	0.778	0.844

**Source(s):** Author

**Table 3.**  
Construct reliability and validity parameters

	BI	PEU	PSQ	PU	U
BI					
PEU	0.564				
PSQ	0.61	0.458			
PU	0.562	0.776	0.523		
U	0.538	0.666	0.362	0.635	

**Source(s):** Author

**Table 4.**  
Discriminant validity

Item	VIF
BI1	1.388
BI2	1.643
BI3	1.207
BI4	1.459
PEU1	1.405
PEU2	1.122
PEU3	1.425
PEU4	1.701
PEU5	1.397
PSQ1	1.151
PSQ2	1.167
PSQ3	1.146
PSQ4	1.123
PU1	1.56
PU2	1.592
PU3	1.639
PU4	1.375
PU5	1.225
U1	1.573
U2	1.381
U3	1.576
U4	1.41
U5	1.366

**Source(s):** Author

**Table 5.**  
Collinearity results

Table 6.

$Q^2$  predictive relevance Source(s): Author

Variable	$Q^2_{\text{predict}}$	RMSE	MAE
BI	0.174	0.915	0.714
PU	0.335	0.821	0.628
U	0.123	0.944	0.702

Table 7.

Path analysis results

Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	$T$ statistics ( O/STDEV )	$P$ -values
BI $\rightarrow$ U	0.412	0.418	0.05	8.172	0
PEU $\rightarrow$ BI	0.271	0.272	0.058	4.642	0
PEU $\rightarrow$ PU	0.526	0.526	0.039	13.591	0
PSQ $\rightarrow$ PU	0.211	0.216	0.038	5.536	0
PU $\rightarrow$ BI	0.255	0.256	0.056	4.569	0

Note(s): S.E.: Standard Error, \*\*\* $p < 0.05$

Source(s): Author

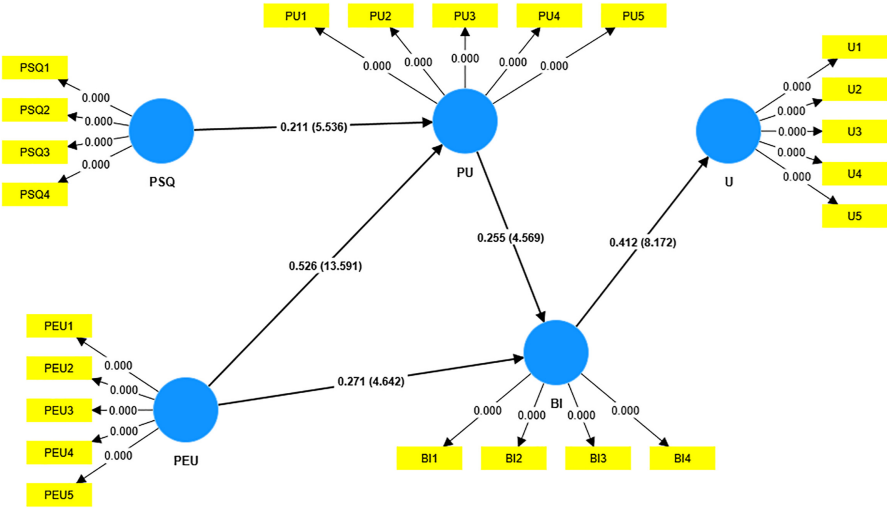


Figure 3.

Path analysis snapshot

Source(s): Author

typical voluntary setting where users are free to choose whether or not to use the device. In contrast to this study, which focuses on utilising mobile phones to fulfil business requirements within SMEs, in those situations, the BI is centred on using mobile phones exclusively for personal purposes going forward.

### 7.3 Direct influence of perceived ease of use on behaviour intention (H1b)

According to this study, employees' intentions to adopt mobile phone technology in the near future would be impacted if they believed it was user-friendly. As can be seen in Table 7, where hypothesis H1b was determined to be statistically significant, the study's findings were consistent with this.

The study's findings align with the background of employees' acceptance of mobile commerce and the acceptability of smartphones. This suggests that mobile phones will be helpful to SME employees if they believe using them is simple. In this regard, the intention to use mobile phone technology is highly influenced by the way mobile phones are perceived to be simple to use.

### 7.4 Direct influence of behaviour intention actual usage (H1d)

This study assumed that the employees would use mobile phone technology whenever they intended to for SMEs-related tasks. The literature that suggests that an intention to use technology influences its actual utilisation in various circumstances served as the basis for this (Byomire & Maiga, 2015; Davis, 1989).

The findings in Table 7 demonstrate that this investigation validated the hypothesis. The actual use of mobile phone technology in SMEs and BIs were statistically significantly correlated. This meant that employees would utilise their mobile phones if they planned to use them to fulfil their SME commitments.

### 7.5 Direct influence of perceived service quality on perceived usefulness (H2a)

According to the study's hypothesis, PU and PSQ are positively and significantly correlated. Accordingly, consumers of mobile phones are more likely to think that technology will benefit them if they have faith in the calibre of services that they receive.

This study supports the hypothesis as seen in Table 7. The findings are consistent with those of Venkatesh and Bala (2008) who discovered a positive and significant relationship between users' perceptions of the utility of technology and the output quality of computer services. The results are also in line with the research on the acceptance of online banking had a significant influence on PU (Ahmad *et al.*, 2019). Also, Leea (2002) that in mobile internet services, service delivery does have an influence on PU. Similarly, Park and Kwon (2016) found that there is a positive relationship between PU and service quality.

The fact that the relationship was found to be significant implies that there is a need to ensure that the service delivery chain of mobile phone technology starting from signal delivery to the mobile devices is well in place. However, there is a challenge in the type of mobile device itself since they differ in specifications such as screen display quality, processing speeds and battery life. The most important aspect is probably to ensure that the delivery channel is of the highest possible quality.

## 8. Critical analysis

The quality of service is one of the important aspects in many fields, e-government, in particular. While MNOs are strengthening the infrastructure and mobile device manufacturers are constantly improving them, it is important to understand which aspects are influenced by the

quality of such service. This research has shown that the higher the quality of the service, the more usefulness the technology is perceived to have. In this case, it becomes evident that the role of mobile phone technology in people working with Tanzanian SMEs is highly influenced by the better quality of service that is offered. This information provides the necessary basis for the formulation of policies and legislatures as well as key theoretical underpinnings.

## 9. Conclusion

This research provides insights into technology acceptance in SMEs by establishing whether service quality can have a significant effect on the acceptance of mobile phone technology. The development of the conceptual framework was performed by extending the TAM with service quality before testing the model through a survey comprising 155 employees of SMEs in Tanzania. The research results have shown that all the proposed hypotheses were supported including the significant relationship between service quality on usefulness. In that case, MNOs, mobile device vendors and network engineers have a notable role to play in ensuring that the mobile devices are effectively used to facilitate the activities of individuals and the SMEs in which they are working. Further research may focus on the assessment of more current technologies such as Artificial Intelligence and Blockchain on their influence as they are used to achieve various roles in various contextual settings.

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