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Assessment of Factors Influencing Behavioral Intention to Adopt the Mobile Phone Billing System: A Case of Public Sector Clients in Tanzania

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Abstract

The overall goal of this study was to determine the factors which influence behavioral intention to adopt the mobile phone billing system: a case study of government institution services consumers in Tanzania. The purpose of this study was to determine the impact of attitude on mobile phone billing system adoption among customers of government institution services in Tanzania, to investigate the impact of perceived behavior control on mobile phone billing system adoption among customers of government institution services in Tanzania, and to assess the impact of subject norm on mobile phone billing system adoption among customers of government institution services in Tanzania. The quantitative research approach was used to assess the extent to which behavioral government institution services consumers. Data was collected from 186 IRUWASA clients in Iringa using structured questionnaires. Multiple regression analysis and correlation analysis were performed on the data using the statistical package for social science (SPSS) and Microsoft Excel computer software applications. Cronbach alpha results showed that all of the variables in this study had achieved an acceptable range of internal consistency, with a Cronbach alpha p-value greater than 0.6. Consumers' attitude, subjective norm, and perceived behavior control are major behavioral intention parameters affecting government customers' intension to adopt the mobile billing system, according to data from multiple regression analysis. Based on the data, this study indicated that an attitude derived from the Theory of planned behavior may be used to investigate the impact of behavioral intention elements on the adoption of a mobile billing system among Government institution clients. There was a high correlation between subjective norms and the use of mobile billing by government clients. further conclusions are that if the parameters indicated above regarding perceived behavior control are maintained, customers are more likely to adopt mobile billing. According to the findings, the government, mobile phone network providers, and

banks should build mobile billing systems that are straightforward, compatible, convenient, and affordable to customers.

Key words: ***Behavioral Intention, Adaptation, Mobile Phone Billing System***

1. Introduction

A mobile phone in the information age is not only a personal communication device, but also a computing platform that connects users to a variety of services. Mobile billing, often known as mobile carrier billing, is a payment mechanism that allows users to pay for items using their phones rather than a more traditional payment method such as credit or debit card, bank transfer, or cash. Mobile carrier billing predates smartphones, yet it is still popular in developed and emerging nations since it is convenient, secure, and easy to use (Paymentwall Team, 2016). Today's mobile money sector includes a plethora of seasoned providers with a diverse set of operating capabilities, a comprehensive product portfolio, and a global reach. Mobile money is becoming the road to financial inclusion in most low-income nations, with 290 operational services in 95 countries and 372 million active accounts. (According to the GSMA, 2019). For example, 22 percent of the population in Bangladesh uses mobile money, compared to 34 % in Ivory Coast, 43 % in Uganda, 72 % in Kenya, and 40 % in Tanzania. (2016, ibid.)

Information and communication technologies (ICTs) have entwined the world in digital networks, and none is more widely used than mobile technology, which has about 9 billion subscriptions worldwide (Dean, 2020). The integration of ICT in education improves access, equity, quality, and relevance of basic education, while stimulating and improving teaching and lifelong learning, as stated in Tanzania's basic education ICT policy of 2016. In a similar vein, the Tanzanian National ICT Policy of 2016 clearly states that technological convergence has resulted in rapid changes in other areas of education, particularly in areas such as knowledge creation, processing, storage, sharing, dissemination, and assimilation at all levels of education and training, as well as in work output and productivity. Users can access mobile commerce services such as mobile banking, mobile investing, mobile auctions, and mobile shopping by simply installing a mobile phone with one or more sim cards or installed software. According to e-marketer (Aug, 2016), mobile phone shopping would increase to US$4.058 trillion in 2020 and accounts for approximately 14.6 % of the entire e-commerce market.

Since its launch in 2009, the Mobile phone billing system program of GSMA has been collecting and analysing data on the availability, accessibility, adoption and usage of mobile phone billing system globally and the sub-Saharan Africa has been rated the first in the whole world with 45% of the total registered mobile money accounts. In a recent survey published by GSMA entitled 2019 Global Mobile phone billing system Adoption Survey", The number of active mobile phone billing system accounts globally, which is growing quickly has

reached 1.04 billion as of June 2019, with 469.2 million alone in Sub-Saharan Africa (GSMA, 2019).

There are now more mobile phone billing system outlets than bank offices in many nations. There are 7.1 million mobile phone billing system agents worldwide (GSMA, 2018). The introduction of these services in emerging nations has piqued the interest of a number of stakeholders in the financial sector. popular mobile billing services include; person to person(P2P) services, mobile phone billing system transfer (MMT), pay bill services, loan to clients, and access to a wide range of banking services, such as account balances, mini statements, and money transfer from mobile phone to a bank account (Muisyo,2014).

Since the service's inception in 2008, Tanzania has seen tremendous development in the use of mobile phone billing systems. With multiple suppliers vying for market share, a slew of new use cases has emerged, including digital credit, savings, and bill payments, among others. In 2017, about a decade after the first mobile phone billing system was deployed, 60% of Tanzanians had used it (FSDT, 2017). The following M-money products are currently available in Tanzania: Vodacom M-Pesa, TigoPesa, Airtel Money, Halo pesa, and T-pesa (TTCL). In addition, the National Microfinance Bank (NMB), TPB, and CRDB banks all provide a mobile application that allows clients to send money to anyone in Tanzania who does not have a bank account using their phones. Furthermore, these customers use their mobile phones to make a variety of payments.

Previous research on mobile commerce, particularly, Davis's, Bagozzi's, and Warshaw's (1989) technology acceptance model (TAM), has primarily focused on determining the combined impact of independent variables such as compatibility, perceived usefulness, and perceived ease of use on the dependent variable of actual use via the mediating variables of attitude and behavior intention. The relative importance of each of the independent variables has received little attention. This study covers that research vacuum by determining attitude, subjective norm, and perceived behavior on the adoption of a mobile phone billing system among clients of government institution services in Tanzania, using the theory of planned behavior (TPB). Understanding the relative relevance of these characteristics will aid mobile commerce practitioners in focusing their limited resources on the most productive areas.

1.1. General Objective

The general objective of this study was to assess the factors that influence of behavioral intention to adopt the mobile phone billing systems among Customers of government institution services in Tanzania

1.2. Specific Objectives

This study sought to fulfill three specific objectives as stipulated below:

a. To assess the influence of attitude on the adoption of the mobile phone billing system among customers of government institution services in Tanzania.
b. To examine the influence of subjective norm on the adoption of the mobile phone billing system among customers of government institution services in Tanzania**.**

c. To investigate the influence of perceived behavior on the adoption of the mobile phone billing system among Customers of government institution services in Tanzania

2. Literature Review

2.1 Theoretical Literature Review

The Planned Behavioral Theory, as detailed below, guided the current study.

Theory of Planned Behaviour

Ajzen (1991) coined the phrase "theory of planned behavior" to describe the theory of reasoned action that he constructed by including the construct perceived behavioral control as a determinant of behavioral intention and behavior in the model. According to Ajzen (1991), the theory of planned behavior states that three variables determine an individual's behavioral intention to behave and these include: attitude, subjective norms, and perceived behavior control. Ajzen (1991) defined attitude as the general individual feeling about the desirability or undesirability of a particular issue or behavior. Subjective norm refers to individual's perception of important people's opinions about doing or not doing the behavior. In other words, subjective norm refers to perceptions related to societal inclination as whether an individual should or shouldn't act in a particular way (Taylor& Todd, 1995). The term "perceived control of behavior" refers to an individual's perceptions of the ease or difficulty of performing a behavior, as well as the skills, resources, and opportunities required to perform the behavior (Ajzen, 1991). As a result, in this study, this theory aided the researcher in better understanding the impact of attitude, subjective norm, and behavioral control on the adoption of mobile billing among government institution clients.

2.2 Empirical Literature Review

2.3.1 Attitude towards the adoption of the Mobile phone Billing System Among Customers of Government Institution Services in Tanzania

In India, Amit Shankar and Biplab Datta (2018) found that perceived ease of use (PEOU), perceived usefulness (PU), trust, and self-efficacy (SE) have a significant positive impact on M-payment adoption intention in their study of actors affecting mobile payment adoption intention from an Indian perspective. Subjective norms (SN) and personal inventiveness (PI), on the other hand, had no influence on M-payment adoption intentions.

Kabir (2013) conducted a study in Bangladesh on factors impacting the use of mobile banking from a developing country's perspective. The data accrued was evaluated using multiple regressions, revealing four major components. Under the themes of Perceived Risk, Trust, Convenience, and Relative Advantage, various other elements were investigated. Performance risk, security/privacy risk, time risk, social risk, and financial risk were

negatively related to mobile banking usage, as perceived risk was associated to respondents' feelings of insecurity when using mobile banking, whereas ability, integrity, benevolence, perceived usefulness, perceived ease of use relative cost, and time advantages were positively related to the intention to use mobile banking services. Social security, on the other hand, was the sole inconsequential component.

2.2.2 The influence of Perceived Behaviour Control on the Adoption of the Mobile Phone Billing System among Customers of Government Institution Services in Tanzania

Govender & Sihlali (2014) used the Extended TAM theory to conduct a study on mobile banking adoption among government institution clients in Zimbabwe. According to the findings of the multiple regression analysis, independent social influence may account for 42 % of the explanatory power for the dependent variable, intention to use m-banking. Chitungo & Munongo's (2013) revealed that social norms have a substantial impact on user intention toward mobile banking. The findings may provide more insights into mobile banking strategies for mobile network operators, banks, and software developers as they build and execute mobile banking services in Zimbabwe.

2.2.3 Subjective Norm Adoption of Mobile Phone Billing System Among Customers of Government Institution Services in Tanzania

Subjective norms refer to the expectation that a significant individual or group of individuals will approve and support a given conduct. Subjective norms are defined by an individual's motivation to conform with others' views and their perception of social pressure from others to behave in a specific way. 2015 (Marija Ham).

Momani& Abualkishik(2014) conducted a study in Oman to determine the factors that influence customers' willingness to adopt mobile blackboards. Performance expectancy was found to be the most consistent theme in studies of M-blackboard or M-learning adoption, followed by effort expectancy, self-management, enabling conditions, perceived playfulness, cost, and past experiences. In Tanzania, Swai (2015) found that social influence was the most significant variable, followed by price value and performance expectancy, in his study of Factors impacting customers' adoption and actual use of mobile phone payment services in Tanzania. On the other hand, customers' behavioral intention to use mobile phone payment services was found to be unaffected by effort expectancy. Furthermore, users' behavioral intentions had no bearing on the actual use of mobile phone services.

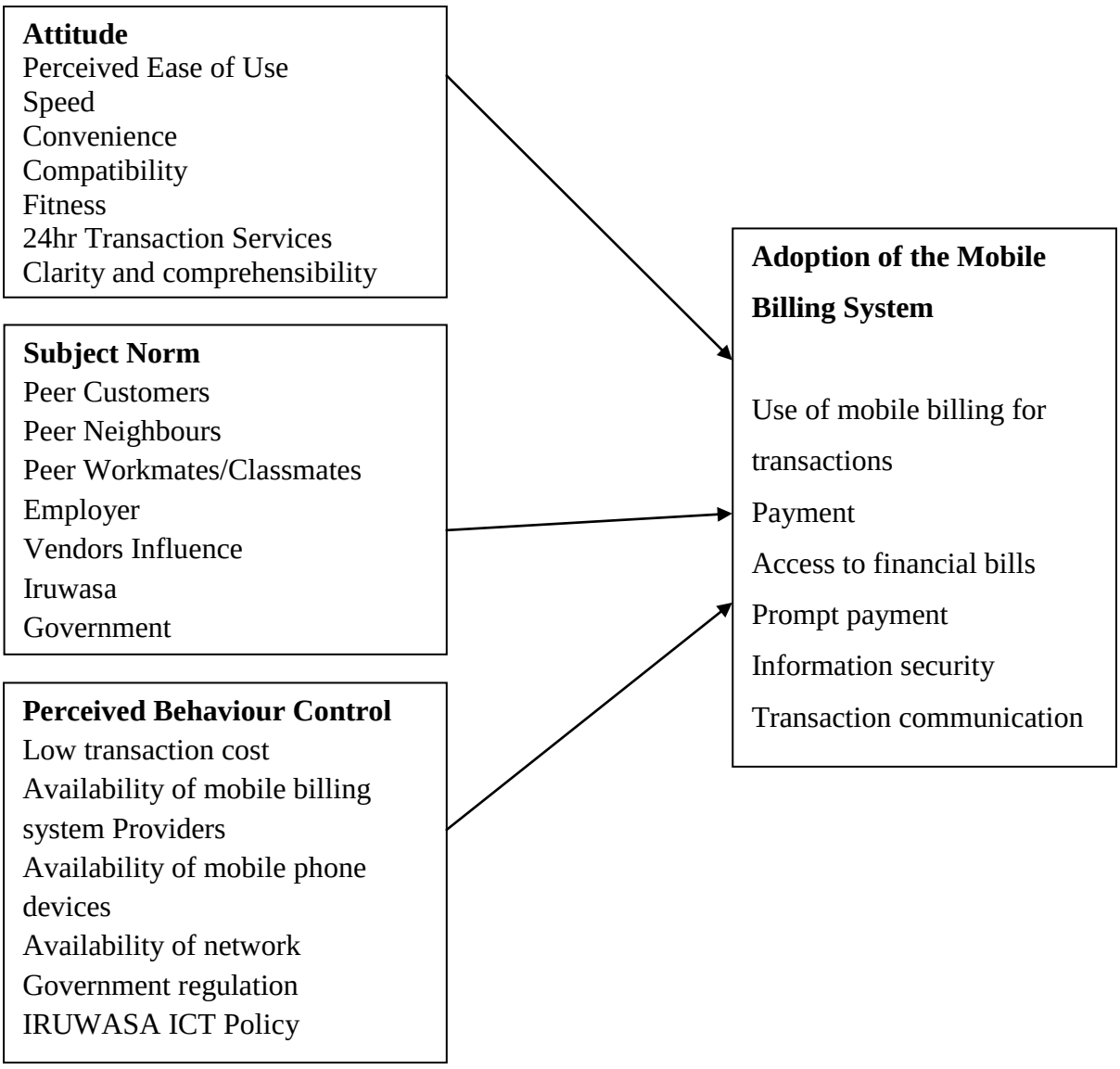
Chitungo & Munongo (2013), on their mobile banking adoption studies, the findings indicate perceived risks and costs deterred the adoption of the service. The results may provide further insights into mobile banking strategies for mobile network operators, banks and software engineers to design and implement mobile banking services to yield higher acceptance amongst of mobile banking in Zimbabwe. In their study of Variables Influencing Customers' Intention to Embrace Mobile Blackboard, Momani& Abualkishik (2014) discovered that

conducive conditions such as cost and past experiences influence government institution customers' intention to the adopt Mobile Blackboard.

2.5 Conceptual Framework

The conceptual framework below was portrays the intricate relationship between the independent variables (attitude, subjective norm, and perceived behavior control) and behavioral intention to use the mobile billing system which was regarded as the dependent variable in the current study

Fig 2.1 Conceptual Framework: The Influence of Behavioral Intention on the Adoption of the Mobile Phone Billing System



Source: Synthesized from literature reviewed (2021)

2.6 Hypotheses Formulation

Using the above conceptual framework, hypotheses were formulated as follows:
H_1: Attitude has an influence on government institution service customers' intention to adopt the mobile billing system
H_2: Subjective norm has an influence on government institution service customers' intention to adopt the mobile billing system
H_3: Perceived behavior has an influence on government institutions customers' intention to adopt the mobile billing system.

3. Methodology

The positivist paradigm was applied in this investigation and the research philosophy asserts the presence of true and objective reality that can be investigated using empirical facts and theory as the foundation. Thus, the relevance of the positivist paradigm in the current study was validated since it allowed the researcher to grasp reality and learn about the mobile phone billing system using existing theory and empirical data. The positivist paradigm was used to examine if attitude, subjective norms, and perceived behavior control have an impact on the adoption of mobile phone billing systems among users of government institution services in Tanzania.

The quantitative approach was used to test the hypothesis stipulated on the factors that influence the adoption of mobile phone billing systems among customers of government institution services in Tanzania. This allowed the researcher to assess the impact of perceived attitude, subjective norms, and perceived behavior control on the adoption of mobile phone billing system services among government institution service consumers.

Both explanatory and descriptive research designs were used in this study. The study's characteristics were profiled using a descriptive research design. This research was carried out at IRUWASA in the Iringa Municipality. This institution was selected since it was one of the government institutions with a large number of clienteles who have an experience with using mobile phone billing system services. As a result, gathering data from them aided the researcher in mobilizing evidence and obtaining the information needed to comprehend the elements impacting the adoption of mobile phone billing system services in Tanzanian government entities.

stratified sampling was used to obtain consumer responses from several wards in Iringa, while proportional stratified sampling was used to achieve a fair representation of responders throughout the designated wards. Finally, basic random selection was used to choose survey respondents from various strata. The sample size for several wards in the Iringa municipality is as shown in Table 3.1 below.

Table 3.1: Sample Size Distribution per Iringa Municipality wards

Area	Population	Sample size
Iringa A	175	93
Iringa B	124	66
Iringa C	51	27
Total	350	**186**

Key:
Iringa A: Comprises of the following wards: Mtwivila, Mkimbizi, Kihesa, Gangilonga and Wilolesi
Iringa B: Comprises of the following wards: Ipogolo, Igumbilo, Ndiuka and Kitwiru
Iringa C: Comprises of the following wards: Mawelewele, Frelimo, Isakalilo, and Kalenga

According to a sample size formula recommended by Kothari (2009), and with a target population (N) of 350, the sample size was 186 respondents, following the computation below:

$$n = \frac{350}{0.05^2(350)+1} = 186$$

The data for the study was gathered through a questionnaire. To examine the amount or magnitude of each element influencing government consumers' adoption of mobile phone billing system services, quantitative data analysis was performed using multiple regression analysis and correlation analysis. The data for the study was gathered through a questionnaire. To examine the amount or magnitude of each element influencing government consumers' adoption of mobile phone billing system services, quantitative data analysis was performed using multiple regression analysis and correlation analysis.

4. Data Analysis, Interpretation and discussion of Findings

4.1 Reliability

In scientific study, Cronbach alpha coefficients of 0.6 and above are regarded significant and more accepted, while lesser values can be used and accepted as well (Hair et al,2003). The value of the Cronbach's alpha coefficient for the indicator variables utilized in this investigation is shown in Table 4.1. Because the p-values were above 0.6, it suggests that the items employed measured what they purported to measure, and hence the data was credible due to the measures' internal consistency.

Table 4.1: Reliability Test

Variables	**No of Items**	**Items**	Cronbach's Alpha
Customer attitudes	8	Ease to use, convenient, fast,24 hours services access, compatibility, user compatibility, easy to learn, open and understandable	0.859
Subjective norm	7	Peers, friends, neighbors, workmates/ classmates, IRUWASA support, government support, mobile phone billing system providers, employer,	0.652
Perceived behavior control	7	Government policy, mobile phone network operators' availability, ease of access, mobile phone gadget availability, low cost of access, mobile phone network agents, IRUWASA policy	0.795
Customer mobile billing adoption	6	Used; to pay water bills, to pay other government bills, prompt payments, secure information, communicate transactions, receive water bills	0.649

Source: Field data, (2021)

4.2 Validity

The researcher discovered a sample sufficiency index of 0.598 or 59.8 percent in table 4.2, which compares the sizes of the observed correlation coefficients to the sizes of the partial correlation coefficients for the total of analysis variables. It is valid because it is greater than 0.5 or 50%, which is the cut-off. Furthermore, the second acceptance of factor analysis is satisfactory because the hypothesis test of sphericity by the Bartlett test (Ho: All correlation coefficients are not sufficiently distant from zero) is denied at a level of statistical significance of p0.0005 for Approx. (Golafashani,2003).

Table 4.2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.598
Bartlett's Test of Sphericity	Approx. Chi-Square	4164.824
	Df	595
	Sig.	.000

Source: Field data, (2021)

5. Study Findings

4.1 The Influence of Attitude on the Adoption of the Mobile Phone Billing System Among Customers of Government Institution Services in Tanzania.

The study's first objective was to determine the impact of attitude on the adoption of the mobile billing system among clients of government services. The following discoveries were made upon conducting the correction and regression analysis.

Table 4.3: Correlation between Attitude and Adoption

		Attitude	Adoption
Attitude	Pearson Correlation	1	.446**
	Sig. (2-tailed)		.000
	N	186	186
Adoption	Pearson Correlation	.446**	1
	Sig. (2-tailed)	.000	
	N	186	186

Source: Field data, (2021)

**. Correlation is significant at the 0.01 level (2-tailed).

As presented on table number 4.3 above; the relationship between attitude and mobile billing sytem adoption was strong since r was 0.446** which falls within the significance region ($0.00 > r \leq 0.49$) as presented by two stars (asterisk) implying a strong relationship between attitude and adoption of mobile billing system. Therefore, the researcher rejected the null (H0) hypothesis and accepted the alternative (H1) that states that Attitude is a behavioral intention factor influencing government institution service customers to adopt the mobile billing system.

Table 4.4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.576[a]	.332	.301	2.98433

Source: Field data, (2021)

a. Predictors: (Constant), open and understandable, fast, convenient, easy to learn, 24hours service access, ease of use and compatibility, go well with users.

The results in table 4.4 show that the dependent variable "adoption of mobile billing system" is well explained by the independent variable "customer attitude" which has eight indicator variables namely; open and understandable, faster, convenient, easy to learn, 24 hours services access, easy to use, compatibility, and go well with users" to a minimal extent, as evidenced by the R2 of 33.2%, which is a low percentage.

Table 4.5: ANOVA - Attitude towards the Adoption of the Mobile Billing System

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	782.230	8	97.779	10.979	.000[b]
	Residual	1576.399	177	8.906		
	Total	2358.629	185			

Source: Field data, (2021

a. Dependent variable: customers mobile phone billing system adoption

b. Predictors: (constant), open and understandable, faster, convenient, easy to learn, 24hours services access, easy to use, compatibility, go well with users

As evidenced by the p-value 0.000 in the ANOVA table 4.5 above, the model used in this study statistically significantly predicts the outcome variable of the link between the dependent variable "adoption" and the independent variable "consumer attitudes" to a large extent. This means that the general premise, that attitude is a behavioral intention factor influencing government institution service customers' adoption of the mobile billing system, is accurate. These findings support Ajzen's (1991), who termed attitude as people's general feelings about the desirable or undesirable nature of a given issue or conduct. Further analysis of the individual indicators predicting the adoption of mobile billing services is as presented in table 4.6 below:

Table 4.6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(constant)	12.663	2.038		6.214	.000
	easy to use	.981	.352	.230	2.784	.005
	faster	-.891	.457	-.151	-1.950	.040
	convenient	.017	.279	.004	.060	.952
	go well with users	-.287	.476	-.060	-.602	.548
	24 hours services access	-.344	.318	-.090	-1.082	.281
	Compatibility	.437	.358	.114	1.223	.223
	easy to learn	1.875	.366	.416	5.120	.000
	open and understandable	.787	.435	.146	1.811	.042

Source: Field data, (2021)

a. dependent variable: customers mobile phone billing system adoption

Coefficients results in Table 4.12 revealed that four of the eight indicators were statistically significant at the 0.05 confidence level. Statistically significant coefficients have p-values(sig) less than alpha 0.05.

5.2 The influence of subjective norm on the adoption of the mobile phone billing system among government institution services customers in Tanzania

The study's second objective was to determine the impact of subjective norms on the adoption of mobile billing among clients of government institution services. The following discoveries were made upon conducting correlation and regression analysis:

Table 4.7 Correlation between Subjective Norm and Adoption of Mobile Billing

		Aadoption	**Ssubjective norm**
Adoption	Pearson Correlation	1	.467**
	Sig. (2-tailed)		.000
	N	186	186
Subjective norm	Pearson Correlation	.467**	1
	Sig. (2-tailed)	.000	
	N	186	186

Source: Field data, (2021)

**. Correlation is significant at the 0.01 level (2-tailed).

The researcher rejected the null (H0) hypothesis and accepted the alternative (H2) hypothesis, as shown in table 4.7. The subjective norm is a behavioral intention component that influences government institution service customers to use mobile billing. As a result, the link between subjective norm and mobile billing system adoption is strong, as r is 0.467**, which falls within the significant zone (0.00 > r 0. 49), as shown by two stars (asterisk), indicating a strong relationship between the variables. The results of multiple regression are provided in the three tables below.

Table 4.8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.724[a]	.524	.505	2.51105

Source: Field data, (2021

a. Predictors: (Constant), fellow colleagues, IRUWASA support, neighbors influence, peer influence, government support, mobile phone network agents, employer influence.

According to the data in table 4.8, the dependent variable "adoption of mobile money" is well explained by the independent variable subjective norm, which has seven indicators: "fellow colleagues, IRUWASA support, neighbors influence, peer influence, government support, mobile phone network agents, and employer influence" to a large extent, as evidenced by the high R square of 52.4 %.

Table 4.9: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1236.275	7	176.611	28.010	.000[b]
	Residual	1122.354	178	6.305		
	Total	2358.629	185			

Source: Field data, (2021)

a. dependent variable: customers mobile phone billing system adoption

b. predictors: (constant), colleagues, IRUWASA support, neighbors influence, peer influence, government support, mobile phone network agents, employer influence

Overall, the model used in this study statistically significantly predicted the outcome variable of the link between the dependent variable "adoption" and the independent variable "customers subjective norms" to a large extent, as evidenced by the p-value of 0.00 in the ANOVA table above. This demonstrates that the underlying proposition, that perceived customer behavior has a significant influence on customers' adoption of mobile billing, is valid. This study backs up Ajzen's (1991) theory of planned behavior, which proposed that an individual's perception of important people's opinions about doing or not doing a behavior could influence behavior intention to embrace technology. Similarly, Taylor and Todd (1995) defined subjective norm as a perception tied to societal attitudes about whether or not an individual should engage in particular conduct. The table below provides a more detailed study of the individual indicators for forecasting mobile billing service adoption.

Table 4.10: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.319	1.315		6.325	.000
	Peer Influence	.121	.280	.027	.432	.667
	Neighbors Influence	.028	.030	.052	.945	.346
	Iruwasa Support	1.550	.281	.394	5.526	.000
	Mobile Phone Network Agents	.352	.236	.099	1.496	.137
	Government Support	1.157	.226	.356	5.111	.000
	Employer Influence	-1.075	.285	-.329	-3.778	.000
	Fellow Colleagues	1.783	.319	.413	5.586	.000

Source: Field data (2021)

a. Dependent Variable: Customers mobile phone billing system adoption
The results provided in table 4.10 Coefficients above showed that out of seven indicators only four indicators were significant at 0.05 confidence level.

4.4.2 The influence of perceived behaviour control on the adoption of the mobile phone billing system among government institution services customers in Tanzania

The third objective of this research was to test the influence of perceived behavioral control on the adoption of the mobile billing system among government institution clients. The following revelations were made upon conducting the correlation and multiple regression analysis:

Table 4.11: Correlation between Perceived Behavior Control and Adoption

		Adoption	Perceived Behavior
Adoption	Pearson Correlation	1	.448**
	Sig. (2-Tailed)		.000
	N	186	186
Perceived Behavior	Pearson Correlation	.448**	1
	Sig. (2-Tailed)	.000	
	N	186	186

Source: Field data, (2021)
**. Correlation Is Significant at the 0.01 level (2-Tailed).

The researcher rejected the null (H0) hypothesis and accepted the alternative (H2) hypothesis, as shown in table 4.11; hence, there is a strong association between perceived behavior and mobile billing adoption. As a result, the link between perceived behavior and mobile billing adoption is strong, as r is 0.448**, which falls inside the significant zone (0.00 > r 0. 49), as shown by two stars (asterisk), implying a strong relationship between the two variables.
This objective was created to explore the idea that there is a correlation between social perceived behavior control and mobile billing service adoption. The results of multiple regression are provided in the three tables below.

Table 4.12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.717[a]	.514	.495	2.53767

a. predictors: (constant), government policy, availability of network operators, easily available, availability of mobile phone gadget, cheap to access, mobile phone network agents, IRUWASA policy

The results in table 4.12 show that the dependent variable "adoption of mobile money" is well explained by the independent variable perceived behavior control, which has seven indicators namely: government policy, availability of network operators, easily available, availability of mobile phone gadget, cheap to access, mobile phone network agents, and IRUWASA policy to a large extent, as evidenced by the R square of 51.4 %, which is a high percentage.

Table 4.13: ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1212.349	7	173.193	26.894	.000[b]
	Residual	1146.280	178	6.440		
	Total	2358.629	185			

Source: Field data, (2021)

a. dependent variable: customers mobile phone billing system adoption

b. predictors: (constant), government policy, availability of network operators, easily available, availability of mobile phone gadget, cheap to access, mobile phone network agents, Iruwasa policy.

As shown by the p-value of 0.00, which is less than 0.05 in the ANOVA table 4.13 above, the model used in this study statistically significantly predicted the outcome variable of the relationship between the dependent variable "adoption" and the independent variable "perceived behavior control" to a large extent. This indicates that the primary assumption, which states that customers' perceptions of behavior control have a strong influence on their adoption of mobile billing systems, is accepted. These findings support Ajzen (1991), who suggested that an individual's impression of the ease or difficulty of performing a behavior shows the individual's judgments of the skills, resources, and opportunities required to adopt a specific technology.

The table below provides a more detailed study of the individual indicators for forecasting mobile billing service adoption:

Table 4.14: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.923	1.416		7.007	.000
	Cheap to Access	-.189	.247	-.052	-.764	.446
	Easily Available	1.051	.294	.206	3.577	.000
	Availability of Network Operators	.229	.259	.052	.882	.379

	Availability of Mobile Phone Gadget	-.331	.232	-.089	-1.426	.156
	Mobile Phone Network Agents	.928	.240	.262	3.863	.000
	IRUWASA Policy	.826	.261	.254	3.161	.002
	Government Policy	1.028	.252	.303	4.077	.000

Source: Field data, (2021)

a. dependent variable: customers mobile phone billing system adoption

The results provided in table 4.14 Coefficients above showed that out of seven indicators only four indicators were significant at 0.05 confidence level.

5. Implications of Findings

5.1 Implication to government services customers

The study discovered that users prefer mobile billing services because they are quick, easy to use, clear, and understandable, and they are available 24 hours a day. This implies that when government consumers use mobile billing services, they will be able to access financial services and pay their bills 24 hours a day, allowing them to continue to enjoy the services and goods provided by the government.

5.2 IRUWASA and the Government

The findings of this study will benefit government institutions, particularly IRUWASA, as findings provide valuable knowledge for using mobile billing technology in such institutions. Study findings will further contribute to the improvement of government service delivery.
This research will be useful in determining the function of mobile phone billing systems in improving government clients' financial transactions while reducing costs and time. As a result, the findings of the study will contribute to new knowledge in this field and will serve as a data source for policy and decision-making on issues of open-source software, access to its services, and utilization at a national level.

5.3 Academics and Researchers

The framework for this research was created using a modified theory of planned conduct developed in Western culture. Both the perceived behavior control, subjective norm, and customer attitudes constructs of the theory of planned behavior were found to have a substantial predictive power on government consumers' uptake of mobile billing services. These implies that any theory produced in one setting and modified in another can be applied in a new situation. As a result, these data will be used to inform future research studies that provide evidence in the same context.

5.4 The Society

The results of this study will benefit the general public by providing relevant and helpful information on mobile billing services. For example, sim card suppliers will benefit from selling sim cards to government clients because they will be required to be connected in order to use mobile phone billing services. this study will also benefit mobile phone gadget vendors since users require a mobile phone to transact utilizing mobile billing services.

6. Recommendations for action

6.1 The influence of attitude on the adoption of mobile billing services among Government customers

Customers' attitudes were revealed to be a key behavioral intention element impacting Government customers' adoption of mobile billing services in Tanzania in this specific objective. It is suggested that mobile phone providers and banks build mobile billing systems that are simpler and more convenient for customers based on these findings. Customers in the government will be more inclined to use mobile billing services as a result of this. On the other hand, the government, banks, and mobile phone carriers should collaborate to create a mobile billing system that is interoperable.

6.2 The influence of subjective norm on the adoption of mobile billing services among Government customers

According to current study findings, subjective norm had a significant impact on government consumers' adoption of mobile billing services in Tanzania. To increase the use of mobile billing services in government institutions therefore, this study recommends that service providers expand their services to a wider range of people in society in order to attract more customers, which will in turn exert pressure on customers to persuade others, such as friends, neighbours, co-workers, and employees, to use the system. This will encourage more government clients to use the mobile billing system.

6.3 The influence of perceived behaviour control on the adoption of mobile billing services among Government customers

Perceived behavior control was discovered to be one of the factors that strongly influence the adoption of mobile billing services among government customers in this study. It is therefore recommended that IRUWASA and mobile billing vendors create conducive facilities, such as low-cost mobile devices and low-cost transaction costs, to boost the adoption of mobile billing system services. It is also proposed that mobile phone providers upgrade and stabilize their networks to ease use and adoption of government services.

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