DETERMINANTS OF CONTINUANCE INTENTION TO USE MOBILE MONEY TRANSFER: AN INTEGRATED MODEL

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Abstract

Mobile Money Transfer (MMT) technology had become essential daily transactions in several developing countries. The unbanked population and those from low and middle-income classes mainly adopt this technology. In Somalia, two major telecommunication companies had introduced this technology especially in south-central regions in the country. Through MMT technology, citizens can send money to and receive from family members and friends, pay bills and other transactions and do shopping, selling, and buying from most of small and medium businesses. The present study examines the factors influencing users' continuous intention to use MMT technology by employing an integrated model. Using self-administered questionnaire, the study's data have been

collected from a total of 398 consumers in all seventeen districts of Banadir region, Somalia. Structural Equation Modeling approach using SmartPLS 3 software was employed to test the hypothesized integrated model. The results suggested that perceived usefulness, trust, subjective norms and satisfaction have significantly contributed to MMT consumers' continuous intention. In addition, this study addressed the antecedent factors for the major predictors, which were seldom explored in prior research. The results have presented practical and theoretical implications.

Keywords: **Mobile Money Transfer; Integrated Model; SEM; Continuance Intention**

INTRODUCTION

Mobile Money Transfer (MMT) is gaining wider acceptance among many populations in developing countries, where the traditional banking service is hard-to-reach for considerable segments of these populations. This is particularly pertinent to those with low socio-economic status and belongs to lower and middle classes. MMT is fast-growing banking transaction service in several African countries, where the vast majority of populace are uneducated and mostly are from rural areas [1,2]. Several advantages for using MMT service were reported in the literature. Bosire [3] summarized these advantages into nine themes, namely financial transactions, facilitating social capital accumulation, enhancing money security, reducing economic vulnerability, creating employment opportunities, increasing savings, promoting financial autonomy, and fostering entrepreneurship.

The concept of MMT is interchangeably used with several other related concepts such as mobile banking and mobile payments [1]. However, it should be noted that the concept of MMT is essentially different from these two concepts, according to conceptualization of some developing countries such as Somalia and Kenya. The main operating authority, according to mobile payments and mobile banking, is based on the banks itself. The banks directly operate these services with the collaboration of telecommunication service providers, whereas the MMT is not associated with physical banking operating system [1]. Hence, the money flow and exchange is managed by the service provider company. As an example, M-PESA, E-MAAL and EVC Plus, which are offered by Safaricom (Kenya), NationLink (Somalia) and Hormuud Telecom (Somalia) respectively, are operated and managed by these companies without associating with the traditional banks.

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The first MMT service in Africa was M-PESA introduced by Kenyan Safaricom in late 2007 [4]. M denotes to mobile while PESA translates into "money" in Kisiwalihi Language. Literally, M-PESA means "mobile money". Electronic Virtual Cash (EVC PLUS) is also meant for transferring money using mobile phone, whereas E-MAAL literally means electronic money. These services were primarily designed for the unbanked and uneducated population and can be obtained from several outlets such as company headquarters, its main branches, or authorized agents [1-2, 5-6] . As asserted by Tobbin & Kuwornu [6] , several MMT services were launched in several African countries following Kenyan initiative such as Tanzania, South Africa, Nigeria, Ghana, Somalia, etc. In the context of Kenyan M-PESA, the service was successful in terms of its wide adoption and satisfaction, which was adopted by more than 15 million in the last five years [7].

In Somalia, where traditional institutional banking services are almost non-existent, MMT is an essential financial transaction in daily activities. Since the collapse of the central government in 1991, almost all financial and non-financial institutions were collapsed including telecommunication and banking industry. Meanwhile, there is no effective functioning government which provides the necessary services, the telecommunication industry stood up to fill the gap [4]. The transitional federal government had reopened Central Bank of Somalia in 2009 with full capacity to take over the administration of financial issues in the country [5]. There are few other banks operating from the capital city of Mogadishu; however, these banks are still excluding the disadvantaged segments of the population including students, small business owners and housewives, etc.

To fill this gap, the telecommunication industry, initiated by civil societies, acted as alternative options for disadvantaged segments. This industry managed the money flow, transfer, and exchange in the country. The industry introduced several MMT services in the country including ZAAD, SAHAL, E-MAAL and EVC Plus. One major reason making these services successful and acceptable to the wider population is due to unstable political and security situation in the country [6], as well as its affordability, user-friendly features, and convenience all the time.

Hormuud Telecom was the first to introduce the MTT service (EVC Plus) in the country in late 2012, particularly in the south-central regions. By using this service, users can manage their money by sending to and receiving from others. The features of EVC Plus are user-friendly, self-registration, easy-to-use, and self-airtime purchase [7]. Similarly, NationLink Telecom company, mainly operates in south-central regions, also introduced

another MMT service called E-MAAL. Users can perform several functions using their mobile phone including cash-in, cash-out, transfer, E-Topup, merchant payment (M-shop), bill payment and getting statements on their financial transactions [8].

Working class, businesspersons, women entrepreneurs, and small enterprises do not only adopt these MMT services, but also university and secondary students do so. By using this service, they can pay their bills, shop with majority of shopping centers, pay with the restaurants and coffee shops, send some money to or receive from friends and family members.

With this background, the current study investigates the factors influencing the continuance intention of using the MMT services in Somalia among general public in the capital city of Mogadishu. Previous studies had reported several factors that contributed to the adoption of MMT services among students as well as general public [9,10]. These studies had mainly focused on one specific service or general perception on MMT services with some of them depended on very small sample size. In addition, these studies ignored an impartment element in the survival of almost every business: continuance intention. As such, the present study will extend previous studies and explore further factors that contribute to the continuous intention of using the MMT services. Another gap that the current study fills is that most previous studies included fewer factors in the models, which in turn, negatively contributes to the power of explanation [9-11]. Therefore, this study incorporates several predictors in the conceptual model in order to gauge a higher power of explanation. Furthermore, the antecedents of major predictors of continuous intention were not sufficiently addressed in the literature. As such, several antecedents for the major constructs (perceived usefulness, trust and satisfaction) were addressed.

LITERATURE REVIEW

In their quest for examining influential factors determining peoples' acceptance, adoption and usage of a new technology, application or service, researchers suggested and employed various theories and models. Among these, Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Task Technology Fit (TTF) model and Information Systems Success Model were used to examine the behavioral intention and continuance of usage of various technologies including mobile payments, mobile money transfer and other mobile banking services. Researchers also incorporated relevant variables adopting from various contexts in order to gauge the predictive power of the concerned models.

The quest for understanding people's reasons of accepting or rejecting a new technology had paved way for the emergence of many theories. Among the many theories that explained these reasons is the popular Technology Acceptance Model (TAM), which emanates from the PhD work of Fred Davis in 1985. His investigation revealed that among the many variables that may influence the acceptance or rejection of information technology is summarized in two points. First, people tend to use or not

use an application to the extent they believe it will help them to perform their job better. Second, even if potential users believed that a given application is useful, they may, at the same time, believed that the system is too hard to use and that the performance benefits of the usage are outweighed by the effort of using the application [12]. This made him to theorize that people accept new technology according to their perception of its usefulness and their perception on its ease of use.

Continuous Intention and Satisfaction

A number of studies have focused on the relationship between continuous intention and satisfaction with several services and technologies [13-17]. For instant, one of the early studies focused on the IS continuance intention [14] suggested that satisfaction is a major driving factor for continuance intention to use and accept an IS technology. Further, Ali et al. [13] conducted a study looking at the determinant influencing customers' experience, satisfaction and intention to revisit hotel drawing on a sample from Malaysian Resort hotels. Their study revealed that customers' revisit intention was mainly influenced by their satisfaction with the services provided. The concept of customer satisfaction was found to be a major determinant of continuance intention in a number of mobile technologies and applications. Mobile shopping [16], mobile purchase [18], mobile social apps [19], mobile social media [20,21], mobile internet [17], mobile payment [15], mobile instant messing services [15], mobile advertising [22] and mobile banking [23-25] are among the addressed technologies. Based on the above discussion, the current study posits the following hypothesis:

H1: satisfaction with MMT technology significantly determines the consumers' continuous intention to use the technology.

Continuous Intention and Trust

Studies have established that the users' trust level is significantly contributing to their intention of continuance of the service in question. Using a convenience sampling of students in an Iranian university, Hanafizadeh et al. [26] found that the students' intention to adopt mobile banking was significantly influenced how much trust they exert in the service provider. In the context of financial services, Pi et al. [27] reported that two types of trust (affective and cognitive) had determined Taiwanese consumers' continuous intention to adopt financial services. Moreover, the concept of trust has been reported in a number of studies as a major determinant of intention to adopt or continue to use mobile banking service among various consumers [11,18,28,29]. In contrast to above studies, the construct was reported not to have direct impact on customers' intention to adopt mobile banking [30]. Against this background, the researchers put forward the following hypothesis:

H2: Consumers' trust towards the MMT provider would have an impact on their continuous intention to use the technology.

Continuous Intention and Perceived Usefulness

The concept of usefulness refers to the consumers' perception that adoption of a technology would enhance their job or task performance. Perceived usefulness is originated in the works of Davis [12,31,32] in late 1980s when he was studying factors influencing a users' intention to use an information system. He found that this construct is a major predictor of user's intention to use a new system or technology. It has been later adopted in other contexts and technologies. In the context of mobile banking, the concept has been reported as a significant determinant of consumers' intention to adopt or continue using mobile banking services in a number of countries such as China [23], Somalia [9-10] Malaysia [33,34], Iran [26], Zimbabwe [28], Ghana [11] and South Korea [34]. Thus, the following hypothesis is postulated:

H3: Perceived usefulness would have an impact on consumers' continuous intention to use MMT technology.

Continuous Intention and Subjective Norms

Subjective norms are sometimes termed as "social factor". It refers to "the perceived social pressure to perform or not to perform the behavior" [35]. Prior studies [34-38] have suggested that subjective norms or perceived image or social influence had significant effect on the users' intention to use an information system or a new technology in different contexts. Looking this concept from the perspective of mobile banking adoption, it has been reported that subjective norms had significantly determined the users' intention to adopt or continue adopting mobile banking service in Brazil [39], China [40], Somalia [9,10], United Arab Emirates [41], and Jordan [42]. Moreover, it has also been reported as a major predictor in other mobile-related services such as mobile social applications [19], mobile games [43], and mobile internet continuance [23]. Thus, the following hypothesis is proposed:

H4: Subjective norms would have an impact on continuous intention to use MMT technology.

Antecedent Factors for Major Predictors

Satisfaction

Previous studies established that satisfaction is a major driving factor for continuous usage of mobile banking technology among various consumers. A number of its antecedent factors have been addressed in the literature (i.e., perceived risk, system quality and service quality). Recent studies [18,20,23] have reported a negative relationship between perceived risk and satisfaction in the area of mobile social media, mobile purchasing, and mobile banking. This means that the higher the risk associated with the adoption of the technology, the less satisfaction felt by the users. In another study [24], it has been found that this concept has no impact on users' satisfaction

among Indian consumers. Moreover, perceived security was also found to have a negative relationship with the satisfaction with an ICT service. Thus, the following hypothesis is postulated:

H5.1: Perceived risk would have an impact on MMT users' satisfaction

In the information systems literature, the quality of the system in question has been frequently addressed. It has been reported a positive relationship between system quality and consumers' satisfaction with mobile banking system among various consumers [18,21,44,45]. In addition, studies have established that there is a significant positive correlation between service quality and the concept of customer satisfaction. For instance, Elliot et al. [44] study found that service quality has more effect on customer satisfaction than system quality did. Other studies also reported the same trend [18,24,45,46] except the study of Zhou [21] which has reported that service quality has no direct impact on satisfaction. However, he reported an indirect impact through trust and flow concepts. In line with these discussions, the following hypotheses are postulated:

H5.2: Service quality would have an impact on consumers' satisfaction with MMT service.

H5.3: System quality would have an impact on consumers' satisfaction with MMT service.

Trust

Earlier research on E-commerce [47] has greatly emphasized the importance of trust to the website owners. Knowing how the consumers trust them and what antecedent affect their trust was a major concern for the business owners. In recent studies on mobile banking technology, trust was also a prominent factor influencing consumers' continuance intention or behavioral intention to use the technology in a number of contexts [11,18,21,26-28,48]. However, only few of these studies [18,21,29] have addressed the antecedents of the concept of trust in the context of mobile banking, mobile money transfer or mobile payment [49]. Furthermore, most of the trust's antecedents have been examined from the perspective of Delone et al. [50,51], particularly system quality and service quality. Therefore, trust's antecedents in the context of mobile banking have not been sufficiently addressed in the literature. This study addresses two antecedents for the trust (namely firm reputation and structural assurance), which are basically considered more relevant to the context of mobile banking. This is because these antecedents are addressing the institutional-based trust.

Earlier research [47] on online shopping found that structural assurance exerted significant influence on users' intention, which in turn, influenced their continued usage of online shopping. This indicates that an individual is more likely to trust an institution if there are assurances regarding compensation in case of any error and mistakes or

protection of his/her data. Recent studies also supported the relationship between trust and structural assurance among various consumers [29,49,52-55]. In addition, studies have also established that firm reputation has significantly determined the consumers' trust of a given technology or system [29,54]. This means that the customers are more likely to trust a company or institution if it has a reputation. Following these discussions, these hypotheses are put forward:

H6.1: Structural assurance would have an impact on trust among MMT users.
H6.2: Firm reputation would have an impact on trust among MMT users.

Perceived Usefulness

Another important driving factor of mobile banking adoption is the users' feelings of the usefulness of the service to their lives. Mobile applications and services such as mobile banking, mobile payment, mobile purchase and mobile learning had been addressed in the literature, gauging the influence on several antecedents (perceived risk, convenience and perceived ease of use) on perceived usefulness. However, prior studies rarely reported more than one antecedent for perceived usefulness. As such, this study includes three diverse constructs as its determinant antecedents.

One of the most important predictors of perceived usefulness (PU) is perceived ease of use (PEU) as reported in the original TAM and subsequent studies [12,32,56]. In the context of mobile banking literature, the concept of PEU was found to have significant effect on PU looking from the perspective of various consumers [10,11,23,57]. Further, the concept of PEU was also reported as a good predictor of PU in the context of mobile payment [34], mobile telecommunications [58], and mobile learning [59]. Thus, the following hypothesis is put forward:

H7.1: perceived ease of use would have an impact on perceived usefulness among MTT users.

The associated feeling of convenience of the service is likely to exert an influence on the users' perceived usefulness. Thus, this means that the more the users felt convenience using the MMT technology, the more they perceive it useful to their lives. The literature supports this argument in a number of studies that examined the influence of convenience on perceived usefulness in the context of mobile applications. Prior studies on mobile banking adoption paid little attention to the "perceived convenience". It has been reported that convenience is significantly and positively correlated with perceived usefulness in the context of mobile payments [34] and mobile learning [59]. Therefore, this study extends the concept to the context of mobile banking, because the researchers believe that the more the MMT is convenient the more the users feel it as "useful" to them. Thus, the following hypothesis is posited:

H7.2: Convenience of MMT would have an impact on perceived usefulness among its users.

Moreover, users are also more concerned with whether the technology in question is fit to their needs, tasks and lifestyles. The concept of task technology fit (TTF) has been proposed by Goodhue and Thompson [60]. The TTF has been reported to be determined jointly by task characteristics and technology characteristics, which in turn influenced the user's behavior towards the technology as well as utilization of the technology. In this study, TTF is used as antecedent for perceived usefulness as we argue that the more the users feel that the MMT technology is fit to their tasks and needs, the more they feel it as "useful" to them. This argument is backed by the findings of recent studies in the context of mobile banking [23,40,54]. Therefore, we hypothesize the following:

H7.3: Task-technology fit would have an impact on perceived usefulness among MMT users.

METHODOLOGY SECTION

Sample

This study used stratified convenience sampling, where the respondents were selected conveniently, but the selection was based on stratification of the 17 administrative districts in Banadir Region of Somalia. The target sample included both male and female youth with different age groups as well as had prior experience and usage of mobile money transfer technologies available in the region namely EVC PLUS and E-MAAL. The reason for adopting convenience sampling is due to unavailability of statistical data about the target population. The second reason is that through this technique it is possible to collect the data in easier way. A total of 398 valid responses were collected from all districts that included in the study. Two-thirds of them were males and more than fifty percent hold university degrees and most of them were young adults (18-22 years).

Research Instrument and Measurements

This study adopted self-administered questionnaire as data collection method, administering to the target sample in three-week period. The respondents were asked to indicate their level of agreement or disagreement with 59 items covering thirteen latent constructs: perceived usefulness (5 items), perceived ease of use (5 items), trust (5 items), perceived risk (5 items), service quality (4 items), system quality (4 items), convenience (4 items), firm reputation (3 items), structural assurance (4 items), subjective norms (6 items), continuous intention (5 items), satisfaction (5 items), and task technology fit (4 items). These constructs were measured using five-point Likert scale of 1 denoting strongly disagrees and 5 denoting strongly agree. All the items were adapted from the existing literature except few of them that were added by the researchers.

Data Analysis

The current study employed statistical packages for social sciences (IMB SPSS) for data entry, descriptive statistics and Harmon's single factor for testing common method bias issue. As for the conceptual model testing, this study employed SmartPLS software version 3 [61] for conceptual model testing. Partial Least Squares (PLS) is variance-based SEM technique that "minimizes the residual variances of the endogenous constructs" and it is better than Covariance-based SEM in a such a way that PLS-SEM has " fewer identification issues, works with much smaller as well as much larger samples, and readily incorporates formative as well as reflective constructs" [62]. There are several reasons the researchers choose PLS-SEM over CB-SEM methods, depending on the research objectives.

We report here three reasons that led to the selection of PLS-SEM for data analysis in this study. First, the general objective of this study was to test an integrated model comprising several constructs from different theories and models to provide a better prediction of continuous intention of MMT technology. Thus, PLS-SEM was deemed appropriate in this context due to its prediction-orientation [62]. Second, the proposed conceptual model presented in Figure 1 comprised of thirteen latent constructs with several indicators for each of them. Following the guidelines of recent literature on PLS [62-64], this study employed PLS due to its perfect performance in the context of complex models like what we have in this study. Third, the adoption of mobile money transfer in Somalia and its assessment are indeed in its early stage [9,10]. Thus, a PLS technique is more appropriate in this context [65].

Following the suggestion of Anderson et al. [66], this study applied a two-step approach, where the first step is intended to test the measurement model, which provides clues that the structural path relationships would make sense. The second approach is to test the structural model and explain the path relationships and variance explained by the constructs in the conceptual framework.

Finally, this study conducted a further test to determine a common method bias existence. Since the data were collected from same respondents at one specific time, a bias is more likely to happen. In order to determine whether the bias is a major concern, a Harman's single factor was conducted [67]. Podsakoff et al. [67] suggested using single factor criteria, where the variance explained should not be more than 50% accounted for by a single factor. As such, the researchers conducted an exploratory factor analysis that yielded a single factor with almost 24% of variance explained by all items in the model. Therefore, the common method issues are not major concerns for this study.

RESULTS

Measurement Model

The measurement model is tested, where the construct reliability and validity is reported before interpreting the structural paths of the conceptual framework. Two types of validity are addressed in this study namely convergent and discriminant validity. As for the first one, significant factor loadings, average variance extracted (AVE), and composite reliability (CR) are indicators for measuring convergent validity [68,69]. Following the above guidelines, several items were dropped due to low factor loadings. As presented in Table 1, all factor loadings were higher than the recommended cut-score of 0.50 and were statistically significant at 0.050. In addition, the values of AVE and CR were higher than the required values of 0.50 and 0.70 respectively. For AVE, the values ranged from 0.534 to 0.754, while the values for CR ranged from 0.775 to 0.881. Thus, the convergent validity of this study was fully established.

Discriminant validity, which refers to how distinct the concepts are, can be established in a number of ways. However, this study reports two approaches of establishing discriminant validity namely cross loading and Fornell-Larcker [70]. As it has been suggested in the literature, the square root of all constructs in this study (shown in diagonal with bold and italic) was found to be higher than the value of any relationship between constructs (Table 2). This fully supports the discriminant validity of the study [70]. Furthermore, to double confirm that the constructs are adequately distinct from each other, another technique (cross loading, [71]) was conducted. Table 3 presents the values of cross loading, indicating that all items highly loaded on their respective constructs and they were lower than its cross loading with other constructs' items. In this regard, discriminant validity was also supported [71].

Table 1: Convergent validity and reliability.

Constructs	Item	Loadings*	AVE	CR
Continuance intention	CI2	0.641	0.534	0.820
	CI3	0.816		
	CI4	0.717		
	CI5	0.737		
Convenience	CON1	0.801	0.553	0.783
	CON2	0.838		
	CON3	0.559		
Firm reputation	FR1	0.757	0.543	0.780
	FR2	0.656		
	FR3	0.792		

Perceived ease of use	PEU1	0.768	0.557	0.832
	PEU2	0.569		
	PEU3	0.790		
	PEU5	0.831		
Perceived risk	PR1	0.809	0.650	0.881
	PR2	0.776		
	PR3	0.793		
	PR5	0.845		
Perceived usefulness	PU2	0.918	0.754	0.859
	PU5	0.816		
Structural assurance	SA1	0.875	0.618	0.828
	SA2	0.784		
	SA3	0.690		
Satisfaction	SAT1	0.655	0.612	0.862
	SAT2	0.835		
	SAT3	0.873		
	SAT4	0.748		
Subjective norms	SN2	0.818	0.616	0.825
	SN4	0.886		
	SN6	0.627		
Service quality	SVQ1	0.843	0.566	0.835
	SVQ2	0.887		
	SVQ3	0.683		
	SVQ4	0.550		
System quality	SYQ2	0.927	0.626	0.829
	SYQ3	0.587		
	SYQ4	0.820		
Trust	TR3	0.890	0.636	0.775
	TR5	0.693		
Task technology fit	TTF2	0.861	0.648	0.846
	TTF3	0.723		
	TTF4	0.824		

Table 2: Discriminant validity (Fornell-Larcker technique).

Constructs	CI	CON	FR	PEU	PR	PU	SA	SAT	SN	SVQ	SYQ	TR	TTF
CI	*0.730*												
CON	0.359	*0.743*											
FR	0.407	0.415	*0.737*										
PEU	0.541	0.491	0.386	*0.746*									
PR	0.536	0.467	0.396	0.228	*0.806*								
PU	0.502	0.700	0.134	0.640	0.418	*0.868*							
SA	0.434	0.287	0.636	0.192	0.578	-0.003	*0.786*						
SAT	0.559	0.197	0.358	0.250	0.693	0.107	0.671	*0.782*					
SN	0.731	0.278	0.593	0.391	0.569	0.301	0.589	0.590	*0.785*				
SVQ	0.227	0.325	0.199	0.572	0.223	0.314	0.380	0.353	0.158	*0.753*			
SYQ	0.383	0.348	0.388	0.530	0.390	0.301	0.397	0.457	0.455	0.624	*0.791*		
TR	0.339	0.366	0.567	0.292	0.484	0.197	0.457	0.399	0.530	0.195	0.320	*0.797*	
TTF	0.464	0.569	0.297	0.539	0.465	0.659	0.301	0.364	0.576	0.498	0.502	0.398	*0.805*

The measurement model suggested that all constructs in this study are valid, reliable and distinct from each other, as well as providing good variance explained. This provides the researchers the green line to proceed with the structural model and interpreting the relationship among the constructs in the conceptual model.

Table 3: Cross loadings.

Constructs	CI	CON	FR	PEU	PR	PU	SA	SAT	SN	SVQ	SYQ	TR	TTF
CI2	**0.641**	0.243	0.112	0.580	0.196	0.382	0.238	0.465	0.277	0.481	0.293	0.125	0.319
CI3	**0.816**	0.390	0.363	0.327	0.621	0.432	0.507	0.539	0.745	0.227	0.392	0.437	0.521
CI4	**0.717**	0.053	0.105	0.397	0.327	0.350	0.163	0.302	0.329	0.034	0.072	0.012	0.106
CI5	**0.737**	0.282	0.517	0.358	0.317	0.303	0.264	0.298	0.642	-0.049	0.296	0.288	0.312
CON1	0.206	**0.801**	0.349	0.399	0.453	0.539	0.339	0.211	0.229	0.464	0.509	0.381	0.576
CON2	0.194	**0.838**	0.225	0.436	0.173	0.625	0.091	-0.046	0.086	0.301	0.140	0.164	0.495
CON3	0.511	**0.559**	0.422	0.224	0.522	0.357	0.259	0.399	0.404	-0.176	0.114	0.324	0.106
FR1	0.340	0.155	**0.757**	0.400	0.116	-0.007	0.376	0.171	0.343	0.067	0.257	0.320	-0.022
FR2	-0.007	0.392	**0.656**	0.196	0.160	0.031	0.535	0.206	0.127	0.392	0.257	0.402	0.190
FR3	0.525	0.334	**0.792**	0.283	0.512	0.222	0.477	0.371	0.751	-0.001	0.328	0.495	0.399
PEU1	0.388	0.465	0.370	**0.768**	0.107	0.558	0.078	-0.013	0.217	0.296	0.242	0.363	0.341
PEU2	0.275	0.330	0.495	**0.569**	-0.020	0.244	0.193	0.063	0.187	0.276	0.246	0.163	0.110
PEU3	0.557	0.344	0.238	**0.790**	0.352	0.512	0.247	0.490	0.458	0.534	0.468	0.161	0.544
PEU5	0.364	0.332	0.177	**0.831**	0.162	0.510	0.099	0.176	0.284	0.574	0.599	0.163	0.502
PR1	0.498	0.403	0.309	0.180	**0.809**	0.454	0.331	0.451	0.569	0.011	0.184	0.485	0.392
PR2	0.519	0.381	0.289	0.177	**0.776**	0.326	0.437	0.553	0.602	0.176	0.353	0.260	0.452

PR3	0.375	0.311	0.308	0.219	**0.793**	0.300	0.433	0.516	0.264	0.134	0.242	0.342	0.183
PR5	0.364	0.407	0.362	0.165	**0.845**	0.298	0.610	0.673	0.422	0.332	0.428	0.474	0.449
PU2	0.524	0.709	0.277	0.570	0.575	**0.918**	0.196	0.271	0.416	0.300	0.421	0.343	0.694
PU5	0.318	0.473	-0.114	0.548	0.062	**0.816**	-0.291	-0.163	0.042	0.240	0.034	-0.075	0.408
SA1	0.360	0.248	0.572	0.117	0.518	-0.053	**0.875**	0.624	0.490	0.294	0.388	0.367	0.237
SA2	0.535	0.239	0.604	0.260	0.539	0.082	**0.784**	0.524	0.642	0.154	0.323	0.411	0.215
SA3	0.036	0.181	0.263	0.037	0.256	-0.061	**0.690**	0.417	0.174	0.527	0.203	0.278	0.272
SAT1	0.268	-0.033	0.314	0.145	0.247	-0.263	0.619	**0.655**	0.217	0.418	0.385	0.247	0.048
SAT2	0.477	0.153	0.320	0.078	0.666	0.110	0.525	**0.835**	0.531	0.185	0.358	0.349	0.275
SAT3	0.555	0.139	0.344	0.331	0.602	0.125	0.565	**0.873**	0.555	0.259	0.359	0.370	0.294
SAT4	0.391	0.301	0.155	0.217	0.551	0.229	0.453	**0.748**	0.458	0.331	0.364	0.263	0.452
SN2	0.573	0.331	0.511	0.159	0.711	0.229	0.678	0.679	**0.818**	0.076	0.315	0.509	0.456
SN4	0.634	0.104	0.589	0.287	0.491	0.110	0.626	0.551	**0.886**	0.163	0.490	0.486	0.412
SN6	0.505	0.235	0.264	0.503	0.095	0.405	0.018	0.112	**0.627**	0.130	0.240	0.225	0.502
SVQ1	0.040	0.120	-0.003	0.271	0.172	0.073	0.331	0.381	0.125	**0.843**	0.515	0.042	0.411
SVQ2	0.291	0.261	0.222	0.634	0.173	0.339	0.343	0.273	0.117	**0.887**	0.523	0.159	0.385
SVQ3	0.276	0.528	0.400	0.538	0.212	0.434	0.257	0.165	0.132	**0.683**	0.457	0.363	0.402
SVQ4	0.348	0.442	0.263	0.677	0.167	0.519	0.130	0.060	0.177	**0.550**	0.463	0.320	0.420
SYQ2	0.391	0.270	0.318	0.444	0.518	0.272	0.404	0.498	0.457	0.513	**0.927**	0.308	0.418
SYQ3	0.208	0.593	0.333	0.575	0.148	0.497	0.096	0.072	0.109	0.495	**0.587**	0.223	0.376
SYQ4	0.260	0.280	0.362	0.449	0.080	0.180	0.299	0.300	0.351	0.588	**0.820**	0.235	0.471
TR3	0.245	0.397	0.605	0.292	0.377	0.205	0.401	0.276	0.428	0.188	0.268	**0.890**	0.367
TR5	0.324	0.142	0.235	0.150	0.420	0.089	0.325	0.400	0.435	0.113	0.248	**0.693**	0.254
TTF2	0.410	0.655	0.337	0.452	0.616	0.684	0.270	0.423	0.498	0.349	0.440	0.451	**0.861**
TTF3	0.082	0.192	-0.074	0.194	0.112	0.286	0.129	0.159	0.265	0.494	0.298	0.054	**0.723**
TTF4	0.516	0.367	0.300	0.574	0.212	0.490	0.285	0.207	0.559	0.445	0.442	0.313	**0.824**

Structural Model

This study employed SmartPLS 3 software to test the conceptual model [61]. The study employed a 5000 resample bootstrapping technique to determine the significance of the paths and weights of the constructs [71,72] The results of the proposed framework for this study is presented in Table 4 and Figure 2.

As presented in Table 4, the proposed relationship between satisfaction and continuous intention to adopt mobile money transfer was found to be significant ($\beta=0.250$, $t=5.212$, $p<0.05$), indicating a full support to the first hypothesis (H1). It means that satisfied customers with the MMT are more likely to continue using the service. The second hypothesis (H2) was not supported as the relationship was negative which is in contrary to what has been suggested in the literature. However, this path was significant ($\beta=-0.115$, $t=2.679$, $p<0.05$) indicating the trust among the respondents is contributing negatively to continuous intention of MMT. The less the trust of the MMT the higher the

chance the customers to discontinue using it. The path between continuous intention and perceived usefulness was significant and positive ($\beta=0.336$, t=10.173, p<0.05), indicating that perceived usefulness is a significant predictor. The more customers felt that MMT technology is useful to them, the more likely to continue using it. Thus, H3 was fully supported. In addition, subjective norms were the fourth predictor of endogenous variable in this study. Consistent with H4, the path coefficient of subjective norms was 0.544 (t=10.630, p<0.05), showing that the hypothesis was fully supported. It means that the opinion of one's surroundings including friends, colleagues, and family members are contributing to one's adoption of MMT. A subjective norm is the best predictor of continuous intention to use MMT among the respondents of this study. All these four predictors had managed to account for 67% ($R^2=0.666$) in continuous intention, which is higher percentage compared to a number of studies in the literature of mobile banking and mobile money transfer [23,24]. Even it is also higher than those reported in other mobile technologies such as mobile purchase, mobile instant messaging and mobile advertising [18,21,22,73,74]. This variance explained of the continuous intention model is considered as substantial in terms of the model validity [72]. Chin and his colleagues suggested three criteria for endogenous model validity classifications based on R^2 scores of 0.67, 0.33 and 0.19 as substantial, moderate and week respectively. As such, the predictive power of continuous intention model validity in this study was substantial.

Table 4: Results of conceptual model tested with PLS.

| Proposed Path			Path coefficients	t values	p	Remarks for Hypotheses
CI	←	SAT	0.250	5.212	<0.05	Supported
CI	←	TR	-0.115	2.679	<0.05	Not Supported
CI	←	PU	0.336	10.173	<0.05	Supported
CI	←	SN	0.544	10.630	<0.05	Supported
SAT	←	PR	0.633	20.241	<0.05	Supported
SAT	←	SVQ	0.150	2.230	<0.05	Supported
SAT	←	SYQ	0.138	2.171	<0.05	Supported
TR	←	FR	0.464	8.643	<0.05	Supported
TR	←	SA	0.161	2.831	<0.05	Supported
PU	←	CON	0.399	10.645	<0.05	Supported
PU	←	PEU	0.298	8.109	<0.05	Supported
PU	←	TTF	0.271	5.991	<0.05	Supported

Moreover, this study has taken into consideration the influence of antecedent factors that directly to contribute to the major predictors of continuous intention. This consideration was rarely addressed in previous studies. Three variables was included as antecedents of satisfaction namely perceived risk, service quality and system quality. Perceived risk was found to have significant impact on satisfaction with MMT technology among the respondents ($\beta=0.633$, t=20.241, p<0.05); thus lending support to H5.1. The proposed relationship between service quality and satisfaction was also

significant with $\beta=0.150$, $t=2.230$, $p<0.05$, indicating that H5.2 was fully supported. Further, system quality was found to be significant predictor of satisfaction with MTT technology ($\beta=0.138$, $t=2.171$, $p<0.05$), which suggested a full support to H5.3. The three variables contributed about 57% of variance to satisfaction with MTT, which is moderate in terms of model validity [72].

Two antecedent factors for trust were reported in this study namely firm reputation and structural assurance. The first factor ($\beta=0.464$, $t=8.643$, $p<0.05$) had significantly and positively predicted the trust with MMT technology. Thus, H6.1 was fully supported. Also, the results suggested that structural assurance had significant and positive influence on trust ($\beta=0.161$ $t=2.831$, $p<0.05$), lending a support to H6.2. These two antecedent factors had accounted for 34% of variance in trust variable, and it is considered as moderate in terms of model validity [72].

As for perceived usefulness, three antecedents were reported in this study (convenience, perceived ease of use and task technology fit). As reported in original TAM, perceived ease of use was a good predictor of perceived usefulness; this link was also supported by this study ($\beta=0.298$, $t=8.109$, $p<0.05$, H7.1), indicating that associated easiness of any technology is linked with usefulness perception. Convenience factor significantly and positively contributed towards perceived usefulness ($\beta=0.399$, $t=10.645$, $p<0.05$), suggesting that the more the customers felt convenience with the technology, the more they are likely to continue using the technology. Thus, H7.2 was fully supported.

Figure 1: The Results of Structural Model.
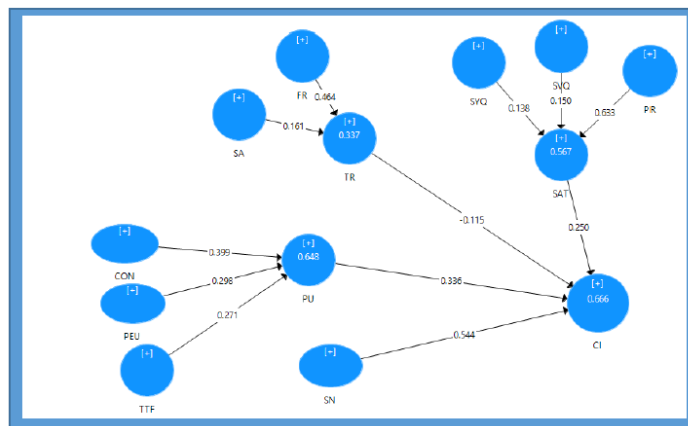
This study also proposed that task technology fit to have influence on perceived usefulness, which was fully supported by the empirical data ($\beta=0.271$, $t=5.991$, $p<0.05$). Thus, H7.3 was supported. Finally, convenience, perceived ease of use, and task technology fit had accounted for 65% of variance in perceived usefulness. This is almost substantial in terms of model validity following the guidelines of Chin and his colleagues [72] (Figure 2).

Figure 2: hypothesized model with T-values.
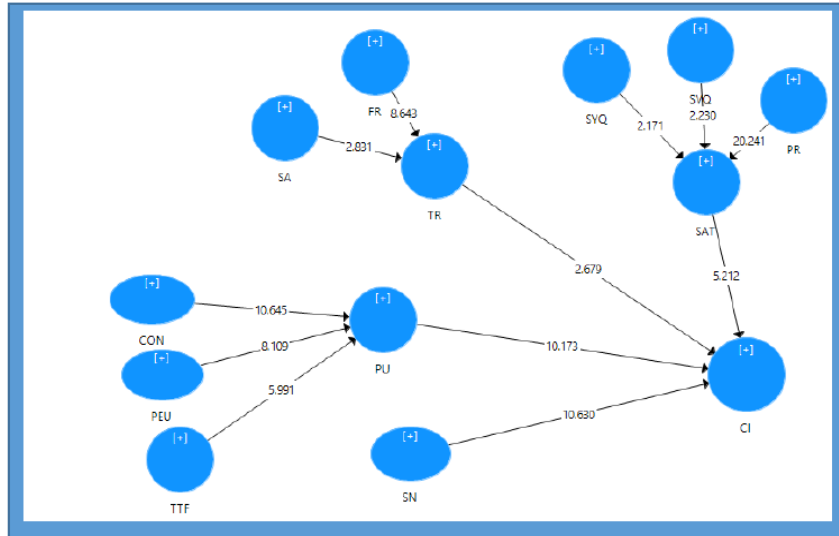
DISCUSSION AND CONCLUSION

This study sought to examine the influential factors of continuance intention of Mobile Money Transfer Technology (MMT) among consumers in a Sub-Saharan country. The study also sought to gauge the effect of several antecedent factors for the major predictors of continuous intention of MMT in order to determine their contribution. An integrated model consisting elements derived from Technology Acceptance Model, Task Technology Fit, Theory of Reasoned Action and Information Systems Success model have guided the study.

As shown in Figure 1, satisfaction with MMT has demonstrated significant determination on the consumers' continuous intention to use MMT service. This alarms that satisfied customers are assets to the company where they can contribute to its revenues and success. This relationship has been supported by a number of studies on information systems literature such as mobile banking and other mobile related technologies [13,15,18-20,23-25].

Moreover, although trust element has been suggested as a positive predictor of one's intention to continue using a service, this study found that trust negatively determines MMT customers' continuous intention. This indicates that the less the trust of the MMT service providers the higher the chance the customers to discontinue using it. One possible explanation is due to the fact that the customers cannot determine whether a telecommunication company can be trustworthy as a bank. Another explanation can be related to the measurement of the concept, where three of its items have been removed due to low loadings. This result is contrast with the results of numerous studies that support this link [11,18,28,49].

Consumers' perceptions about the usefulness of MMT services was also examined in this study. Consistent with previous TAM studies [12,32,56,75] and studies on mobile banking technology [23,26,33,76], this study has proved this relationship, where perceived usefulness was found to have significant impact on consumers' intention to continue using MMT service. This indicates that one's perception of a technology greatly determines his/her intention to continue using the service.

Further, this study also found a significant impact of perceived social pressure (subjective norms) on continuous intention towards MMT service [77]. It reflects that the consumers are more likely to continue using it if their immediate people (i.e., friends and family members) recommend or say some positive things about the service. This is in line with arguments of previous studies [9,35,36].

This study did not only explore the direct impact of the predictors, but it has also sought to gauge the impact of antecedent factors for these predictors. As for satisfaction construct, it has been found that perceived risk, service quality and system quality greatly contributed towards consumers' satisfaction with the MMT service. This is consistent with the previous studies in IS literature [18,24,45,46]. Moreover, this study found a significant relationship of trust with firm reputation and structural assurance. In order for the consumers to have a trust, the service provider should have, firstly, good reputation and provide assurances to the consumers regarding the protection of their information and data. Previous studies exerted a good support for these links [17,49,52,54]. Finally, perceived ease of use, convenience and task technology fit have been found to have significant impact on consumers' perception about the MMT usefulness [78]. This indicates that if the consumers find MMT as a user-friendly, fit to their needs as well as convenient, they are probable to perceive it as useful. These positive impacts are also reported in many studies on TAM and mobile banking literature [11,23,34,40,54,57,59].

This study has implication to both managerial and theoretical aspects. For practitioners and managers of MMT services, this study provides good insights about the potential factors that contribute to the customer retention strategies. In order to retain the customers, service providers should continue improve their services in order to remain useful to the customers. In addition, this study suggested that satisfied customers are more willing to continue using the service. Thus, service providers should develop strategies that contribute to the customers' satisfaction. Although respondents in this study had somewhat moderate trust (64%), service providers need to increase their trust and confidence by keeping their promises and providing assurances regarding how the company protects their data and information. Hence, this trust can eventually contribute to customer retention (continuous usage of the service). Moreover, this study revealed that the influence of peers and family members are stronger in determining one's continued usage of a service. Again, customer satisfaction is of great importance here. It means that satisfied customers will bring more customers through recommendations for the service (Table 5).

Table 5: variance accounted for continuance intention towards Mobile technologies.

No.	Study	Context	R^2 (variance explained)
1	Gan [73]	Mobile Instant Messaging	47.2%
2	Gao et al. [18]	Mobile Purchasing	64.2%
3	Chang [59]	Mobile English Learning	60%
4	Gong et al. [15]	Mobile Instant Messaging	42%
5	Hsiao et al. [22]	Mobile Advertising	54%
6	Hung et al. [16]	Mobile Shopping	38.3%
7	Pi et al. [27]	Mobile Services	50%
8	Ofori et al. [20]	Mobile Social Media	39.2%
9	Zhou [17]	Mobile Internet	55%
10	Zhou [21]	Mobile payment	58.4%
11	Zhou [74]	Mobile Instant Messaging	55.1%
12	Kumar [24]	Mobile Banking	38%
13	Yuan et al. [23]	Mobile Banking	53.4%

From a theoretical point of view, this study has found factors determining the MMT continuous intention of usage. Second, the study has included a number of antecedent factors, which seldom addressed in extant research on mobile banking technology. Third, post-adoption intention has also rarely addressed by prior studies on mobile baking adoption. Thus, this study fills that gap in the literature. Fourth, another essential implication is that through the integrated model (elements from TAM, TRA and information systems success model), this study has provided further insights about post-adoption intention [79]. Fifth, this study has reported a higher variance explained in continuance intention. The explanation power reported in this study is higher than those reported in previous studies on mobile banking, which is less than 60%. As shown in Table 5 in the Appendix, this power is also higher than other studies on mobile-related services such as mobile instant messaging, mobile payment, mobile purchasing, mobile shopping, mobile advertising, mobile internet, mobile social media, and mobile English learning.

However, this study is surrounded by the following limitations. First, the study focused only on consumers in Banadir Region, which poses a limitation about the results' generalizability to other regions. Second, using convenience sampling also poses another limitation, of which future studies should tackle it by using random sampling technique. Third, although this study tried to cover major predictors there may be other factors that also contribute towards continence intention. Switching cost, flow and habit are among the suggested factors to be addressed in future studies. Finally, this study used a cross-section study. Thus, a longitudinal study would have provided further insight about users' post-adoption behavior as it is a dynamic.

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