Influence of Trust in Somalia’s Mobile Payment System  
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Abstract  
This research examined and explored whether antecedents of customers’ trust on mobile payment service providers, mobile payment agents, and mobile technology have an influence on Somalia’s mobile payment continuance usage. Somalia’s mobile payment involves signing up and sharing customer’s account and financial information with the mobile payment service provider, their in-house agents and merchants as agents for customers out-reach and distribution. Hence, it’s imperative to develop customers’ trust with all the concerned, relevant stakeholders in order to have a sustainable, resilient mobile payment system.

1. Introduction  
Endless of conflicts, war, piracy, terrorism and famine may be the more frequently known topics for Somalia, however, there has been good examples of Somalias’ success in ICT and how it’s telecommunication industry developed as one of the most competitive telecom markets in Africa. According to the World bank global financial inclusion index data (World Bank, 2012) Somalia was one of the most mobile payment active markets: 26% of the population reported using mobile to pay bills, which is the highest rate in the world, 32% to send and receive money. In this war-thorn country, the telecommunication industry, particularly the mobile network
operators have the new revolutionary technology to bridge the financial exclusion gap. Somalias' mobile payment service providers have leapfrogged the conventional financial service providers/Banks to thrive unprecedently through mobile phones.

Therefore, mobile payment systems should be designed to foster customers’ confidence, reduce uncertainties and perceived risks in order to achieve successful, resilient, and sustainable mobile payment services (Xin, et al., 2013). Trust, in general, is a critical factor that could reduce uncertainties and perceived risks in social or economic interactions particularly when making difficult decisions (Gefen, 2000).

Vast majority of the people in Africa are financially excluded. Somalia is one of the most financially excluded countries in Africa and has been without strong, effective government since the fall of Siad Barre’s government in 1990. Financial inclusion is the process which ensures people the access to financial services such as saving, remittance, payments and insurance (Bhanot, et al., 2012). Globally more than 2.5 billion adults, almost half of the World’s population don’t have a formal accounts and don’t use formal financial services, vast majority of the unbanked people belong to the low income countries (Demirguc-Kunt & Klapper, 2012).

According to (Ericson, 2013) Of the 2.5 billion people in the world who lack access to financial services, 1.7 billion have mobile phones and the mobile subscription rate grew even faster at a rate of 45 percent year on year. In Somalia where vast majority of the people are financially excluded, Mobile Money Transfer has significantly filled this gap. Must, B. and Ludewig, K. (2010) argue that Mobile Money could be a powerful tool that has the potential
to alleviate poverty and fill the financial gap amongst unbanked people in Africa. Vast majority of the people in the low income countries are using mobile phones to transfer money; pay for goods; and access financial services such as insurance, credit and account balance inquiries (Donovan, 2012). Hence, as the ubiquity of mobile phones/technology has become widespread with sudden speed particularly amongst people in the bottom of the pyramid such as those in Africa and Asia."The more Mobile phones go to the hands of people who formerly lacked access to financial services, the more the notion of Mobile Money, Payment and Mobile banking become pervasive as a means of financial inclusion"(Eduardo, et al., 2011)

The purpose of this research is to explore antecedents of trust and the influence of trust on the continuance usage in Somalia’s Mobile Payment System. The research aims to identify and examine three dimensions of trust including trust perceptions of the mobile payment service provider, the MP vendor (agents), and MP technology. Rest of this work is organized as follows in section 2 related work is presented. The focus of section 3 is on analysis of the data which is followed by discussion in section 4 whilst the conclusion and future work is given in section 5.

2. Related Work

The definition of Mobile Money varies across the industry as this includes a wide range of overlapping platforms and applications. According to Ernst & Young (2009) “Mobile Money is a term describing the services that allow electronic money transactions over a mobile phone. It’s also referred to as mobile financial services, mobile wallet and mobile payment”. For the aim of this research paper, Mobile Payment has been defined as a type of payment transaction processing in
which the payer use mobile communication techniques in conjunction with mobile devices for initiation, authorization, or completion of payment (Pausttchi, 2008). There are two types of Mobile Payments: remote and proximity. Remote Payments can be made anytime, anywhere, and do not require a Point of Sale (POS) terminal. Remote Payments may be Person to Person (P2P) or Person to Business (P2B) payments. Where the Proximity payment require the installation of Near Field Communication (NFC) (Becker, 2007). By transaction targets, mobile payments can be classified into person to person (P2P) payments, and customer to business (C2B) payments; by communication range, mobile payments can be categorized into remote payments and proximity payments (Wang, 2012).

According to (McKnight, et al., 2002), most scholars define trust according to their specific disciplinary point of view. Psychologist define trust as a tendency to trust others (Rotter, 1971). Social psychologist defines trust as cognition about trustee (Rempel, et al., 1985). Trust represents and reflects the willingness of a party to be vulnerable on the basis of positive expectation toward another party’s future behaviour (Mayer, et al., 1995). According to (Whitener, et al., 1998) a trusted relationship presumes that the trusted party will act and behave benevolently; also one can’t control or force the other party to fulfil this expectation; and there is a certain level of dependency between a trustor and trustee. According to (Zahedi & Song, 2008), trust encompasses three dimensions: ability, integrity and benevolence. Furthermore, (Zhou, 2014) argue that ability is the intangible asset of a service provider which is necessity to fulfil
their tasks, integrity means service providers should thrive to show their trustworthy by keeping their promises and never deceive service users, benevolence means that service providers should always put the interest of service users before their benefit.

There are three entities in Somalia's MP: a mobile service provider (Telesom, Golis, etc.), a mobile payment vendor (agents) and mobile network technology (3G, 4G, system quality, network quality, etc.) (Xin, et al., 2013). Trust, plays a key role in social economy economic interactions particularly when making important decisions or adopting new technologies, it also could reduce uncertainties and perceived risks (Gefen, 2002). This is in agreement with (Xin, et al., 2013), who emphasises that in order to have a successful implementation of a MP system, it’s imperative for MP service providers to holistically understand how consumers develop trust. (Chandra, et al., 2010), suggests and proposes a theoretical model that has two dimensions of consumer trust characteristics in mobile payment systems, which are the consumers trust perceptions in MP service providers, and mobile technology.

3. Data Analysis

A discussion of the distinguishing characteristics of the first three themes are: Trust perceptions of MP Service providers, the characteristics of the MP Service provider, and the characteristics of the MP technology, and their influences on “Trust” and “The MP continuance usage intention”. As seen in Figure 2, consumers' trust in MP (Trust) has strong influence on the MP continuance usage intention. The researcher has used Nvivo 10 to create this model, the shapes of figure 2 are all interconnected to the nodes of this research model, and the researcher would open every
node to explore and examine what has been coded to it. Below, the researcher discusses what the node “TRUST” has been coded to, and the findings are highly significant as the 6 references coded out of the 8 participants emphasised the significances of TRUST in MP and how Trust influence their continuance usage intention in the MP. Hence, the main findings from this theme addresses question no 1 of this research:

1) What is the influence of consumers’ trust on MP continuance usage intention?

Similarly as shown in figure 2. The TRUST perceptions of MP Service Providers, MP Consumer's Out-Reach Strategy, and Mobile Payment Technology themes and their sub-themes not only have strong significant effects on “TRUST” but also the relationships and links between themes and sub-themes. The main findings from these themes answers the research questions:

Figure 2 Themes clustered by coding similarities to show their relationships using Pearson Correlations Coefficient
3.1. Customers’ Trust in MP (Trust)

The findings are highly significant as the 6 references coded out of the 8 participants emphasised the importance of trust and how it influences their continuance usage intention in MP. The findings also suggest not only how TRUST is linked to the continuance usage intention but also the consumers’ loyalty as Participant no emphasised that the link between the MP Service provider and the customer is trust.

3.2. Trust Perceptions of the MP Service Provider

54.63% of the 7 references coded out of 8 participants described Perceived reputation of the MP Service Providers and Perceived Opportunism of the MP Service Providers as an instrumental for TRUST perceptions of the MP Service Provider. Figure 7 demonstrates how coded references of the participants reflect the influence of this theme and its sub-theme on TRUST. Perceived opportunism of MP Service providers has a negative significant influence on TRUST. As Somalia has had its rule of law challenges, this is because the legal frameworks relating to Information and Technology Communication is underdeveloped. Perceived good reputation of the MP Service Providers has a positive impact on TRUST. This supports the research question:

1) What is the influence of MP Service providers’ characteristics in the development of consumer trust in MP?

2a) is the perceived reputation of MP Service Providers positively associated with the level of consumers’ trust in MP?

2b) is the perceived opportunism of MP Service Providers negatively associated
with the level of consumers’ trust in MP?

Figure 3. Perceptions of the MP Service Provider and its links with the child nodes

3.3. Mobile Payment Vendor

66.55% of 7 coded references from 8 participants indicate that the MP service Providers don’t have hired agents as the key point of contact between them and customers. However, they use merchants such stores, super-markets, and money-exchangers as their key point of contact between them and the customers. This supports the research question:

3) What is the influence of MP Consumers’ Out-Reach strategy on trust?

3a) is perceived reputation of MP Consumers’ Out-Reach strategy positively associated with the level of consumers’ trust in MP

3b) is perceived opportunism of MP Consumers’ Out-Reach strategy positively associated with the level of consumers’ trust in MP

Figure 4. Consumers’ Out Reach Strategy Node and its links with the child nodes

Perceived reputation of MP agents have negative influence on TRUST as there are no agents and MP Service
Providers use merchants and customers to carry out this task. Perceived Opportunism of Agents also has negative influence on TRUST.

3.4. Mobile Technology
54.43% of 7 references coded out of 8 participants suggest that they are the important elements in building the MP trust. Coded references of 30.35% of the participants emphasised the Perceived environmental risks and Perceived regulations assurance in the MP industry has strong influences on TRUST in MP. Figure 9, indicates the nodes and its coded reference contents from the participants with regards to how this has strong influence on TRUST. This supports the research question:

4) What is the influence Mobile technology characteristics on trust?
4a) is perceived regulations assurance positively associated with the level of consumers’ trust in MP?
4b) is perceived environmental risks negatively associated with the level of consumers’ trust in MP?

Figure 5: Mobile Technology node and its links with the child nodes

4. Discussion
In order to meet the primary objective of this research which is to explore the antecedents of trust and the influence of trust on the continuance usage of Somalia's Mobile Payment System, it’s imperative to understand how consumers develop trust within the
system. This section highlights topics, such as Mobile Payment Service Providers, MP distribution strategies/vendors, and MP technology.

5.1. Trust
In order to address the objective of this research, the researcher have used both the literature review, which reflects the theoretical background of TRUST and its influence on the continuance usage of the Mobile Payment system, and the data collected from the participants to find whether TRUST is a determinant factor that has an influence on the consumers' continuance usage intention. Based on the data collected, most of the participants emphasised the importance of trust and how lack of trust is considered to be a big obstacle to consumers' continuance usage. The participants also talked about what shapes their TRUST which are the three antecedents of this research such as MP Service provider, MP Consumers' Out-Reach Strategy, and MP technology. The results and findings of this research reveal that consumers' TRUST in MP significantly influences their MP continuance usage intention. The finding of this research is in consistent with the previous researches (Chandra et al. 2010, Xin et al. 2013). These findings emphasised the importance of trust as a determinant factor that consumers consider when using MP system. Thus the findings suggest that TRUST is a major concern for consumers' in Somalia's MP system.

5.2. Characteristics of Mobile Service Provider
Based on prior studies completed on the subject matter, the results show that the perceived reputation of the MP Service Providers is positively related to TRUST in mobile payment; also perceived opportunism of MP Service providers is negatively related to TRUST. These findings are in line with the previous
researches in mobile payment such as (Xin, et al., 2013; Chandra, et al., 2010). These findings are also consistent with the newly published study, (Andreev, et al., 2012) highlights that MP Service providers reputation trust increases consumers’ willingness to use Mobile Payment. The positive relationship between reputation of Mobile Payment stakeholders have also been supported in other studies. For example (Schlegel, 2014) emphasises how important reputation is and its influence with regards to the Mobile payments, he also suggests that reputation will strongly become an increasingly visible part of our every day transaction. During the interview most of the participants stressed the importance of good reputation and how it shapes trust between the provider and consumer. Some of the participants suggested that if the MP Service provider has good reputation either because its honest, competent or kind, that would give them the complete trust to go for that company and continue using its service. The participants have also suggested that trust and reputation are two factors which could win the hearts and minds of everybody, not only Somali People but even foreign investors.

5.3 Characteristic of Mobile Payment Vendor
The findings of this research suggest that perceived opportunism of Mobile Payment vendor and MP Service Providers are negatively associated to the customers’ TRUST in mobile payment. This finding is consistent with (Lazzolino, 2014) an article published in the guardian, one customer says “We civil servants are paid in Somali-land shilling, nevertheless, by accelerating the dollarization of the economy, Zaad props up prices, and this affect us in particular”. Based on the data collected from the interviews, they have suggested that they don’t see agents working
for MP providers except when signing up or subscribing the service, they said that MP Service Providers depend on merchants and turn them into agents in order to make indirect revenues. This is an agreement with (Penicaud & McGrath, 2013, p. 4) report on Zaad Somali-land “as the provider saw an opportunity for goods and services to spur growth and to help the company keep up with its growing numbers of customers. As a result, merchant acquisition took the place of agent acquisition in the Kenyan model”.

The author observed that it’s precisely the lack of legal, regulatory and banking financial systems that created the demand and facilitated Somalia’s MP Service Providers to their strong leading position. On the contrary (Chandra, et al., 2010) study of mobile payment trust among consumers in Singapore. In their study, they cited the strict law-enforcement environment of Singapore and mobile service providers’ unwillingness to involve in opportunistic conduct as a plausible justification. Hence, as the law relating to Somalia’s ICT is underdeveloped and customers believe that their money and transaction are not protected. As a result, customers may believe that mobile service providers and their in-house agents are not likely to abide by the law and as a result will conduct opportunistic behaviours.

5.4. Characteristics of Mobile Technology

The findings demonstrate that characteristics of mobile technology are the most important components in shaping and building mobile payment trust. This shows that customers may be concerned about legal dispute, security, reliability, and risks with mobile payment transactions. As the results indicate, both perceived regulatory assurance and perceived environmental risks have significant influence on mobile payment trust. This finding is in line with (Chandra, et al., 2010) mobile
payment study and (Xin, et al., 2013) study on the antecedents of trust that have an influence on the adoption of mobile payment. On the basis of the interview, most of the participants suggested the reluctance of mobile network operators to work with governments in order to decrease consumer’s financial risk and vulnerabilities as a major problem. They have stressed the biggest risk in the MP system as the economic risk such as the possibilities of complete financial collapse due to technology glitch, political instability or any other risk. This finding highlights that mobile technology-related regulations and protecting customers’ financial assets are for customers to believe that their money and financial transactions are being properly and adequately protected.

5. Conclusions and Future Work
This research examines the customer’s trust in mobile payment service providers; mobile payment customers out-reach strategy and mobile technology. Findings, analysis and results of this research strongly indicate that trust is a determinant factor to customer’s intention to the continuance usage of Somalia’s mobile payment. Results indicate that, among all the antecedents, the perceived opportunism of the mobile payment vendors, regulations, and mobile payment reputation are the factors affecting Somalia’s mobile payment trust. The future research will take into account several related aspects. We are aspect to share future research findings with the ongoing research in this area.

References


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