

Factors influencing the Use of Mobile Payments in Tanzania: Insights from Zantel's Z-pesa¹ services.

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Abstract

M-payments, which refer to payments over a mobile device, have not taken off as fast as expected in Tanzania, especially in the case of Zantel Telecommunication Company. The slow adoption rate raises many questions about what drives consumer behaviour. Therefore, it is necessary to investigate factors influencing the intention to use Zantel's Z-pesa services. The methodology used to conduct this study included the review of the literature and primary data comprising 120 customers using a questionnaire, 10 customers were subjected to a telephone interview and one person from Management at Zantel was interviewed. Analysis of the findings revealed that there were several factors that hinder the adoption and usage of Z-pesa service: perceived ease of use, perceived usefulness, perceived cost, perceived mobility, perceived trust and perceived expressiveness. The study concludes with recommendations to address the challenges facing adoption and usage of Z-pesa services. They include: recruitment of more agents countrywide to make the service more available and accessible, instalment of new technology that allow users of M-payment services to access cash through automated teller machine (ATMs), investment in state of the art technology to minimize or eliminate system failures or network problems, frequent training and support to Z-pesa agents to overcome operational problems and recruitment of more companies to accept Z-pesa payments.

Keywords: Mobile payments, Influencing factors, Technology Usage, Z-pesa

1.0 Introduction

Mobile phones have become one of the main primary forms of telecommunication worldwide. Chidembo (2009:7) points out that "Mobile phone technology has had a profound effect on our society. The ability to communicate from almost anywhere has transformed the way we live our lives as well as the way business is done. This proliferation of mobile phone use has inspired the development of numerous value-added services that have been widely adopted globally. For many, this platform has created a new avenue to market, sell and deliver services to consumers across socioeconomic classes."

The major mobile operators in Tanzania are Vodacom, Airtel, tiGo, TTCL-mobile, Zantel-mobile, Sasatel and Benson and total number of subscribers from 2000 to 2011 are shown in Table 1.1. Interestingly, Gaddies (2012) reports about the following statistics, which document that over the

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last few years Tanzania has seen an impressive increase in mobile phone use. This can be understood as a positive development which is no longer confined to more affluent urban locations, i.e. mobile phones have been a “dream come true” for difficult-to-access (and most times unprofitable) rural areas: “ (i) In 2011, Tanzania had 56 mobile phone subscriptions per 100 inhabitants. This is an almost threefold increase within four years, (ii) Mobile phone access in Tanzania lags behind Senegal (73 subscriptions per 100 people) and Kenya (65), but is higher than in Mozambique (33) and Malawi (25), and just above the sub-Saharan Africa average (53) and (iii) Other developing regions still have higher mobile phone penetration, with 69 and 80 subscriptions per 100 people in South Asia and East Asia, respectively, but the rapid growth in Tanzania suggests that it may soon catch up”.

Table 1.1 Mobile Phone Subscribers per Telephone Operator December 2000- December 2011

	Vodacom	Zantel/Airtel	TIGO	Zantel	TTCL Mobile	Sasatel	Benson LTD	Total
2000	50,000	-	56,511	4,007	-	-	-	110,518
2001	180,000	-	89,056	6,501	-	-	-	275,557
2002	300,000	120,089	160,000	26,770	-	-	-	606,859
2003	700,000	320,000	210,000	68,000	-	-	-	1,298,000
2004	1,050,000	504,000	303,000	85,000	-	-	-	1,963,737
2005	1,562,435	882,832	422,500	96,109	-	-	-	2,963,737
2006	2,975,580	1,516,832	760,874	355,246	6,390	-	-	5,614,922
2007	3,870,843	2,505,546	1,91,678	678,761	72,729	-	3,300	8,322,857
2008	5,408,439	3,862,371	2,569,527	1,057,652	105,804	-	3,000	8,322,857
2009	6,883,661	4,910,359	4,178,089	1,378,595	115,681	-	3,101	17,469,486
2010	8,670,536	6,021,091	4,427,510	1,718,985	246,019	24,827	2,396	21,158,364
2011	11,625,773	6,993,418	5,450,766	1,524,601	225,578	5,824	1,558	25,827,518

Source: TCRA cited in Mwaikali (2013:40)

Several co-existing factors have contributed to the rapid growth of mobile phone subscribers in Tanzania. These include (ESRF, 2011 cited in Mwaikali: 35) : “First, the relatively low cost of adding new subscribers to the cellular network (mobiles are much more scalable than fixed-line phones). Secondly, the high premium placed on mobility by consumers. Third, the strong presence of the private investors in mobile phone provision, as rising demand by consumers has boosted profits for manufacturers and operators alike. Fourth, the growing favourable regulatory environment is fuelling this exponential growth.”

One promising area of mobile commerce receiving growing attention globally is mobile payment . Carr (2007:1 cited in Chidembo 2009 :11) defines mobile payments “as any payment where a mobile device is used to initiate, authorise and confirm an exchange of financial value in return for goods and services”. They can then be categorised as micropayments or macropayments that are local or remote in nature. Mallat et al. (2004:43 cited in ibid:11) define micropayments as

payments under 10 euros, 10 U.S. dollars. Anything above this amount is classified as macropayments.

1.2 Statement of the problem

Mobile payments—those initiated on a mobile device such as a cell phone or tablet computer—have received a significant amount of attention recently. Many factors can influence the acceptance or non-acceptance of technical product innovations such as mobile payments. This paper is based on the belief that user acceptance is a pivotal factor in determining the success or failure of mobile services and payments (Bradford 2003 cited in Zmijewska et al 2004). It is the user who decides whether or not a (new) mobile payment system is accepted in any mobile payments information system project (Amberg et al, 2003). User acceptance has been defined as "the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support" (Dillon & Morris, 1996:5). User adoption behaviour and actual usage thus deserve thorough analysis and discussion.

In Tanzania, despite the fact that there are several mobile operators, the adoption and usage of the mobile payment technology has been disappointing, particularly Z-pesa service (TCRA, 2010). The mere presence of the technology or even enrolment of consumers for the service may or may not serve the cause, i.e. success or failure to translate into actual usage. Zantel Tanzania was a pioneer in introducing a mobile payment service, in 2008, called Z-Pesa with FNME Bank. In 2012, Zantel launched a rebranded and upgraded version of its Z-Pesa, the Ezy Pesa.

Hence, this study aims at narrowing the gap in prior literature and by providing a perspective on increasing knowledge and understanding of the factors that influence the intention to use mobile payments in Tanzania, an East African and low-income nation and below are the research questions derived:

The primary research question is: What are the factors that influence the intention to use mobile payments. To help answer the main research question, the secondary question is: Do Perceived Ease of Use, Perceived Usefulness, Perceived Mobility, Perceived Expressiveness, Perceived Trust and Perceived Support influence the user acceptance of mobile payments?

The paper is organized as follows: In Section 2, we review the literature and propose the research model. Section 3 offers the details of the methodology used in this paper. In Section 4, we present and discuss our results. Finally, Section 5 concludes and provides recommendations.

1.3 Significance of the Study

To our knowledge, the present paper represents one of the first attempts to examine the factors influencing the intention to use mobile payments using Zantel as a case study. In this context, the findings of this study will assist members of the general public, subscribers of mobile phone services, mobile phone companies specifically Zantel and other stakeholders of the mobile telephone sector to become aware of the challenges facing the adoption of M-payment services in Tanzania by helping them to realise what factors are necessary for the adoption and usage of M-

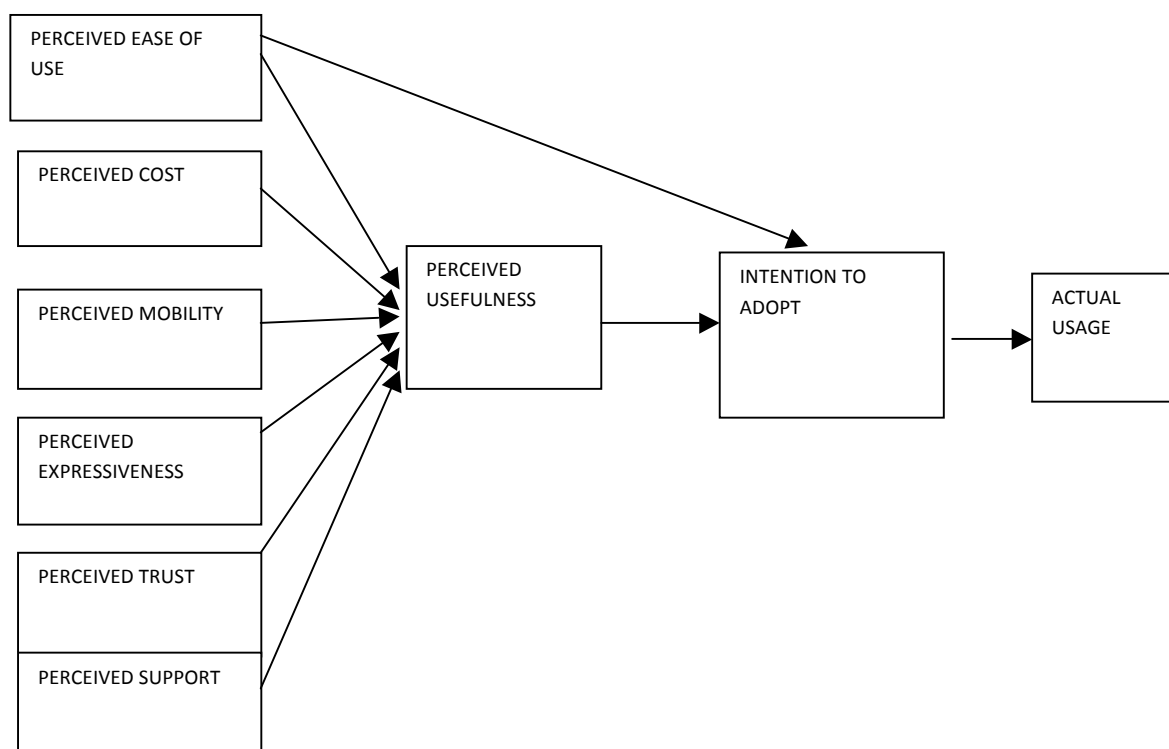
payment services, the effectiveness of M-payment services and what should be done to overcome those challenges.

2.0 Conceptual model

A mobile payment procedure is, in essence, an information technology. As such, various established and tested theories and models which have been widely used in the literature for investigating technology acceptance, are receiving extensive empirical support as well as extensions to make them more capable to cope with different aspects of technology acceptance. According to Tan et al (2011) , these include the Theory of Reason Action , TRA (Fishbein & Ajzen, 1975 cited in ibid), Technology Acceptance Model, TAM (Davis, 1989 cited in ibid), Theory of Planned Behavior, TPB (Ajzen, 1991 cited in ibid), Diffusion of Innovation, DOI (Rogers, 1995 cited in ibid), Technology Acceptance Model 2, TAM2 (Venkatesh & Davis, 2000 cited in ibid) and the Unified Theory of Acceptance and Use of Technology, UTAUT (Venkatesh et al., 2003 cited in ibid).

In this study, Technology Acceptance Model or TAM which was first introduced by Davis (1986) , is used as a point of departure and is extended to include other factors perceived mobility , perceived low cost of the mobile payment services, perceived trust, perceived expressiveness, perceived expressiveness , perceived support from the mobile services provider (See Figure 2.1 which is the proposed conceptual model for the research study).

Figure 2.1 Proposed Conceptual Model for Research Study



Source: Constructed by the authors

The following paragraphs provide the literature of TAM and followed by other constructs:

2.1 TAM : Perceived Ease of Use and Perceived usefulness

Numerous studies on the adoption and acceptance of a new technology reported in Tan et al (2011) such as from the perspective of mobile commerce (Wuo & Wang, 2005), digital library (Hong et al., 2001/2002), internet banking (Pikkarainen et al.,2004), personal digital assistant (Arning & Ziefle, 2007), mobile shopping (Lu & Su, 2009) and mobile internet (Cheong & Park, 2005; Kurnia, *et al.*, 2006), indicate that perceived ease of use and perceived usefulness are important success factors.

Davis (1989:320) defines ‘perceived ease of use’ as the degree to which the user believes that using a system would be free of effort (i.e. is it easy for me to use this tool?). ‘Perceived usefulness’ is defined by the same author (*ibid*) as the degree to which the user believes that using a system would enhance their job performance (i.e. is it beneficial for me to use this tool for this work task?) . ‘Job’ can be replaced by ‘everyday life’ with regards to m-payments.

The TAM has not escaped criticisms. According to several researchers (Amberg et al.,(2004, p. 252; Attewell, 1992; Bagozzi, 2007; Fichman, 1992; Legris et al., 2003; Lyytinen and Damsgaard, 2001; Salovaara and Tamminen, 2009), the TAM focuses mainly on the service itself but does not integrate the contextual conditions of a service which are crucial when regarding mobile services. Categories of contextual factors include but are not limited to (Hebster, 2009: 44) : environmental (e.g. uncertainty, interorganisational dependence) , organisational (e.g. culture, specialisation, hierarchical structure, organisational innovativeness in IT, resource availability, management support) ,user/individual (e.g. job tenure, job profile, education, resistance to change) task (e.g. task uncertainty, autonomy, responsibility of person performing the task, task variety) , technology (e.g. complexity , platform, hardware/software, design/interface) social (e.g. trust reciprocity expectation, enjoyment in helping others, pro sharing norms), motivational (e.g. economic incentives, social/psychological incentives)

2.2 Perceived Mobility and Perceived Costs

As an extension of TAM, the Compass Acceptance Model considers mobile aspects explicitly. Influencing factors under this model that affect mobile services include perceived mobility and perceived costs (Amberg et al., 2003: 80).

The dimension perceived mobility considers network coverage, accessibility and technological infrastructure. There is empirical evidence to support this factor, notably Schier *et al* (2010) and Kaba and Osei-Bryson (2009). The dimension perceived costs considers monetary costs (purchasing costs, basic rates, usage costs), transparency (tariff models, cost per minutes), health concern (dangerous radiations). Wu and Wang(2005) and Wei *et al* (2009) confirm that perceived cost has a significant influence on consumer mobile commerce adoption intention.

2.3 Perceived Trust

Due to inherent nature of mobile payments, trust is believed to influence directly or indirectly the intention of adoption and acceptance of mobile payments because mobile services are exposed to various uncertainties and uncontrollable consequences. These include loss and theft of mobile

devices resulting in identity theft, inconveniences such as frustration and unavailability of mobile payment services caused by network failure, data pilfering attacks, to name just a few examples.

Although there is no uniform definition and operationalization of trust, there is a vast empirical literature that convincingly suggest the importance of trust in influencing users' intention to use a mobile payment procedure (Gefen et al, 2003; Chen and Barnes, 2007; Jarvenpaa et al 2000; Vewrhagen et al 2006; Mallat 2007; Siau et al 2004, Pousttchi, 2003)

The Theory of Planned Behavior (Ajzen, 1991) provides insights into what drives trust and its impact on consumer behaviour. To be more explicit, trust in any payment system hinges on a belief in its benevolence, integrity, and ability. Furthermore, reliability and competence should also affect consumer intentions to use a mobile payment procedure. According to Egger (2001), trust in any payment system is influenced by anonymity, security, reliability, the amount of control that users have, and the reputation of the entity that introduces the system.

2.4 Perceived Expressiveness

Cassidy et al. (1992) cited in Amin (2009) defined perceived expressiveness as individuals' ability to express their emotions or identity (e.g. allowing the owner to express their personality through various designs, tones and other customisable features) Previous empirical research have confirmed a causal link between perceived expressiveness and usage intentions (Amin et al., 2006; Nysveen et al., 2005; and Plant, 2000 cited in ibid). Worded differently, a mobile phone and its related services contribute to the owner's identity, status and public image.

Expressiveness refers to the ability for individual to express their emotions or identity. This dimension was proposed in the mobile parking (Pedersen, 2003), and mobile portals (Serenko & Bontis, 2004) acceptance models. Some systems let the user express who they are. They express the consumer's identity both in social networks and to herself. This category seems important in the analysis of mobile payments because of the nature of mobile phones. They often allow the owner to express their personality through various designs, tones, and other customisable features. What is more, as Leung and Wei (2000) point out, fashion and status often serve as a gratification of a mobile phone use.

2.5 Perceived support of the service provider

When adopting a new technology, it is important to consider the support from the service provider. According to research done by Jones et al (2000) management support and training have been shown to positively influence technology. In the opinion of Twai (2008), factors to consider include lack of firm readiness, inadequate support that is required for the change, lack of alignment with strategic change, inadequate support and user involvement and unrealistic expectations. Interestingly, an empirical study conducted by Mbogo (2010) revealed that perceived support (based on adequate support from the service provider, adequate quality of services from provider and satisfaction with services from service provider) had a weak correlation with adoption of mobile phone payments.

3.0 Methodology

Convenience sampling technique was employed in this research. Convenience sampling is a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher (Bryman, 2008). The targeted population was as follows: 120 customers completed a questionnaire, 10 customers were subjected to a telephone interview and a face to face interview was conducted with one person from Management at Zantel who could accordingly answer questions related to the company.

Invitation emails for survey participation were sent to different groups. These groups are: internal Zantel customers i.e. Zantel employees, external Zantel customers and blog readers of a Tanzania popular blog , <http://www.issamichuzi.blogspot.com> which attracts a diverse group of readers.

Web surveys tend to have low response rate (Adams et al, 2007). However a minimum of 30% response rate is considered acceptable (Saunders et al., 2003). To ensure high rate of responses, the following initiatives were employed in line with proposed guidelines by Adams et al (2007) : A brief statement was displayed at the top of the web page indicating the purpose of survey; questions were simple and clear; questions were free from typographical and grammatical errors; no calculations required from respondents and appealing design and layout

The online questionnaire required respondents to rate their level of agreement with statements adapted from published studies (Amin , 2009; Davis 1989; Dahlberg et al 2003; Pousttchi 2003; Amberg et al 2003; Kruger 2001, Khuler 2007 Serenko and Bontis 2004, Gefen et al 2003, Dahlber et al 2003 Mbogo 2010) using a five point Likert-type scale, ranging from 1= strongly agree, to 5= strongly disagree. To facilitate the presentation of results in Section 4.1 below, “agree” and “strongly agree” have been merged together, as well as “disagree” and “strongly disagree.”

4.0 Presentation and discussion of findings

4.1 Findings from the Survey

Demographic Profile

Descriptive analysis revealed that most respondents, over 80%, were aged between 25 and 44 years. This is a vibrant and active group, most likely with an appreciable disposable income and may also have dependants for example immediate and extended family and other social groups. Such a demographic group has the potential to adopt and use mobile services such as Z-pesa. In addition, 8.8% percent of the respondents had an academic qualification at the level of college/university degree and above which indicates that this is the group that is literate and knowledgeable and most likely to understand more about the Z-pesa service..

Respondents indicated that they used Z-pesa services for leisure /personal use (49%) , for both leisure and business use (37.5%) , and for business uses (13.5%). This indicates that in order for the company to have more Z-pesa users it has to offer a variety of services to meet users’ preferences.

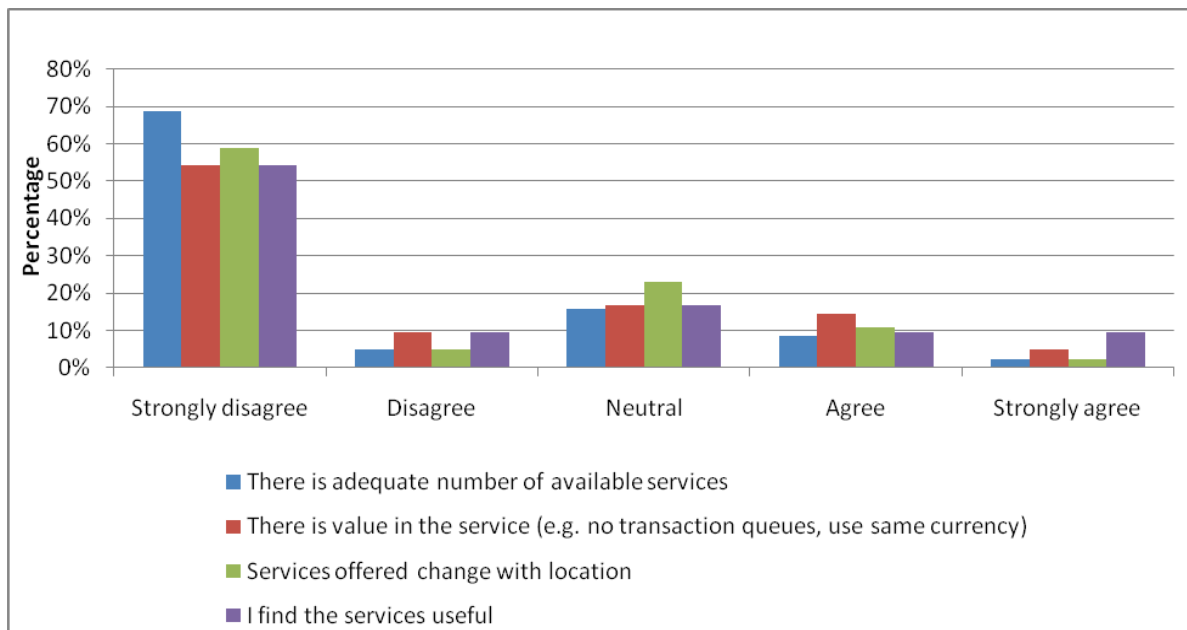
Lastly, a general question was asked to find out the general satisfaction of users of Z-Pesa. The majority of respondents, above 80%, indicated that they were dissatisfied with the current Z-Pesa service while only around 18% indicated that they were satisfied. The results tie in with the telephone interview conducted with Zantel customers, of whom 80% were not satisfied and 10% were satisfied. In addition, 73% of the respondents had never used the Z-pesa service for various reasons, some of which include: the product being unpopular, non-availability of agent which means the service is not widely accessible and being satisfied with the substitute product M-pesa

The results of the survey below conducted on the Z-pesa mobile payment service showed that majority of the respondents are dissatisfied with the Z-pesa service which negatively impacts the adoption and usage of the Z-pesa service and hence impacting on the success and growth of the service (Pagani, 2004). Furthermore, it was revealed that the Mpesa mobile payment service from Vodacom is used mostly(65.1%), followed by Zap from Airtel, (2.4%) while Tigo-pesa from tiGo is 1.2%. This means that the market share of Vodacom Tanzania is above 40%. This implies that Vodacom M-pesa service is the choice of many customers thus it provides stiff competition in the growth of the Z-pesa service.

Perceived Usefulness

Figure 4.1 below reveals that in order for the company to have more Z-pesa users it has to have a variety of services to meet users' preferences. When asked about the usefulness of Z-pesa, 66.2 % respondents found that the service was not useful to them against 18% who were neutral and 15.6% who agreed that the service was useful. The non-usefulness can be attributed to limited transaction types permitted by the Z-pesa service (user preferences), users not finding meaning value out from the service (usefulness), and other factors such as limited service availability. This is an almost a similar picture that the researchers found from interviews with Zantel's management that among the challenges inhibiting the rapid Z-pesa adoption, is few product choices/offerings.

Figure 4.1: Z-pesa customer experiences, perceived usefulness

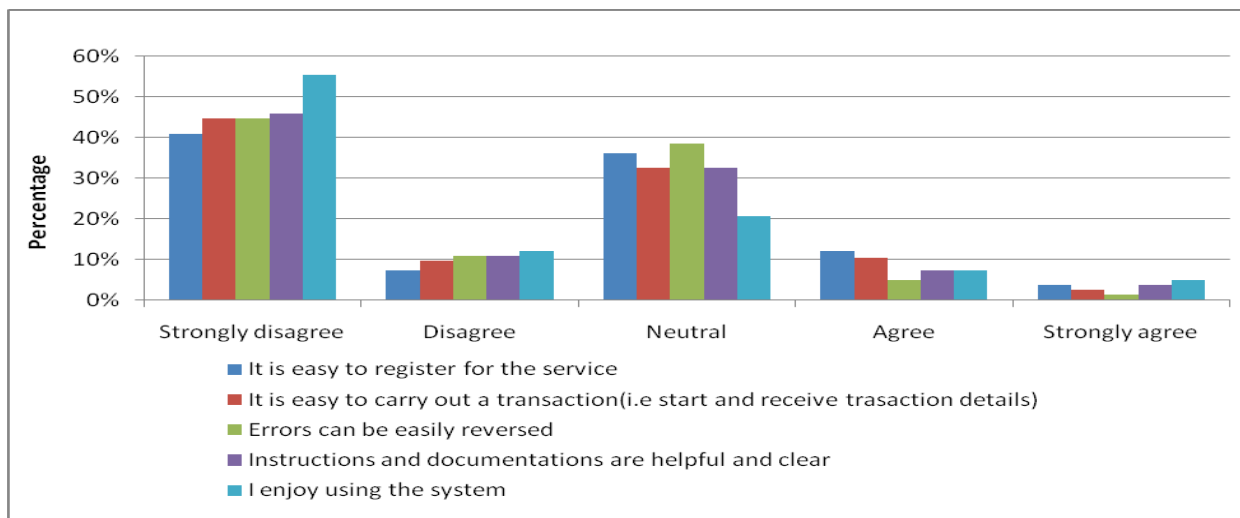


Source: Field Data (2011)

Perceived Ease of Use

Another finding from primary data collection is that Z-pesa is not perceived as an easy-to-use service by 56% of respondents. (See Figure 4.1) This is due to the fact that the majority of the respondents, at least 40% disagreed when asked if the Z-pesa service was easy to use. While 32.1% were neutral, only 11.5% of respondents thought that the service was easy to use. This is in line with previous studies that indicated that a strong relationship exists between perceived ease of use and service adoption (Davis,1989; Dalhberg et al, 2003).

Figure 4.2: Z-pesa customer experiences, perceived ease of use

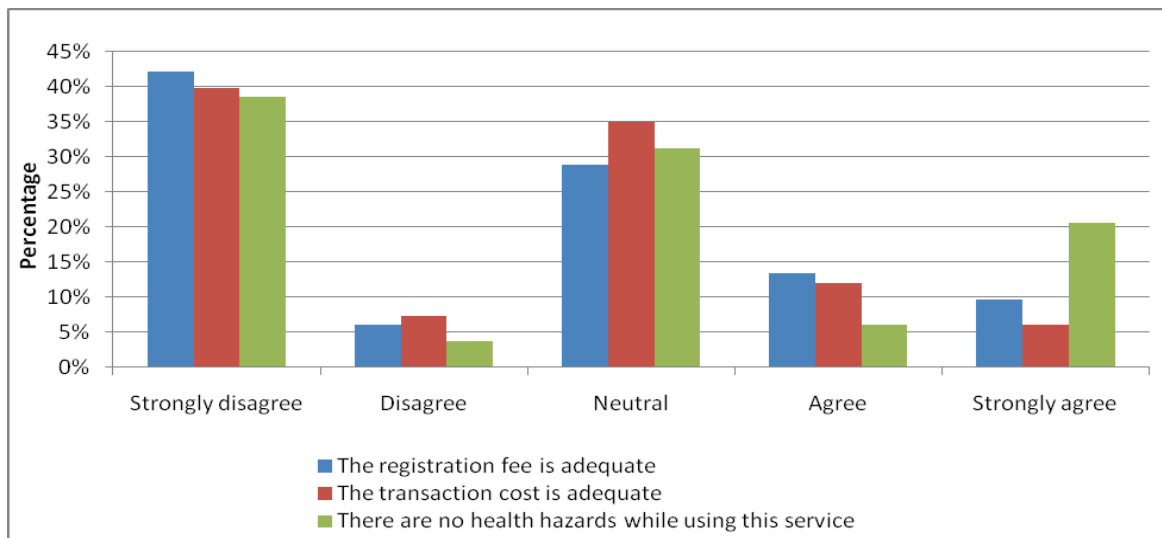


Source: Field Data (2011)

Perceived Cost

The perceived cost of the Z-pesa service hampers the rapid adoption of the service. This is because as seen in Figure 4.3, 45.8 % of the respondents indicated their disagreement as to whether Z-pesa costs are reasonable, even though it cannot be conclusively agreed. Having the majority of respondent disagreeing with the perceived cost against 31.7% who remained neutral and 22.5% disagreed, suggest that the cost of Z-pesa was very high, which is likely to affect negatively the adoption and use of the Z-pesa service.

Figure 4.3: Z-pesa customer experiences, perceived cost

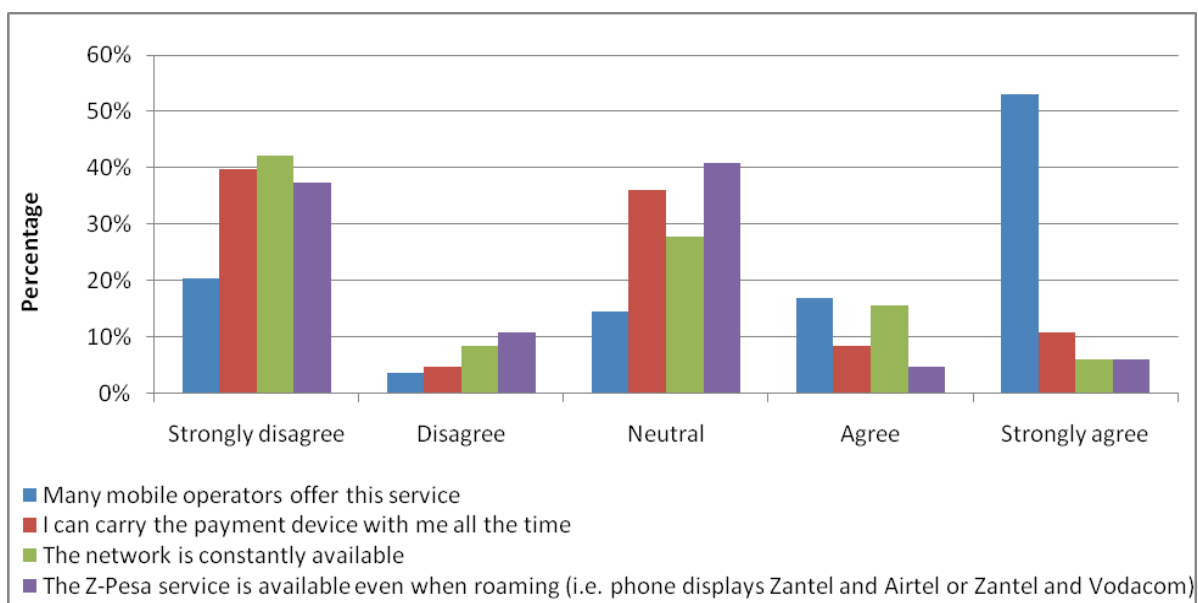


Source: Field Data (2011)

Perceived Mobility

Figure 4.4 indicates that the majority of the respondents (41.9%), disagreed strongly with the indicators of perceived mobility of the Z-pesa service, against 29.8% who were neutral in response and 30.4% agreed. This is except to one element, many mobile operators offer this service whereby more than 60% respondent agreed with one indicator of perceived mobility of Z-pesa service (i.e. more operators offer this service). Thus the study showed that the majority of the respondents disagreed with the indicators of perceived mobility of the Z-pesa service that affects negatively the adoption and usage of Z-pesa service.

Figure 4.4: Z-pesa customer experiences, perceived mobility

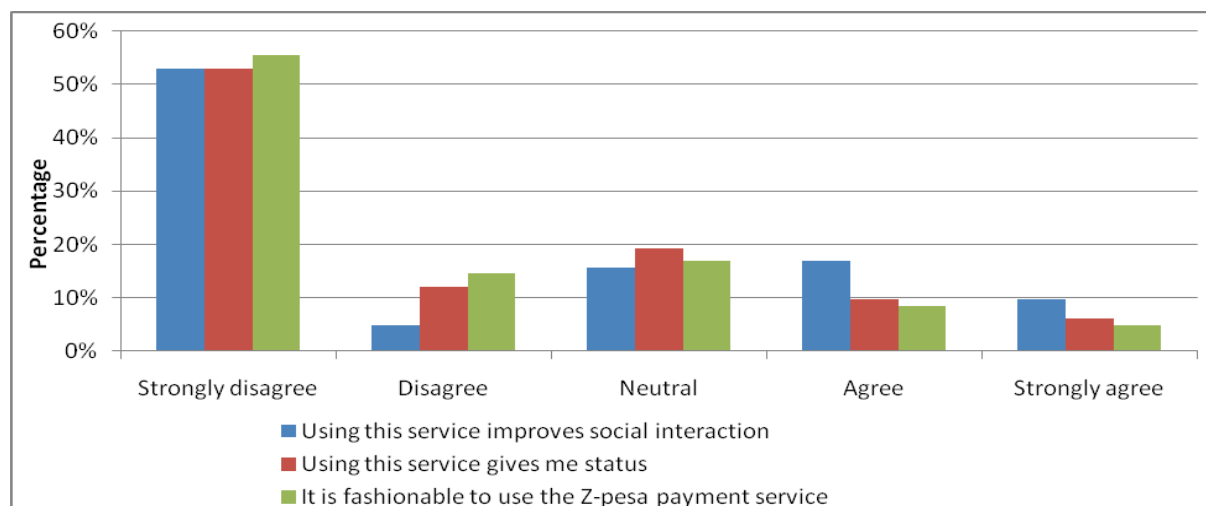


Source: Field Data (2011)

Perceived Expressiveness

The study results as seen in Figure 4.5 indicate that the majority of the respondents, over 60% disagreed strongly with the indicators of perceived expressiveness in regard to the Z-pesa service, while 23% agreed and 17% were neutral. This means as a service, Z-pesa doesn't offer much to the user in terms of social status or pride. Nysveen, Pedersen & Thorbjornsen (2005) found out that users' intentions to use mobile service were significantly affected by the direct motivational influence such as expressiveness, enjoyment, usefulness and control. They argued that mobile services should achieve something such as providing fun, games and entertainment, acting as status and fashion symbol and providing a social identity. Thus from the study the majority of the respondent disagree strongly with the indicators of perceived expressiveness in the Z-pesa service which could, at the very least, explain the low adoption and usage of the Z-pesa service.

Figure 4.5: Z-pesa customer experiences, perceived expressiveness.

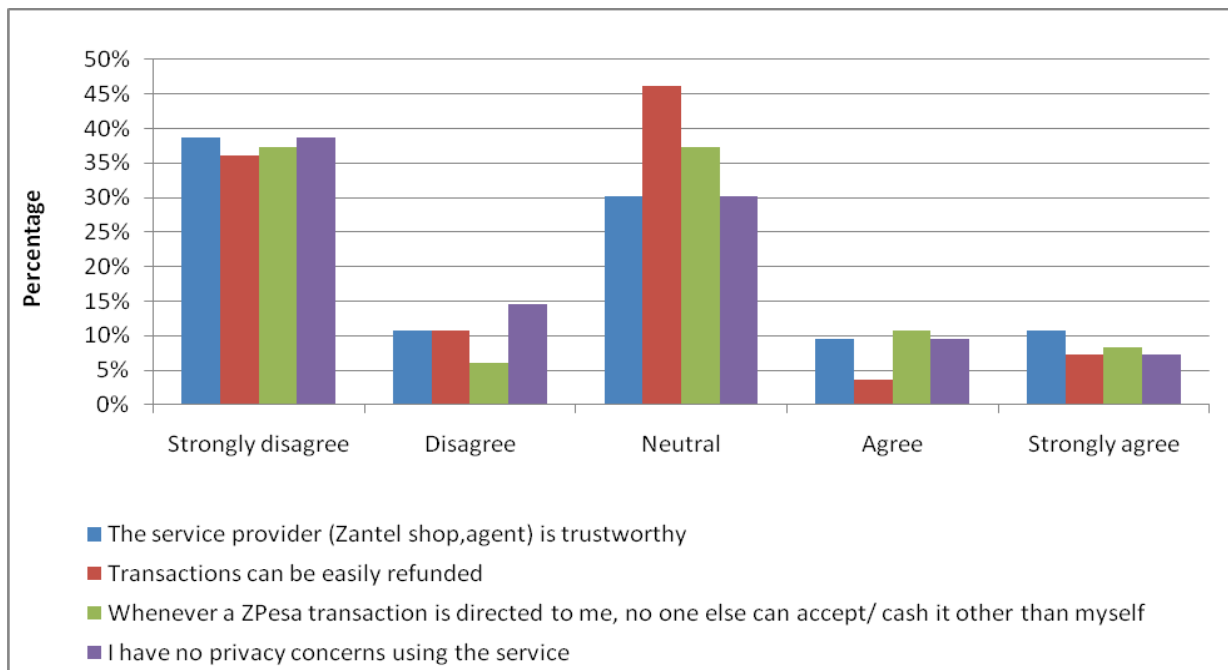


Source: Field Data (2011)

Perceived Trust

As with any payment system, trust is of great importance in mobile payments. The results from the research study indicate that the majority of the respondents 48.3% disagreed with indicators of the perceived trust as regard the Z-pesa service, while only 16.8 agreed and 35.9 % were neutral. The study results are similar to Pousttchi (2003) research findings.

Figure 4.6: Z-pesa customer experiences, perceived trust

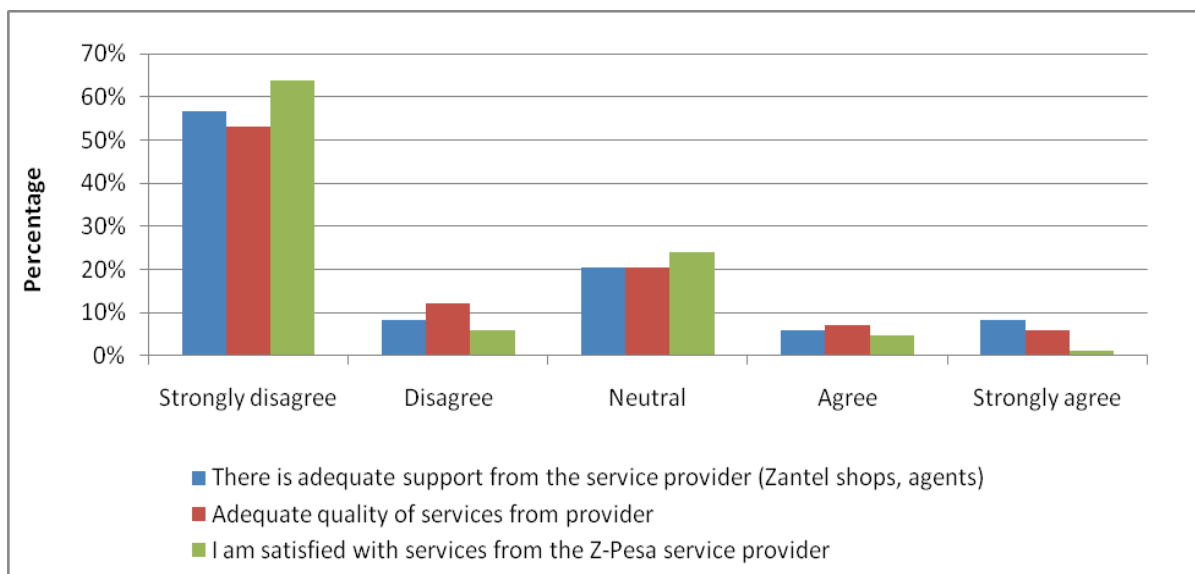


Source: Field Data (2011)

Perceived Support

Concerning the perceived support from the provider on Z-pesa service, the below figure reveals that the vast majority of users (66.6%) disagreed with the indicators of perceived support received from Zantel as the service provider which include shops, agents and dealers. Having poor support from Zantel negatively impacts Z-pesa adoption and usage among users. 21.7% respondents were neutral in their response against 11.2 % who agreed.

Figure 4.7: Z-pesa customer experiences, perceived support



Source: Field Data (2011)

4.2 Findings from Telephone Interviews with Customers

Interviews were conducted with 10 Z-pesa customers with a view to exploring the following: (i) If the customer was a Zantel customer before subscribing to the Z-pesa service, (ii) How long the customer has been using the service and (iii) What they would recommend Zantel in order for it to improve its service. A summary of the responses is provided in Table 4.1.

One of the findings from the web-based survey and 10 customer interviews is the low tendency of Zantel customers to use the Zantel Z-pesa service. This is manifested by the fact that only 30% of all respondents admitted that they had used Z-pesa service before, which at the very least, can be attributed to the product being unpopular or the non-availability of the service at the place and time of need. This contention ties in with the results of the interview with the Zantel management on the primary factors that inhibit the adoption and usage of the Z-pesa service. Among the factors highlighted by the management that inhibit Z-pesa service adoption are pricing structure and incentives (affordability), product advertisement (popularity), and agents' availability (availability). These factors show the management has a correct view of users' perception of the product itself.

In any service, one of the important measures for service performance is customer satisfaction. The interview revealed that 80% were not satisfied with the service, 10% said it was fair and 10% were satisfied.

Lastly, respondents were requested to provide recommendations for improving Zantel Z-pesa service. Out of 10 respondents, 10% did not recommend anything, 50% suggested increasing distribution by Z-pesa and the numbers of Z-pesa agents, while 40% asked for improvement in advertisements, as they mentioned the service is not known by many, which is why the Z-pesa network is still small.

Table 4.1 Data collected from Zantel Z-pesa Customers

Customer	Gender	Zantel customer before Z-pesa	How long have you been using the service	Satisfied with the service	Recommendation
1	male	Yes	one year	no	none
2	male	No	two years	fair	more advertisements
3	female	Yes	one year	no	improve distribution
4	male	Yes	one year	no	improve distribution
5	female	No	less than one year	no	improve distribution
6	female	No	one year	no	improve distribution
7	female	No	more than one year	fair	more advertisements
8	male	Yes	less than one year	no	none
9	female	Yes	two years	no	improve distribution
10	female	Yes	less than one year	yes	more advertisements

Source: Field Data (2011)

4.3 Findings from an Interview with Zantel Management

The study wanted to get more information about Z-pesa provided by Zantel, and so an interview was conducted with the Head of mobile commerce, who manages all mobile commerce departments. The interview was conducted on 13th January 2011.

The interviewer was asked: What has been the proportion of Z-pesa customer to the total Zantel customer base yearly since 2007 when Z-pesa was launched? The answer is reflected in Table 4.2 below.

Table 4.2: Z-pesa customer statistics

Year	Total number of customers	Z-pesa customers	Percentage
2008	1,065,338	9340	1%
2009	1,394,193	13246	1%
2010	1,655,033	19500	1.2%

Source: Field Data, (2011)

When asked about what were the primary constraints/challenges that might inhibit the rapid development of the Z-pesa service, the interviewee revealed that there were several challenges, which are as follows:

Pricing

Pricing has been an issue when comparing the pricing structure of the most successful M-payment service, Vodacom M-pesa with Z-pesa. The pricing structure available in appendices III and IV reveal that the maximum amount one need to pay before withdrawing cash between Tsh 5,000 and 500,000 is Tsh 5,000/= for M-pesa but in the same range one needs to pay in a maximum of Tsh 7,000/= for Z-pesa which is Tsh 2,000/= higher than M-pesa. This high price discourages the use of Z-pesa, which results in revenue loss, hence hindering the rapid development of the Z-pesa service.

Registration Incentives

Camner et al (2009: 2) state “Mobile subscribers in Tanzania were informed earlier by the TCRA that they will be required to register their SIMs between July and December 2009. To do so, customers are typically instructed to visit an agent of their service provider and submit a form with the required details. Vodacom recognized that the information required to register a SIM is the same as that required to register for M-pesa, so they were able to use this opportunity to promote M-pesa to their customers- the pitch being that for no additional effort they would be able to register for a valuable service”. This was opposite for Zantel which did not take advantage of promoting the Z-pesa service during the SIM registration exercise, thus also hindering the rapid development of the Z-pesa service.

Products

According to the above authors (2009:2) “Vodacom introduced to customers the ability to pay their electricity, water, and television bills through M-pesa. MFI loan repayments have also been added in recent months as well as donation payments. These product additions represent a significant evolution from the initial go-to-market proposition of “sending money home”. The available services on Z-pesa are only sending money, receiving money, buying airtime, and checking the balance. This does not give customers a wide range of products and services, thus also hindering the rapid development of the Z-pesa service.

Advertising

At the launch of a new service, advertising is key as it is only once the service has been established that word-of-mouth begins to significantly encourage adoption. The Z-pesa service from Zantel is not well advertized as there are not as many adverts for the service as there are for M-pesa from Vodacom whereby adverts are put in most areas especially in Dar es Salaam. The issue of no or few adverts has been brought into attention by feedback from a customer from an online survey of satisfaction with the Z-pesa service.

Agent Network

Camner et al (2009: 2) further remark “Perhaps the most dramatic change that Vodacom has made recently is their introduction of an ‘aggregator model’ to their agent distribution network. Since July 2009, Vodacom has begun leveraging aggregators to address two key agent distribution

challenges. First, aggregators are used to enable Vodacom to quickly scale the size of their agent distribution network. This scale comes from the ‘additional manpower’ that aggregators offer, as well as the strong relationships with their respective communities. Second, aggregators provide agents with a cash float up front to make the business proposition at the agent level more compelling. Vodacom has over 750 agents all over the country, which is an average of 30 agents per region”, while Zantel has less than 150 agents, which is less than 6 agents per region.

5.0 Conclusions and Recommendations

5.1 Conclusions

The main objective of this study was to investigate the factors influencing the intention to use Z-pesa, and identifying the challenges that Zantel face in the adoption and usage of Z-pesa. Based on the results of the study and previous studies the following conclusions can be drawn.

The study concludes that the rate of adoption of mobile payments services among subscribers of Zantel (Z-pesa) is growing at a relatively low rate due to various factors that hinder adoption of the service by Zantel subscribers. One of the factors that hinder adoption of Z-pesa services is poor perceived usefulness of the Z-pesa service, such that users are offered few options of transferring money and buying airtime. The adoption of Z-pesa services has the potential to be used as a means of payment if more payment options were available, such as paying utility bills, settling school fees, international money transfer.

The study also concludes another factor that hinders adoption of Z-pesa services is the perceived cost of the service. Z-pesa customers would use them more if they felt the cost has fair as compared with that competitors, but also if other incentives were given for using the service.

Z-pesa is also perceived as not so easy to use. This means Zantel management needs to tailor the service so that it offers simplicity on the user interface and transactions need to be as user-friendly as possible.

The Z-pesa service needs to be trustworthy. Users need to perceive that whenever there are transaction errors, they are easily refundable.

There is also the issue of service availability and user mobility. The Z-pesa users expect Z-pesa service to be available whenever they may be and whenever they need it. Unavailability of the service impacts the adoption and usage of the Z-pesa service.

One of the key factors that emerged is the service from the Z-pesa service providers. There has to be good quality and wide reach of Z-pesa service providers to serve existing as well acquiring new customers.

If the above-mentioned constraints are addressed, Z-pesa services have the potential to provide users with access to a broader range of financial services, and in doing so, achieve a broader

vision of achieving financial inclusion among Tanzanians who have no access to financial services.

5.2 Recommendations

To address the challenges facing adoption and usage of M-payment services offered by Zantel (Z-pesa), the following measures are recommended:

- Recruiting more agents countrywide so as to make the service more available and accessible to users. Having more agents will give the company a competitive advantage against banks which have fewer branches.
- Reviewing the cost structure of the Z-pesa service. The users expect more value from Z-pesa especially when there is strong competition from similar services such as M-pesa of Vodacom. There should be more incentives for Z-pesa users so that users will repeatedly use the Z-pesa service and shy away from services such M-pesa.
- Installing new technology that will allow users of M-payment services to access cash through ATMs as is currently the case in Kenya, where users can withdraw cash around the clock.
- Investing in the latest technology, such as servers that will help to minimize or eliminate incidences of system failure or network problems that deny users access to Z-pesa services.
- Offering frequent training and support Z-pesa agents in order to help them overcome operational problems. Also, Z-pesa agents should always retain adequate amounts of cash to deal with customer demands.
- Putting more emphasis on promoting Z-pesa services so as to make the general public more aware of the safety, time saving and cost saving benefits of using M-payment services. More advertisements of the product are needed as the value propositions need to be communicated to the general public. Zantel should also put more effort into recruiting more companies to use the Z-pesa service to accept payment for the services and products they offer. The more service providers accept the Z-pesa service, the more users will adopt Z-pesa because it offers more service options, flexibility and convenience on the part of the Z-pesa users.

5.3 Recommendation for further Studies

We wish to highlight here the importance of future data collection given that the results of this empirical investigation remain only suggestive. Nevertheless, they provide a foundation and infrastructure for understanding the mobile payment ecosystem of Zantel services.

Due to limitations of time and other resources, this study was conducted on only one mobile service provider, thus it is recommended that the same study should be conducted but comparing and contrasting the factors necessary for adoption and usage of the M-payment services of all mobile service providers in Tanzania.

In addition, the study used convenience sampling, which may not be representative of the Tanzanian population of mobile subscribers. Therefore future studies would use other forms of

sampling such as random sampling in order to provide more reliable results, which represent the population.

Lastly, the language used to prepare the study questionnaire was English and not Swahili, which is the most popular and widely spoken language in Tanzania. In future, questionnaires could be prepared in Swahili in order to allow more respondents to take part in the survey, even those in the remotest parts of Tanzania.

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