UNIVERSITY OF CAPE COAST

MOBILE MONEY SERVICES AND THE GROWTH OF SMALL AND

MEDIUM-SCALE ENTERPRISES (SMEs) IN GHANA: SMEs IN THE

TARKWA NSUAEM MUNICIPALITY

JOSHUA ACKAH

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NSUAEM MUNICIPALITY

BY

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DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature…………………   Date……………………

     Name: Joshua Ackah

Supervisor's Declaration

I hereby declare that the preparation and the presentation of this dissertation were supervised in accordance with the guidelines on the supervision of dissertation laid down by the University of Cape Coast.

Supervisor's Signature…………………   Date……………………

Name: Mr. Paul Mensah Agyei

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ABSTRACT

This quantitative study investigated the effects of mobile money services on the growth of SMEs in Ghana using SMEs in Tarkwa Nsuaem Municipality as a case study. The study sought to answer the questions:which types of mobile money services are SMEs currently aware of and use for their business?How have mobile money services affected the sales revenue of SMEs; and what is the level of service quality of mobile money services in the Tarkwa Nsuaem Municipality? For this purpose, a questionnaire was developed and administered to a sample of 150 SMEs owners using a convenience sampling technique. The data was analysed using Statistical Package and Services Solutions (SPSS). Findings were reported using means, frequencies, paired sample t-test and standard deviations. The survey finding revealed that although there was very high awareness of mobile money services, with mobile money service providers- MTN, tiGo Airtel and Vodafon-in the Tarkwa Nsuaem Municipality, adoption rate for sales purposes was very insignificant. The survey data did not prove that proliferation of mobile money services have impacted on sales growth among the selected SMEs. The regression analysis proved that the correlation was weak (r=0.01) and it was not surprising that the hypothesis was statistically not significant ($p > .0005$, sig. =0.311), hence the conclusion that there is no effect of mobile money services on growth of SMEs in Tarkwa Nsuaem. It is recommended that mobile money service providers provide sensitisation on the effective use of mobile money in business to boost the growth of SMEs. That is, more tailored madeproducts must be design by the telecommunication companies to facilitate business transactions at reasonable cost.

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ACKNOWLEDGEMENTS

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To my family

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CHAPTER ONE

INTRODUCTION

Background to the Study

For some years now, there has been a dramatic increase in the use mobile phones, especially in the developing markets. At the same time, majority of the population living in developing countries are still having challenges accessing financial services (Pénicaud& Katakam, 2013). This vacuum according to Jussila (2015) has led to the introduction of the Mobile money transfer service by mobile network operators. Mobile money is strategically in emerging economies to empower people and businesses without bank accounts to carry out financial transactions. The mobile money technology is pivotal in the development agenda due to its critical role in expediting economic development (International Telecommunication Union Technology[ITU-T] Report, 2013).

Small and Medium Enterprises (SMEs) dominate the industrial landscape of Ghana. They demonstrate considerable potential in facilitating economic development which will lead to wealth creation and poverty reduction. It is therefore important to examine how the mobile money technology influences the growth of SMEs in the country. This study analyses survey results on the effect of mobile money services on the growth of SMEs in Ghana, using SMEs in the Tarkwa Nsuaem Municipality as a case study.

There has been a worldwide dramatic development in Information and Communication Technology (ICT) over the years. The growth of ICT came hand in hand with the growth of the mobile phones usage. People can communicate to one another through sending and receiving voice and text

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message with mobile phones. Besides, mobile money is one of the key applications of the many important wireless applications that have been developed for SMEs (United Nations Conference of Trade and Development [UNCTAD] Report, 2012).

Mobile money is a service in which the mobile phone is used to access financial services (GSM Association [GSMA], 2010). Additionally, it is used as the intersection of both banking and telecommunications services (World Bank, 2010). According to Zutt (2010), mobile money is an electronic money accounts that can be accessed via mobile phone. The Mobile money platform has clear benefits for businesses and consumers over cash currencies. While the initial pace of adoption of Mobile Money by consumers, especially business consumers has been slow, Mobile Network Operators (MNOs) have an optimistic outlook regarding its future (Dzokoto, 2014).

History of Mobile Money in Africa

The idea behind the naissance of mobile money started in 2002, when researchers at Gamos and the Commonwealth Telecommunications Organization (CTO), funded by Department for International Development UK (DFID), observed that, airtime were spontaneously being used as proxy for money transfer in Uganda, Botswana and Ghana (McKemmy, Scott, Afullo &Sakyi-Dawson, 2003). The researchers on this basis approached Mozambique Cellular (MCel) to introduce the first authorized airtime credit swapping in 2004 – an antecedent towards Mobile Money Transfer in April, 2007, changes were made to the preliminary design after a number of piloting had taken place after DFID had introduced the researchers to Vodafone (Batchelor, 2012).

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Following a student software development project from Kenya, Safaricom launched the M-Pesa, a mobile phone based payment and money transfer service. About17 million M-Pesa accounts had been registered in Kenya by 2012. After the success story of M-Pesa in Kenya several telecommunication companies in Africa started adopting this new mobile phone technology. MTN launched its own mobile money in 2008 in Uganda. A year later, MTN again launched the mobile money service in Ghana(William & Tavneet, 2010). Currently, four telecommunication companies in Ghana – Mobile Telecommunication Network (MTN), Airtel, Tigo and Vodafone – all operate mobile money. This new industry in Ghana has grown from a transaction value of some 2.4 billion in 2013 to GHC11.6 billion in 2014 (Consultative Group to Assist the Poor [CGAP], 2015).

Facts and Figures

More than 2 billion adults representing 38% in the world do not use formal financial service. Also approximately 73% of the developing population are unbanked, which means they have no access to financial services. Meanwhile, nearly 2.5 billion people in developing countries have mobile phones. This means that there is the likelihood of about 2 billion mobile phone users who are outside the financial inclusion bracket and who could be reached using Mobile Money Services (World Bank Group, 2013).

In Sub-Saharan Africa, the impetus behind the adoption of mobile phones has raised the prospect for provision of financial services via mobile phones. Gray (2005) notes, this high adoption can have positive impact for development, including, the eventual reduction for cash transactions and increasing the efficiency of payment systems, hence widening the access to

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financial services. According to the GSMA (2015) report, there was a 31% increase in the number of registered mobile money accounts; nearly the same pace as in 2014 (33%), accounting for a global registration of a total of 411 million. This is almost 100 million new registered accounts in 2015, the report stated. However, areas which showed growth in adoption were South Asia and Sub-Sahara African having 85% of all new accounts opened in 2015. The researchers of the report saw the majority of growth imminent outside the mature mobile money markets of East Africa. That is West, Middle and Southern Africa accounting for about 63% of all accounts opened in Sub-Saharan Africa in 2015 (GSMA, 2015).

In 2015, there was a dramatic growth across West Africa. Burkina Faso, Mali, Ghana, and Côte d'Ivoire contributed to the substantive turnaround with a yearly growth in active agents of 60.1%, which was twice the growth rate of any other region (GSMA, 2015). The World Bank's Consultative Group to Assist the Poor (CGAP) on December, 2015 reported that, Ghana's encouraging progress on mobile money is expected to grow exponentially. On the use of Mobile money services in Ghana, the report stated that just about 17% of Ghanaians had mobile money accounts but the figure has however doubled.

According to CGAP, 92% of Ghanaians have the requisite ID cards necessary to open a mobile money account. Also 91% percent of Ghanaians already own a mobile phone. This makes Ghana the most digital financial services (DFS)-ready country in Africa regarding key conditions required for successful adoption. The report also pointed out Ghana's mobile money users are well positioned that their African counterparts. That is, with 60% of

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Ghana's active mobile money account holders living in urban areas, only 19 percent live on less than US$2.50 per day compared to 72 percent in Rwanda (CGAP, December, 2015).

Mobile Money and SMEs

This vast acceptance of mobile money might be credited to preference of subscribers for mobile money services since it is relatively inexpensive and accessible to low income earners who form the majority of the population. Such services can be used by Small and Medium Enterprises (SMEs) in their business operations, since some of them may not be able to afford financial services through banks (Mbogo, 2010).

The growth and development of SMEs in most cases depends on good operating environment, and sustainable financial system /services where all Commercial Banks provide credits, money transfer, saving and leasing, to mention but few (Mataba, 2009). These services are so far important but seem not helpful in relation to SMEs transactions which occur mostly overnight. Mobile money however has a range of services that the SMEs could benefit from using mobile money technology. Mobile ATMs, money transfers, bulk payments, mobile vouchers, mobile insurance, savings, content purchases and deliveries, information services, mobile banking etc. are some examples of these services (Nyaga, 2013).

In developing economies like Ghana, Small and Medium Enterprises (SMEs) contributes about 70% to the country's Gross Domestic Product (GDP) and accounts for about 92% of businesses in Ghana. Because of the relative affordability of mobile phones and the mobile banking services,

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mobile payment system has been adopted by SMEs in Ghana as a way of transacting their business (Villars, 2004).

Cash in Business

In carrying out their daily operations, SMEs show great energy and stamina to deal with the scarce liquidity and all the inherent obstacles. Society at large in Sub-Saharan Africa has a very strong cash-based heritage, and the means of conducting daily transactions is by cash (Bangens & Söderberg, 2011). The African businessman's success may well depend on his swift and timely mobilizing of cash from own savings, credit from suppliers etc. as cash is the key to doing business. Though customary money transfer service by Western Union, Moneygram, banks, and post operators has been around for a long time, they are usually considered costly and/or inconvenient. Therefore, money by bus or through a relative is usually a fairly standardized practice (FSD-Kenya 2006 & 2009), although considered unsafe due to risk of robbery. Transactions over mobile networks have rapidly gained market acceptance, as they address these shortcomings in traditional means of carrying out transactions. Strong cash-based culture and people's ability to conceptually relate to transferring money by mobile phones have however shown to be some of the greatest hurdles to overcome for mobile transaction service providers (FSD-Tanzania, 2006 and 2009).

Regardless of the extensive documentation on the impact of mobile money in the development of SMEs in African countries, many studies of this nature have been done in Kenya and other Eastern African Countries whiles little is known about whether and how mobile money services influences the growth of SMEs in Ghana. Even if the reviewed literature suggests that mobile

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money has significantly contributed to the development of SMEs in many African countries especially Kenya, Tanzania and Uganda, there is no empirical evidence that support such assertion in Ghana. Given the importance of mobile money, this study is carried out to find out the effect of mobile money services on the growth of SMEs in Ghana.

Statement of the Problem

SMEs are known to be the engine of growth in Ghana but due to the nature of their operations they are confronted with peculiar challenges which affect their development. These challenges range from low capital base, weak institution and regulatory framework to low managerial skill. These make it difficult for SMEs to access financial services from Commercial Banks (Kayanula & Quartey, 2000). Moreover, they have deficient inappropriate mode of receipts and payments and debt collection procedures (Higgin, Shackleton, & Robinson, 2012). These are likely to have an effect on SMEs' performance.

The introduction of the mobile money services has changed how SMEs conduct their business lately. But despite its adoption by SMEs in conducting their business, studies regarding the effect of mobile money on the growth of SMEs in Ghana, especially in the Tarkwa Nsuaem Municipality, are limited. There is the need therefore to study how this technological revolution affects the growth of SMEs. Consequently, this study seeks to determine the effect of mobile money services on the growth of SMEs in Ghana.

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Purpose of the Study

The purpose of this study is to determine the effects of mobile money services on the growth of SMEs in Ghana using SMEs in Tarkwa Nsuaem Municipality as a case study.

Objectives of the Study

1. To determine the level of mobile money services awareness among SMEs in Tarkwa Nsuaem Municipality.

2. To find out the preferred mobile money service of the selected SMEs

3. To measure the impact of mobile money adoption on the growth of SMEs in Tarkwa Nsuaem Municipality.

4. To assess the level of service quality of mobile money services in the Tarkwa Nsuaem Municipality.

Research Questions

1. Which types of mobile money services are SMEs currently aware of in Tarkwa Nsuaem Municipality?

2. Which mobile services do SMEs use in Tarkwa Nsuaem Municipality?

3. How has mobile money services impactedon the growth of SMEs in Tarkwa Nsuaem Municipality?

4. What is the level of service quality of mobile money services in the Tarkwa Nsuaem Municipality?

Significance of the Study

The issue of how mobile money services affect the growth of SMEs is critically significant given the contribution of SMEs to various economies. About 85% of manufacturing employments in Ghana for instance are credited to SMEs (Steel & Webster, 1991) with the sector contributing about 70% to

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Ghana's GDP. It is therefore important to examine the awareness level and usage rate of mobile money services by SMEs in Ghana; the mobile money services effect on sales revenue; and the kind of transactions SMEs conduct with the mobile money service to support their businesses. The results of this study will present treasurable information to the telecommunication companies who now want to target SMEs with special products. Managers of SMEs will also acquire knowledge of the kind of financial services available through the use of mobile money system that are likely to enhance their business. Additionally, this research will provide recommendations on how mobile money services affect SMEs.

Delimitation

The study seeks to determine the effect of mobile money services of SMEs in the Tarkwa Nsuaem Municipality (TNM). The Tarkwa Nsuaem Metropolis was selected for the study because it was convenient for ease of data collection as the researcher reside and worked there. And the Metropolis also is a commercial town with the concentration of mobile money agent.Another reason is that; the researcher is also familiar with the study area.

Limitations

The researcher expects to face some limitations that may affect the effectiveness of the study. The major challenge was the time constraint involved in collecting the data for the study because the study is carried out for a short period to follow the deadline of the academic calendar. The study made use of a lot of financial resources especially in transportation back and forth from the field of study. Additionally, local empirical literature on effects of mobile money services on SMEs was inadequate as a result; the researcher

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hadto rely mostly on literature from other African countries. This may not give a true picture as challenges faced by those countries may differ from that faced by Ghana.

Definition of Terms

Dependent variables: SMEs variables (sales revenue, profit)

Independent variables: Mobile money variables (transaction cost, convenience, financial accessibility).

Organization of the Study

This dissertation is organized into five chapters as follows:

Chapter One introduces the study. It contains the background of the study, the statement of the problem, the significance of the study, the objective of the study, the research questions, the scope, limitations of the study, definition of terms and the organization of the study. Chapter Two reviews relevant literature of other authors in relation to the topic under study. The literature review explains basic terminologies, theoretical framework and empirical reviews. Chapter Three concentrated on the methodology of the study. It explains the various methods of data collection that is used and the tools of the analysis. Chapter Four dealt mainly with analysis, interpretation and analysis of data collected. Finally Chapter Five dealt with the conclusions, summary of findings and recommendations for use by the various stakeholders including managers of SMEs, telecommunication companies, regulators and academicians.

Introduction

This section of the study reviews related literature on thematic areas such as various models that looks at the adoption of mobile technology services. There are two main areas:theoretical review that covers areas such as Technology Acceptance Models, Diffusions of Innovation theory, Mobile Money Services, Mobile Money Ecosystems and other factors and Empirical review which covers financial inclusion, effect of mobile money and other factors influencing mobile money use.

Theoretical Review

Technology Acceptance Model (TAM)

Several studies focusing on acceptance of mobile services have their roots in Technology Acceptance Model, one of the widely tested and applied models in the prediction of future consumer behaviour (Davis, 1989). "The technology acceptance model(TAM) is aninformation systemstheory that models how users come to accept and use a technology" (Taylor& Todd, 1995). It has been noted that usersattitudes towards and acceptance of a new information system have a critical impact on successful information system adoption (Davis, Bagozzi, & Warshaw, 1989). If users are not willing to accept the information system, it will not bring full benefits to the organisation (Davis, 1993). The more accepting of a new information system the users are, the more willing they are to make changes in their practices and use their time and effort to actually start using the new information system (Succi & Walter, 1999) as cited by Pikkarainen et al (2004). One of the most utilized models in

studying information system acceptance is the technology acceptance model (TAM) (Davis et al., 1989). Davis et al. (1989) proposed that usefulness and ease of use are important factors in determining user attitude towards embracing a new technology. Technology Acceptance model has been adopted in a number of studies on mobile services which focus on users (Amberg, Hirschmeier& Wehrmann, 2004).

The Theory of Reasoned Action (TRA) which was developed in 1975 by Fishbein and Ajzen formed the bases for the development of the Technology Acceptance Model (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989). According to the Theory of Reasoned Action, attitude towards the behaviour and subjective norms associated with behaviour determine behavioral intentions. Fishbein and Ajzen explained that, attitude refers to personal beliefs that have to do with the positive or negative value related to a health behavior and its results. Subjective norm on the other hand talks about a person's positive or negative value related with a behavior. This is contingent on whether or not the behavior is accepted by important referent individuals and their motivation to comply with those referents. If attitude and subjective norm are affected to stimulate specific health behaviors, behavioral intentions can be changed with designed interventions. Fishbein and Ajzen submitted that, one can determine a person's actual behavior by taking into consideration his or her prior intention accompanied by the beliefs that the person would possess for the given behavior (Fishbein & Ajzen, 1975).

This Theory of Reasoned Action was extended by Fred Davies to formulate the Technology Acceptance Model. TAM model proposes that, a number of factors informuser's decisions about how and when they will use a

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new technology when they are confronted with one (Davis, 1989), notably, perceived usefulness and perceived ease of use.
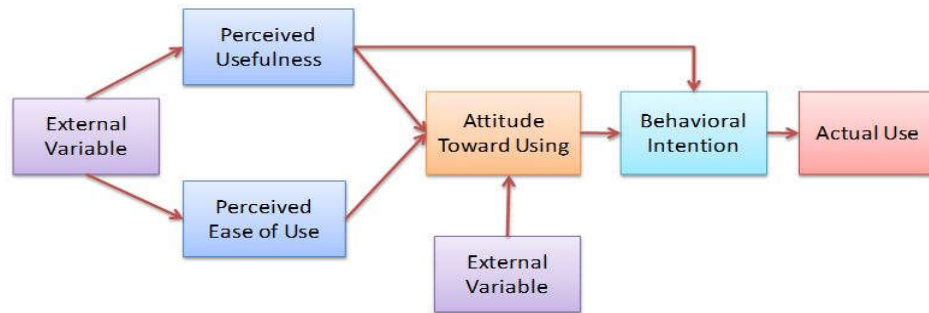
Figure1: Technology Acceptance Model

Source: Davis (1989)

TAM, as illustrated in Figure1 above, includes 6 concepts (Malhotra & Galletta, 1999, Davis et al., 1989). These concepts are explained next.

The factors mentioned below are based on the literature concerning technology acceptance model by Davis (1989), theory of planned behaviour and diffusion of innovation.

Perceived usefulness

The perceived usefulness is a prominent factor which is widely used in explaining consumer behaviour in a recent M-commerce adoption model studies (Hong, Thong, Moon, & Tam, 2008). According to Davis (1989), the perceived usefulness of a system is defined as the extent to which individuals believe that using the new technology will enhance their task performance. There is extensive research in the Information Systems and M-commerce that provides evidence of the significant effect of perceived usefulness on usage or adoption intention (Davis et al, 1989; Khalifa & Shen, 2008). Therefore, perceived usefulness will influence user intention to accept or adopt mobile commerce. Recently numbers of empirical studies have provided support that

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perceived usefulness is the primary predictor of M-commerce adoption and it captures the perceived benefits associated with using mobile commerce (Wei et al., 2009; Khalifa &Shen, 2008). This concept assesses the extrinsic characteristics of mobile commerce as well as shows how mobile commerce can help the users to achieve task-related goals, such as effectiveness and efficiency (Wei et al., 2008). It is also believed that one who believes M-commerce to be useful and convenient will have positive attitudes towards using M-commerce.

Perceived ease of use

Perceived ease of use is an individual's assessment of the extent to which interaction with a specific information system or technology is free of mental effort (Davis, 1989). The results of many of the prior empirical studies have demonstrated that perceived ease of use has a positive correlation with behavioural intention, both directly (Davis, 1989). A few empirical studies tested ease of use as a predominant determinant tested ease of use as principal determinant of intention to adopt as in the study Agarwal and Karahanna, (2000). Several of the studies came out with findings that this constructs exerting a mediation effect. It is one of the major behavioural beliefs influencing user intention to technology acceptance in both original and the revised TAM models and it has been included in this study to determine this influence the mobile commerce intent as well.

The perceived ease of use has been incorporated as an important factor in adopting Mobile commerce as in recent studies of (Wei et al., 2009; Bhatti, 2007). Many prior empirical studies have demonstrated that perceived ease of use has a positive influence to adopt mobile commerce (Wei et al., 2008;

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Khalifa &Shen, 2008) Thus, perceived ease of use reflects the perceived efforts in using mobile commerce (Khalifa & Shen, 2008). Furthermore, one who perceives M-commerce technology to be easy to use will have positive attitudes towards using M-commerce. The perceived ease of use for a system is defined as the degree to which an individual believes that using a particular technology will be free of effort. This construct is posited to influence behavioural intentions to use through two casual pathways: a direct effect as well as an indirect effect through perceived usefulness.

Personal innovativeness

Personal Innovativeness is defined as the willingness of an individual to try out any new information systems. The personal innovativeness is expected to have a strong influence to adopt innovation such as mobile commerce (Bhatti, 2007). Innovative individuals have been also found to be dynamic, communicative, curious, venturesome, and stimulation–seeking. It has been recognized that highly innovative individuals are active information seekers about new ideas. Given the relative infancy of the mobile services it is appropriate to test innovativeness as an influencing variable under new circumstances. A recent study shows that the personal innovativeness can predict the adoption of mobile commerce (Li et al., 2007).

Perceived trust

According to Rousseau, Sim, Ronald, and Colin (1998), trust is defined as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another". Perceived Trust is an important construct which is affecting consumer behaviour and it determines the success of M-commerce (Wei et al., 2009). It

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is an important predictor to explain the adoption of M-commerce in many existing technology adoption studies (Wei et al., 2009) Trust is important because it helps consumers overcome perceptions of uncertainty and risk (McKnight, 2002) and helps build appropriate favourable expectations of performance and other desired benefits (Gefen, 2000). Furthermore, for trust to exist, "consumers must believe that the sellers have the ability and motivation to reliably deliver goods and services of the quality expected by the consumers" (Jarvenpaa, 2000).

Perceived cost

Hong et al., (2008) postulated that perceived Cost is the essentials in the setting up and delivery of any form mobile commerce such as mobile money. Unlike others constructs, the perceived cost is also an important consideration for consumers to decide whether to use M-commerce or not (Hong et al., 2008). However, Wei et al., 2009 stated that cost factor is one of the reasons that could slow down the development of M-commerce. He also mentioned that cost factor may consist of initial purchase price such as hand set fee, on-going usage cost such as subscription fee, service fee and communication fee, and maintenance cost or upgrade cost. In this study, perceived cost construct has been incorporated and defined as the extent to which an individual believes that using m-commerce is costly. Cost was not considered or proved by some researchers in explaining the adoption of M-commerce (Liu & Wei 2003; Turel et al., 2007).

Although within the organization TAM is used to explaining the adoption of technology, the constructs of the model are essentially meant to be general and universal (Malhotra & Galletta, 1999, Davis et al., 1989). The

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Technology Acceptance Model has however been extensively criticized, despite its regular application in understanding and predicting user behaviour towards Information Systems by researchers. Subsequent investigations and writings identified a number of weaknesses in the TAM (Knight, 2004). Benbasat and Barki (2007) suggest that, TAM "has diverted researchers' attention away from other important research issues and has created an illusion of progress in knowledge accumulation. Also, the independent attempts by several researchers to expand TAM in order to adapt it to the constantly changing IT environments have led to a state of theoretical chaos and confusion" Moreover, TAM lacked the constructs for the vast variety individual differences in users of information systems (Taylor & Todd, 1995). Furthermore, it made an assumption that Behavioural Intention was voluntary (Dishaw & Strong, 1999).

Diffusion of Innovations Theory (IDT)

Diffusion of Innovation theory (IDT) is another theory by Rogers that has gained similar attention by scholars in explaining consumer behaviour towards new technology (Rogers, 1995). It is one of the most well-knownmodels described by Rogers in his book, Diffusion of Innovations (Sherry & Gibson,2002).It is a theory that seeks to explain how, why, and at what rate technology is spread (Rogers, 2003). Much research from the model as a framework enjoys application from a broad variety of disciplines. Stuart(2000) named political science, communications, economic,history, public health, technology, and education, as some of these disciplines. Theyalso defined Rogers' theory as a widely used theoretical framework in the area of technology diffusion and adoption. Tobbin (2011) used the constructs

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of perceived trust, transactional cost and perceived risk in addition to the key constructs of the TAM and the IDT to explain the acceptance and use of mobile money transfer services among Ghanaian consumers.

Element of the diffusion of innovation

Rogers (2003) defined diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system". According to him, four main elements influence the spread of a new idea: the innovation itself, communication channels, time, and a social system as indicated in the definition. The key elements in diffusion research are:

Innovation

Innovations are a broad category, relative to the current knowledge of the analyzed unit. Any idea, practice, or object that is perceived as new by an individual or other unit of adoption could be considered an innovation available for study (Rogers, 1983).

Adopters

These are the minimal unit of analysis. Whiles adopters are adopters are individuals in most studies, they can also be organizations such as businesses, schools, hospitals, etc., within social networks, or countries (Meyer, 2004).

Communication channels

Diffusion, by definition, takes place among people or organizations. Communication channels allow the transfer of information from one unit to the other (Rogers, 1983). Communication patterns or capabilities must be

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developed between parties at least for diffusion to occur (Ghoshal &Bartlett, 1988).

Time

The passage of time is essential for innovations to be adopted; they are seldom adopted instantaneously. In Ryan and Gross (1943) study on hybrid corn adoption, adoption occurred over more than ten years, and most farmers only dedicated a fraction on their fields to the new corn in the first years after adoption (Ryan&Gross, 1943).

Social system

According to Strang and Soule (1998), the social system is the combination of external influences -mass media, organizational or governmental mandates- and internal influences - strong and weak social relationships, distance from opinion leaders. There are many roles in a social system, and their combination represents the total influences on a potential adopter (Rogers, 1983).

Characteristics of New Technology

Five perceived characteristics- relative advantage, simplicity or complexity of use, triability, perceived compatibility and observability, influence the adoption and non-adoption of an innovation as highlighted by the IDT (Rogers, 2003; Lee, McGoldrick, Keeling, & Doherty, 2003). These key features enable an innovation to be taken up by a population. Some of the main construct of the theory are:

Relative advantage

According to Rogers (2003), relative advantage is the extent to which one perceives that an innovation is better than the idea it supersedes. That is,

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whether the innovation is perceived to be superior to the product or service from which it develops (Laukkanen & Kiviniemi, 2010). Puschel, Mazzon and Hernandez (2010)also define relative advantage as the extent to which an innovation is perceived as a better option to existing products and services. Liu and Li (2009) contend that relative advantage is a very strong predictor of the intention to adopt and use a specific innovation and is alsoconnected to the perceived usefulness component of the Technology Acceptance Model (TAM) put forward by Davies (1989). It is as well confirmed that users are more predisposed to adopt a new technology when they perceive that it gives them relative advantage over present one (Lee, McGoldrick, Keeling & Doherty, 2003).

Complexity

This according to Rogers (2003) is the extent to which an innovation is perceived as comparatively difficult to comprehend and use. Also, Liu and Li (2009) argues that, complexity is comparable to the perceive ease of use element of TAM and is animportant predictor of the intention to use and adopt an innovation as the more complicated an innovation is, the slower its rate of adoption will be. Lee et al. (2003) affirm that if the technology is perceived to be complex, it negatively affects mobile transaction and adoption.

Compatibility

Rogers (2003) explains compatibility as the extent to which an innovation is perceived to be consistent with existing values, past experiences and the need of potential users. Lee and Lee (2010) argue that people tend to more easily adopt technologies that are compatible with the technologies they are currently using or have used. Innovations that match with the lifestyle of

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users usually have a faster adoption rate (Koenig-Lewis, Palmer, & Moll., 2010). In the context of mobile money, compatibility refers to the extent to which m-money is consistent with the lifestyle of the consumer and current needs (Kleijnen, Ruyter & Wetzels, 2004).

Observability

Rogers (2003) argues that observability is the degree to which the results of an innovation are visible and tangible to others. Liu and Li (2010) also emphasize innovations can have more positive impact on people and they will eventually be encouraged to use it if they can more easily observe and describe it. Additionally, Cruz et al., (2010) affirm that the likelihood of adopting an innovation grows when the benefits and usage of the innovation can be easily observed.

Trialability

Trialability is defined as the extent to which an innovation can be tried on a limited basis (Rogers, 2003). That is, consumers tend to adopt new technology when the technology can be tried before their full implementation whilst people tend to be slower to adopt when prior trial is not possible (Puschel et al., 2010). For financial services, however, customers are unable to try them before adoption (Aldas-Manzano, Lassala-Navarre, Ruiz-Mafe, & Sanz-Blas, 2009).

Relevanceof the theories

When the diffusion theory is related to the effects of mobile money on SMEs, mobile money becomes an innovation which needs time in other to reach critical mass. Hence the rate of diffusion of acceptance of mobile money among SMEs will affect the extent of growth within the sector. TAM has been

widely used to predict user acceptance and use based on perceived usefulness and ease of use (Ndubisi & Richardson, 2002). Consequently, TAM was selected as a suitable model and has been expanded to include other factors such perceived ease of accessibility of the mobile money services, perceived cost of the mobile money services, perceived convenience of mobile money services and actual usage of mobile money services.

Mobile Money Systems

According to Aron (2015), there is no standard regulatory definition of mobile money. It is however contended by Di Castri (2013) that some jurisdictions describe electronic money in their regulation or legislation. From a marketing perspective, Slade, Williams and Dwivedi(2013) argue that, mobile-payments did not rise as technology-led innovations but as a solution to an unmet need; users are able to initiate, authorize and/or complete a financial transaction in which electronic money is transferred via mobile communication network to another person through the use of a mobile device.A more elaborate definition is given by Jenkins (2008). According to Jenkins, "mobile moneyrefers to a suite of financial services offered through mobile phones and other handheld mobile devices. These services can include (1) person-to-person transfer of funds, such as domestic and international remittances, (2) person-to-business payments for the purchase of a range of goods and services, and (3) mobile banking, through which customers can access their bank accounts, pay bills, or deposit and withdraw funds" (Jenkens, 2008). In general, mobile money is a term that describes electronic financial services performed through a mobile phone.

Major types of Mobile Money Services

Three major mobile money services are explained: "mobile banking", "mobile payments" and "mobile transfers" (GSMA, 2013)

Mobile banking

It is worth noting that the term "mobile banking" is often confused and used interchangeably with the overall category of "mobile money" in research and literature (Dermish, Kneiding, Leishman & Mas, 2011). However, mobile banking just atype of mobile money service which allows customers of a financial institution to access their accounts and to perform transfers and payments. This service is therefore only available to people who are with a recognized bank account. Mobile banking is not mostly available in developing countries due to the low level of financial inclusion through official financial systems/banks (African, Caribbean and Pacific [ACP] Group, 2014).

Mobile payment

Also known as "m-commerce", mobile payment allowspeople without bank accounts to trade goods and services at a shop/store (or remotely) through their mobile phones using their mobile wallet, instead of using cash (ACP,2014).During a face-to-face payment at a merchant shop, mobile financial transactions are done in the following manner: first, the phone number of the customer is given to the merchant by the customer. Payment request is then sent by the merchant by SMS with customer's number or via the website of the telephone service provider. SMS is sent back to the customer with a bill of Reference Number.The payment is authorized by customer with a 4-digit Security PIN and the Bill of Reference Number. A

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payment notification is finally sent by the telephone service provider with details to both seller and customer (CGAP, 2011).

Mobile transfer

Mobile transfer is also called money transfer "person-to-person" - "P2P". This service allows people without bank account to send orreceive money to or from any other mobile phone user, from urban to remote rural areas in the country (ACP,2014). Practically, the customer must first deposit money into his mobile phone's wallet. The customer then selects the 'send money' option on the phone's menu. Then the customer enters the recipient's phone number and amount that he or she wishes to send. A 4- digit PIN is entered and confirms that all information entered is correct. The sender can confirm that all the information entered is correct. Instant SMS is received by both sender and receiver. The receiver canshow the text message a local mobile company agent to receive the money in cash (CGAP, 2011).

Mobile Money Ecosystem

Business ecosystem terminology was created out of the perspective of biological ecosystem. James F. Moore, defined a business ecosystem as "an economic community supported by a foundation of interacting organizations and individuals—the organisms of the business world" (Moore, 1996). Focus is put on the network of players (customers, suppliers, government agencies, competitors, distributors etc.) and their dependency on each other for survival through the lens of the business ecosystem concept (Iansiti & Levien, 2004). Like Moore (1993), Iansiti and Levien (2004) contended that the health and performance of a firm is reliant on the health and performance of the whole business community because organizations cannot work in isolation. They

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went ahead to create metrics to measure the health of ecosystems by proposing productivity, robustness and niche creation as key components (Iansiti & Levien, 2004).

While it has often been talked of as a money transfer product, when it reaches scale, mobile money can also be seen as a network infrastructure and platform enabling the exchange of cash and electronic value between various economic actors including clients, businesses, the government, and financial service providers (Kendall, Maurer, Machoka, &Veniard, 2011). The business ecosystem has been extended to the mobile money situation (Jenkins, 2008), and there are a number of important players in the mobile money ecosystem – including Mobile Network Operators (MNOs), banks, distribution channels (agents, merchants), consumers, competitors and regulators, as Tobbin (2011) submits. However, other stakeholders (including civil society, international financial institutes, donors and micro-finance institutions) could contribute to the ecosystem but do not play a vital role (Jenkins, 2008). Mobile money ecosystems are therefore networks of organizations and individuals that may be in place for mobile money services to take root, proliferate and go to scale (Jenkins, 2008). As Jenkins (2008) explains, whiles the three rules of retail are location, location, location; that of mobile money is partnership, partnership, and partnership. Jenkins added that, it is important for a mesh of partnerships covering various networks of relationships to be created (Jenkins, 2008).

The following table shows the variety of key stakeholders in the mobile money ecosystem. The collaboration of these participants is essential for the success of the mobile money network, including the mobile network

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operators (MNO), financial institutions, airtime agents, telecom retailers, and

regulators (Jenkins, 2008).

Table 1: *Key Players in the Mobile Money Ecosystem*

Players	Roles	Limitations and Constraints
Mobile network operators	• Provide infrastructure and communications service • Provide agent oversight and quality control • Issue e-money (where permitted by law) • Exercise leadership in drawing mobile money ecosystem together • Advise other businesses (banks, utilities, etc.) on their mobile money strategies	• Regulatory limitations on providing financial services • Shareholder pressure for faster, higher returns • Strategic focus that may not include mobile money
Financial institutions	• Offer banking services via mobile • Hold float or accounts in customers' names • Handle cross-border transactions, manage foreign exchange risk • Ensure compliance with financial sector regulation	Narrow customer base • Lack of experience with or interest in low-income customers • Stringent regulatory requirements with significant compliance burdens
Agents	• Perform cash-in and cash-out functions • Handle account opening procedures, including customer due diligence • Report suspicious transactions in accordance with AML/CFT requirements • Identify potential new mobile money applications	• Liquidity shortfalls • Basic business skill gaps • Lack of customer trust (in some cases) • Limited ability to partner with large corporations

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Table 1 (continued)

Regulators		
	• Provide enabling environment for mobile money • Protect stability of financial system • Demonstrate leadership to encourage and protect behaviour change	• Lack of experience with convergence of financial and telecommunications regulatory schemes • Lack of financial and technical capacity
Consumers		
	• Use mobile money to improve their lives	• Lack of awareness • Limited financial literacy • Cultural resistance

Source: Jenkins, 2008

Empirical Review

Per the assertions of Yakubu (2012),an individual's choice of a payment system is as a result of certain factors such as; Customers Wealth/Levels of Income, Educational Level, Employment Level, Personal Preferences, Transaction-Specific Factors and Marketing Campaigns.

In the research findings of Kennickell and Kwast (1997), wealth has an important role to play in terms of consumer's decisions on payment choice. Consumers' wealth may influence payment choice and the availability of payment instruments that one can choose. For instance, while wealthy consumers may be able to fund their obligations generally, consumers that experience brief financial shortfalls may not find electronic bill payment desirable as a payment instrument (Mantel, 2000). In such a situation, the consideration of the amount to send may influence the consumers to avoid using expensive means of payments.

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On the bank customers' survey, we also focused on education, because this might affect the demand for electronic banking products. For example, Kennickell and Kwast (1997) have illustrated how education play important role in determining household use of e-money products. Findings from the study of Kwast and Kennickell concluded that the US market for such products is still highly specialized, with the demand coming almost entirely from higher income, younger, and more educated households that have accumulated significant financial assets.

Educational levels of customers determine whether consumers will adopt electronic payment or not. Studies have shown that highly educated people patronize electronic payment products than less-educated people. The technicalities involved in some electronic payment transactions discourage less educated customers to patronize its use (Annon, 1999). In the case of mobile money the less educated consumers can fully utilised the service without much problem.

Those employed who receive their pay through the banks are more likely to use electronic means of payment. Employees, through their constant contacts with banks are more exposed to payment products, and are therefore, likely to patronize the products (Yakubu, 2012). Most users of mobile money receive wages, which are paid in micro payment hence they intend use the mobile money platform a lot.

There is sparse empirical research that studies a direct effect of payment systems on economic growth. Information technology (IT) innovationsthrough positive effects on banking systems and bank efficiencies is found in Berger (2003) to have a positive impact on overall economic

growth. Waverman, Meschi and Fuss. (2005) specificallyfound that a unit increase in mobile phone penetration increased economic growth of a country by 0.039 percent. Overall, they found investments in mobile telecommunication infrastructure to have a positive and significant impact on economic growth. They further speculated thatdue to the lack of land line infrastructure in developing countries this impact may be twice as large compared to developed countries

A myriad of firms and sector case studies show evidence of Information CommunicationTechnology (ICT) having a positive effect on improved productivity inmedium and large firms in developed countries. However, the literature on the effects of ICT on Small and Medium Enterprises is limited. Duncombe and Heeks(2002), based on field research in Botswana found that poor rural entrepreneurs rely heavily on informal, social and local information systems. Also, Duncombe(2006) found that, if ICT is applied to reinforce a broad array of social and political assets and also used to build more effective structures and processes that give opportunity to the poor, they may benefit more. Donner (2007), afterwards, found thatin Kigali, Rewanda, the use of mobile phone by micro-entrepreneurs empowers new business contacts andintensifiespresent social relationships. Furthermore, Donner (2010) summarized a number of research studies for micro and smallenterprises (MSEs) and found that mobile phone use alone through improvements in sales, marketing and procurement processes helps many MSEs become more productive. As the literature has shown therefore, there is an opportunity to investigate the effect of mobile money services on business

growth in the developing countries which now have access to this transformative technology.

Notwithstanding the inadequacy of literature on mobile money, there is evidence from initial empirical studies of positive returns to individuals who have mobile money accounts.The introduction of M-Pesa in Kenya led to significant decreases in the prices of money transfer competitors according toMbiti and Weil (2011). More so, Mbiti and Weil concluded in their research that the rate of remittances receiptover-time contributed towards financial inclusion in Kenya. There is evidence that the marginal willingness to remit was increased by the availability of mobile money in Mozambique (Batista& Vicente, 2013).Aker., Boumnijel, McClelland., and Tierney, (2011) discoveredin Niger that mobile money reduced the total cost of transaction of receipts, whileoffering an increase in freedom, flexibility and privacy when they looked at the effects of using mobile money accounts for delivery of cash transfers as againstconventional methods.In a qualitative pilot study conducted in Cambodia, micro-entrepreneurs in rural areas who use mobile money services benefited from time, security and convenience(Vong Fang, & Insu., 2012).It is anticipated from the aboveliteraturethat; micro-entrepreneurs would positively benefit from mobile money use.

Sedzro (2013) reported that Ghanaians rely very little on mobile phones for payments. The report indicated that 1% of the Ghanaian adult population with mobile phones uses it to send money, 1.5% use it to receive money and only 0.9% of the same population use it to pay bills. As confirmed by the bank of Ghana Statistics above, the total number of mobile phone subscribers were about 19 million, 3million registered customers and only

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900,000 active customers. Less than 1% of the Ghanaian populace adopted the mobile money service in 2010 – the first year of mobile money implementation – and only 11% are active users as of now. Annual mobile money transaction volume stood at 106,431,007 in 2014. This is estimated at some 11billion Ghana Cedis according to the Bank of Ghana statistics, 2014. If mobile money recognition increases and brings abundant benefits to stakeholders, the figure is expected to increase significantly.

Conceptual Framework

Figure 2 below (for this study) shows the conceptual framework of the effect of mobile money services on SMEs' growth. For this Mobile Money Impact Model Framework (adapted from Nyaga, 2013) in the conceptual framework,the independent variable defined by the adoption of mobile money services has fourcharacteristic intervening variablesnamely; (1) reliability of the mobile money services, (2) convenience of the mobile money services, (3) transaction cost of the mobile money services and (4) financial accessibility of the mobile money services. The dependent variable the SMEs Growth also has two intervening variables (1) increase in sales of SMEs and (2) increased profitability of SMEs.The model asserts that SMEs adoption of Mobile Money Services potentiallyenhance growth of SMEs and its financial operations (Nyaga, 2013).

According to the World Bank (2010), efficiency of the mobile money services enhances usage of the mobile money services both by SMEs and customers. And user acceptance and adoption of mobile money services for transaction depends on the functional characteristics of the mobile money service such as its financial accessibility, efficiency and reliability, transaction

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costs and reduce transaction time (Nyaga, (2013). Consequently, SMEs adopt and use mobile money to conduct business, which result in benefits such as increased sales revenue and increased profitability. Therefore, this model presents an argument that, accelerated transaction arising from mobile money services usage, will enhance SMEs business activities which will eventually result in SMEs growth, since mobile money presents a cheaper, accessible, reliable and convenient option for various essential services like mobile banking, mobile payment and mobile transfer services.

MOBILE MONEY SERVICES (INDEPENDENT VARIABLES)		SMEs' GROWTH (DEPENDENT VARIABLES)
• Reliability • Convenience • Transaction Cost • Financial Accessibility	→	• Profit • Sales Revenue
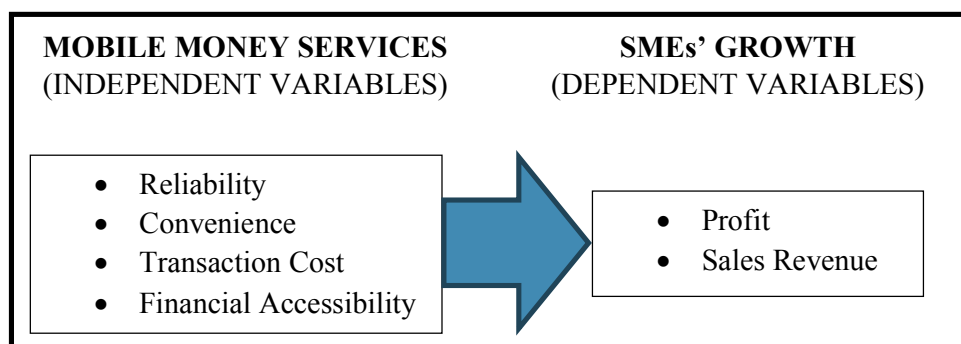
*Figure 2:*The Mobile Money Impact Model Framework

Source:Adapted from Nyaga (2013)

According to Omwansa (2009), mobile money services are considerably cheaper in transaction compared to other money transfer options such as Western Money Union. The World Bank (2012) posits that by international standards mobile money is 19% lower for transaction costs than banks.

In terms of transaction time and convenience, mobile money offers liquid and easy or fast conversion with minimal loss on value compared to other assets for financial transaction such as cheques (World Bank, 2012). This is important in during crises, when money stored in mobile money is easily cashed or used to directly transact further business without converting

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into cash. In Ghana today, mobile money agents are conveniently located everywhere in towns and villages and the services can be transacted anywhere anytime without the need to travel far (GSMA Report, 2015; Nyaga, 2013).

Mobile money increases financial inclusiveness and accessibility for both the banked and the unbanked (Nyaga, 2013). According to the GSMA Report (2015)there are 411 million mobile money accounts globally mobile money is available in 85% of countries where the vast majority of the population lacks access to a formal financial institution. Mobile money services contribute to rapid mobile money penetration and its access allows SMEs and the unbanked to save for business transactions. Increased savings, via mobile money services increases the potential for SMEs to secure financing that contributes to business growth (Nyaga, 2013).

Mobile money originally designed to help microfinance institutions streamline their operations raised efficiency and boosted business growth of the microfinance industry (Omwansa, 2009); the service hitherto now offers variety of financial services including financial transactions (Bampoe, 2015). Mobile money system is facilitated by converging regulation and legislation to address fraud and money laundering issues which makes it reliable for all forms of business tractions. The contactless systems offer a unified platform to generate greater convenience for users (Ernst & Yong, 2009). According to Nyaga (2013) the mobile payment platforms allow for immediate transfer and receipt/confirmation financial payments. This information is stored within the phone short message service (SMS) storage option allowing for quick retrieval and tracking if the need arises.

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This study agrees with Nyaga (2013) argument that reduced transaction costs, reduced time to transact, increased financial accessibility and increased efficiency ultimately lead to increase SMEs financial transactions through mobile money. These variables operate within the framework of regulatory institutions and market conditions. Increased penetration of mobile money (Bampoe, 2015) is replicated in the SME industry (World Bank, 2010). With increased financial transactions, more money is spent on business transactions, giving SMEs increased accessibility to financial services for savings and micro-credits. These services have a net effect of improved SMEs business growth of sales and revenue and the overall profitability.

CHAPTER THREE

RESEARCH METHODS

Introduction

In order to achieve and address the objectives and answer the research questions of this study, there was the need to look at the general approach the researcher will take in carrying out this research project. This general approach in carrying out a research project is what Leedy and Ormrod (2001) termed as research methodology. This chapter highlights the methodology used for the study. It includes the research design, study area, population, sample and sampling procedure, data collection instrument and data processing and analysis.

Research Design

Research design is the general plan that a researcher will use in the quest to answer research questions or test research hypotheses (Polit, Beck & Hungler, 2001). Researchers tend to usually adopt inductive or deductive approach as the two main orientations in conducting research (Saunders, Lewis & Thornhil, 2011, Teyi, 2014). The deductive approach usually uses present theories as guide to understand data while inductive also employs data to gain new understanding, such as constructing a theory. Making an inference from Teyi (2014), it is understood that, the inductive orientation to research typically travels from situations that are specific to ideas or theories that are general. On the other hand, the deductive orientation travels from general ideas to specific situations. This research therefore assumes the deductive approach.

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In deductive approach, prior works, models, literature reviews, mind maps and theories are generally tested (Sandelowski, 1995; Polit & Beck, 2004; Hsieh & Shannon, 2005). The adoption of the deductive approach in this study is based on the research questions and conceptual framework proposed in chapters 1 and 2, which is guided by present theories and empirical studies in Mobile money adoption and its effects on SMEs.

The subjects concerning mobile money services and SMEs are so diverse that this study required reasonable care and thorough analysis, which called for the desire for better understanding and development of methods that can be used for any subsequent study. This study attempted to understand and describe how SMEs used mobile money services and its effects resulting from such uses. Therefore, the research was descriptive in nature and required quantitative information from respondents. Answers to research questions as they occurred in their natural environment were sought for in this study. Survey questionnaire of a five-point Likert Scale was used to obtain the data. The objective was to determine the opinion of people about mobile money, and ascertain how the underlined services affected SMEs' growth. The main purpose of this research was focused towards finding the effects of mobile money services on the growth of SMEs in the Tarkwa Nsuaem municipality.

Study Area

The study was carried out in the Tarkwa Nsuaem Municipality, located in the Western Region of Ghana. The municipality has a total land area of 978.26 sq. Km, and is one of the 22 administrative Metropolitan, Municipal, and District Assemblies in the Western Region, Ghana. Established by Legislative Instrument L.I. 1886 in 2008, it shares bounders Nzema East

Municipality to the west Prestea Huni-Valley district to the north, Mpohor District Assembly to the east and Ahanta West District to the south. The total population of Tarkwa - Nsuaem Municipality according the 2010 housing and population census is 90,477 which include 51.57% male and 48.43% female (Ministry of Finance, 2016).

This research was necessary in this area because of the concentration of Mobile money activities and the growing levels of commercial activities of SMEs in the area. The study therefore explored the effect of the mobile money services on the growth of SMEs in the area.

Population

Population is the focus of a researcher's effort according to Baumgartner, Strong, and Hensley (2002). The population of a research is the collection of elements that possess the information which is being sought by the researcher and about which inferences could be drawn (Malhotra, 2007). It is the total group of people about whom research data is required (McDaniel & Gates, 2005). The SMEs sector in Ghana typically encompasses enterprises in both the formal sector and the informal sector. For purpose of this study, however, emphasis was placed on informal sector. Thus, the target population of this study consisted ofowners or managers of small and medium scale enterprises that operates in the informal sectors with unit of analysis being SMEs in Tarkwa. The concentration on informal sector was due to the dominance of the informal economy in the study area and the general consensus that the small and medium enterprises in the informal sector are less financially literate.

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Sampling Procedure

A sample of SMEs was selected to represent the target population. Non probability sampling method was used to select respondents. This sampling method relied on the researchers own judgment rather than on chance-base selection (Malhotra & Birks, 2007). Non-probability sampling was used in the selection of respondents since the total number of enterprises, especially SMEs businesses, in the area was not known. Consequently, convenient sampling technique under the non-probability sampling method was employed by the researcher. This technique was considered suitable for this study since it was less time consuming and also less expensive and also allowed the researcher to select knowledgeable respondents who expressed their frank opinions on the issues raised without any difficulty.

The sample size was informed by Hair and Lukas (2014) assertion that, for a sample to be representative it should be preferably greater than 100. Using this procedure, a total of 150 SMEs was selected based on their willingness, location and size to participate in the study to ensure that respondents were not reduced to a few formal businesses only.

Data Collection Instruments

Questionnaire was the data collection instrument used in this research. The use of questionnaires according to Kothari (2004), is one of the frequently used data collection tools adopted in research works. For a relatively quicker and economical way of gathering data on attitudes, opinions, practices and conditions, questionnaires are extensively used (EzeAsogwa, 2013; Kalusopa, 2011; Kimama, 2008). Based on the objectives of this research, a closed ended structured questionnaire was design and used.

Data Collection Procedures

According to Konar (2011), data collection is the process of gathering and measuring information on targeted study variables in an established and systematic manner that enables a researcher to answer research questions, test hypotheses and evaluate outcomes. The structured questionnaires were conveniently distributed to selected SMEs' managers or owners. The researcher self-administered the questionnaires in order to establish rapport with the respondents and encouraged questionnaire return.The administration of the questionnaire was done in an interactive manner and where necessary the local language was used to offer explanation for effective responses.

Data Processing and Analysis

The main task in analyzing research data is to understand the case through teasing out relationships, probing issues and aggregating the data categorically (Denzin & Lincoln, 1994). In this research, primary quantitative techniques were used to analyze the data collected. These methods included descriptive methods andstatistics to present respondents mean demographics and standard deviation. Data collected was first edited to detect and eliminate errors and omissions. This process was done at the same time as data collection in the field. It was then coded according to categorization for entry into computers for data analyses. In order to examine the relationship between mobile money services and SMEs' growth, a statistical tool was adopted for the analysis of data gathered from the field.

The study employed Statistical Product and Services Solutions (SPSS) as the main statistical software to analyze the gathered field data. The services of a data analyst were sought to develop the SPSS data entry templates

supervised by the researcher. Once the questionnaires were checked for completeness and correct recording, they were then entered into the developed database for subsequent analyses. The researcher validated entries through regular checks to ensure that recorded data are accurate. Data cleaning was also done after all the entries.

To demonstrate how variables related to data collected, coefficient of correlation was used to find out whether dependent variables of reliability, convenience, transaction cost, and financial accessibility are correlated with SMEs' growth. A regression analysis wasused to determine whether the four independent variables have any significant effect on SMEs' growth.

Study findings were further discussed in detail to provide the basis for the conclusions and study recommendations.

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CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The aim of this chapter is to address the research questions stated earlier in the first chapter, which is based on the findings.

The researcher achieved 100 percent response rate. The survey instrument was administered by the researcher personally and allowed respondents to complete and return immediately. This contributed to the high response rate.

The Cronbach's Alpha (α) coefficient for the items in the questionnaire was 0.786, suggesting that the items have good internal consistency (good reliability), and thus acceptable for the study. This is consistent with George and Mallery (2003) and Kline (2000) assertion that a Cronbach's Alpha values $0.7 \leq \alpha < 0.9$ is good.

Research Questions One: The level of mobile money services awareness among SMEs

This section of the analysis looks at the level of awareness of Mobile money and its adoption among SMEs for payment transactions. Respondents were asked if they were aware of mobile money services and the results as presented in table 2 indicate that,all the 150 SMEs indicated that they are aware of mobile money services.

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Table 2:*Awareness of Mobile Money Services*

Are you aware of mobile money services?	Frequency	Percent
Yes	150	100.0
No	0	0.0
Total	100	100

Source: Field Data Analysis, September, 2016.

Research Question Two: The preferred mobile money service of the selected SMEs

Additionally, the study also enquired further on whichmobile payments services the respondents use personally in their businesses and the results were summarized in figure 3. From the figure it can be seen that 47.3% of therespondents used MTN Mobile Money services as 9.3%used Tigo Cash Services. Also, 8.0% used Vodafone Cash Services whiles 6.0%used Airtel Money services only. However, 12% used MTN Mobile Money and Tigo Cash services with 2.7% indicatingthat they used MTN Mobile Money and Vodafone Cash. Additionally, 5.3% indicated that they used MTN Mobile Money and Airtel Money with the same proportion using MTN Mobile Money, Airtel Money and Tigo Cash. But 4.0% indicated that they used all mobile money payments systems.
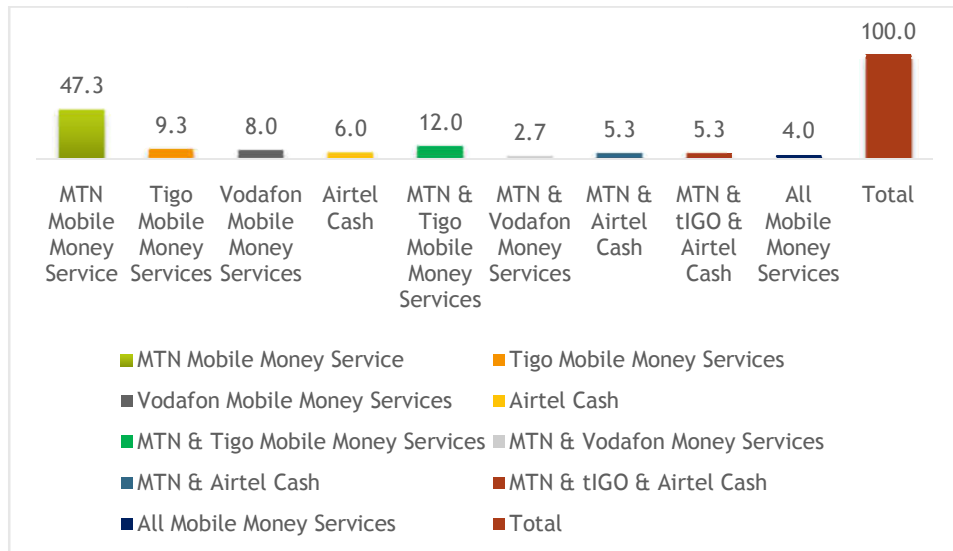
Figure 3: The Type Mobile Money Services personally used by respondents

Source: Field Data Analysis, September, 2016**.**

Furthermore, the study establishes the extent of acceptance of mobile money payment systems for sales transactions and the following were gathered from table 3,39of the SMEs representing 26% of the total SMEs surveyed indicated thatthey accept mobile money payment during sales transactions at all times whiles 27 of the SMEs representing 18% of the total SMEs surveyed indicated that they do not accept mobile money payment during sales transactions. Also 48 of the SMEs representing 32% of the total SMEs surveyed indicated that they sometimes accept mobile money payment during sales transactions. Conversely, 36 of the SMEs representing 24% of the total SMEs surveyed indicated that they never accept mobile money payment during sales transactions.

Table 3: *Acceptance of Mobile Money Payment for Sales Transactions*

Response	Frequency	Percent
Yes at all times	39	26.0
Not often	27	18.0
Sometimes	48	32.0
Not at all	36	24.0
Total	150	100.0

Source: Field Data Analysis, September, 2016.

In a follow up enquiry, SMEs who indicated that they did not accept mobile payment for sales transactions were asked if theyhaveintention of using mobile payment services for their business and the responses, as presented in table 4, werethat,13out of the SMEs surveyed representing 8.7% of the actual SMEs surveyedindicated that they are willing to adopt mobility payment for sales transactions as 8 of the SMEs surveyed representing 4.7%of the actual SMEs surveyed indicated that they are not ready. Some 10 of the SMEs surveyed representing 6.7%of the actual SMEs surveyed did not respond.

Table 4: *Readiness to Accept Mobile Payment for Sales Transactions*

Response	Frequency	Percent
Yes	13	8.7
No	7	4.7
No response	10	6.7
Total	30	20.1

Source: Field Data Analysis, September, 2016.

Research Question Three: Differences in growth of SMEsas a result of using mobile money Services

To better understand the possible impact of mobile money transaction services on the growth of the SMEs, the study compared thecustomer base at

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the time the SMEs were not using mobile money transaction services with the customer base at the time SMEs adopted mobile money transaction services. From figure 4, it can be inferred that; 25.3% of the total SMEs have been having 1-10 sales per day before adopting mobile money payment services whiles 24% of the total SMEs have been having 1-10 sales per day after adopting mobile money payment services.

Also,19.3% of the total SMEs had11-20 sales per day before adopting mobile money payment services whiles 16% of the total SMEs had 11-20 sales per day after adopting mobile money payment services. More so, 10% of the total SMEs had 21-30 sales per day before adopting mobile money payment services whiles 10% of the total SMEs have been having 21-30 sales per day after adopting mobile money payment services. Likewise, 5% of the total SMEs had 31-40 sales per day before adopting mobile money payment services whiles 6% of the total SMEs had 31-40 sales per day after adopting mobile money payment services. However, 15.3% of the total SMEs had 21-30 sales per day before adopting mobile money payment services whiles 20% of the total SMEs had 21-30 sales per day after adopting mobile money payment services but 24% of the total SMEs do not accept mobile money payment services and hence could not specify whether their sales increasedor decreased.
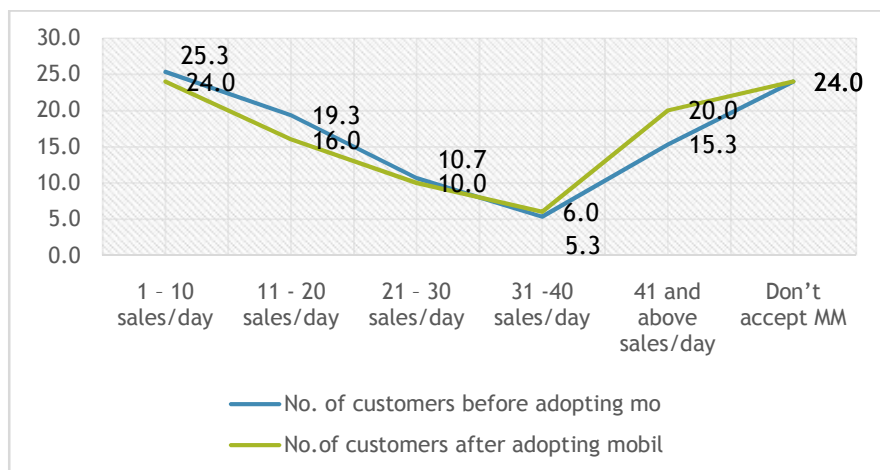
*Figure 4:*Customer Base Growth by SMEs Due to Adoption of Mobile Money

Transaction Services

Source: Field Data Analysis, September, 2016**.**

In the Paired Samples Statistics table 5, the mean for the number of sales before adopting mobile payment for sales transaction is 2.55 (S. D=1.52). And the mean number of sales after adopting mobile payment for sales transaction is 2.74 (S.D.=1.50) and the number of each respondent in each condition is 113 (N).

Table 5: *Paired Samples Statistics*

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	No. of customers before mobile payment	2.55	113	1.518	.143
	After adopting MM, what is your sales level?	2.74	113	1.597	.150

Source: Field Data Analysis, September, 2016.

To compare the effects of adoption of mobile money payment on sales, the table 6 further shows that, Sig. (2-Tailed) value is 0.000 less than p.value=0.005. Hence based on the data available, it is concluded that there is a statistically significant difference between the two conditions before and after adoption of mobile money payments for sales transitions.

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Table 6: *Paired Samples Statistics*

		Paired Samples Test							
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	No. of customers' before adopting MM payment - After adopting MM, what is your sales level?	-.195	.497	.047	-.287	-.102	-4.160	112	.000

Source: Field Data Analysis, September, 2016.

To further investigate the impact of mobile payment on sales, the effects of mobile payment adoption on profitability of the SMEs were also examined and the results were presented in table 7. From the table it can be seen that 53 of the SMEs representing 19.3% of the total SMEsindicated that they had increase in revenue and profit margin after adopting mobile payment services. However, 6 of the SMEs representing 4% of the total SMEs have had decreased in revenue and profit margin after adopting mobile payment services whiles 29 of the SMEs representing 35.3% of the total SMEs neither experience any increase nor decrease in revenue or profit after adopting mobile payment services.However, 14 of the SMEs representing 9.3% of the total SMEs indicated that after adopting mobile payment services they are not sure of what impact it has on sales. However, 24% of the total SMEs do not

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accept mobile money payment services and hence could not specify impact on profitability with 8% of the SMEs did not respond on this issue

Table 7: *Effect of mobile payment adoption on profitability of business*

Impact of mobile payment on sales revenue	Frequency	Percent
Increase revenue and profit margin	29	19.3
Decreased revenue and profit margin	6	4.0
Nether increased nor decreased revenue or profit margin	53	35.3
Not sure of the impact	14	9.3
Do not accept mobile payment for sales transactions	36	24.0
No Response	12	8
Total	150	100.0

Source: Field Data Analysis, September, 2016.

Afterwards, the effects of mobile payment adoption on sales turnover was also investigatedand results were presented in table 8. From the table, it can be seen that 33 of the SMEs representing 22% of the total SMEs were not sure of any impact of mobile money payment adoption on their sales turnover. About 18.7% of SMEs did not experience any increase or decrease in sales turnover after adopting mobile payment systems. However, 22 of the SMEs representing 14.7% of the total SMEs experienced avery large extent experienced effectof mobile payment on sales turnover whiles 19 of the SMEs representing 12.7% of the total SMEs were not sure of any impact of mobile money on sales turnover. However, 32.7% of the total SMEs do not accept mobile money payment services and hence could not specify impact on profitability with 8% of the SMEs did not respond on this issue.

Table 8: *Effects of mobile payment adoption on sales turnover*

Impact of MM on sales turnover	Frequency	Percent
Not sure of the impact	33	22.0
Neither increased nor reduce sales turnover	28	18.7
To a moderate effect	22	14.7
To a very large extent	18	12.0
No Response	49	32.7
Total	150	100.0

Source: Field data, September, 2016.

Last, in this section of the analysis, the researcher investigated to establish the impact of mobile payment adoption on prompt payment of credit sales. From the table 9,it can be seen that 22 of the SMEs representing 14.7% indicated that there is a very large impact of mobile payment adoption on prompt payment of credit sales with 26 of the SMEs representing 17.3% of the total SMEs had a moderate effectof mobile payment adoption on prompt payment of credit sales.However,19 of the SMEs representing 12.7% of the total SMEs neither experience an increased nor decreased in on prompt payment of credit sales from mobile payment adoption. Remarkably, 30 of the SMEs representing 20% of the total SMEs indicated that after adopting mobile payment services they cannot lay a figure of on any impact on prompt payment of credit sales. However, 24% of the total SMEs do not accept mobile money payment services and hence could not specify impact on profitability whiles11.3% of the SMEs did not respond on this issue.

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Table 9: *Effects of mobile payment adoption on prompt payment of credit sales*

Response	Frequency	Percent
Not sure of the impact	30	20.0
Neither increased nor reduced sales turnover	19	12.7
To a moderate effect	26	17.3
To a very large effect	22	14.7
Do not accept mobile payment for sales transactions	36	24.0
No Response	17	11.3
Total	150	100.0

Source: Field Data, September, 2016.

Research Question Four: SMEs assessment of the service quality dimensions of mobile payment servicesin Tarkwa Nsuaem Municipality

This section of the analysis critically assesses the service quality of mobile money services in the Tarkwa Nsuaem Municipality on four (4) dimensions including (1) reliability(2) convenience (3) cost and (4) accessibility of mobile money services. The service quality dimension results were summarised in a mean score on a scale from 5.0-4.5= "Strongly Agree", 3.5-4.4= "Agree", 2.5-3.4 "Neutral", 1.5-2.4= "Disagree" and 0.5-1.4= "Strongly Disagree".

Table 10 shows the level of efficiency of mobile payment services. The weighted mean score of 4.08 (SD=0.78) indicated that SMEs agree that the mobile payment services in the Municipality is "efficient". For all items used to determine service quality dimension of "mobile payment efficiency", theSMEs "agree" that mobile payment services at Tarkwa Nsuaem Municipality is "efficient" to allow SMEs receive exact money when it is sent to them with a mean score of 4.43(SD=1.16), keep proper records of all transactions with the service providers and customers with a mean score of 4.21 (SD=0.95), that the advantages of mobile payment outweigh the

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disadvantages of cheque transactions with the mean score of 4.18 (SD=0.87), and withdrawing from mobile money is not difficult with mean score of 3.49 (SD=1.10).

Table 10: *Efficiency and reliability of mobile payment services*

Ratings	Mean	Std. Deviation	Meaning
I receive exact money when it is sent to me	4.43	1.16	Agree
Mobile money keeps proper records of all transactions with the service providers and customers	4.21	0.95	Agree
I believe the advantages of mobile money would outweigh the disadvantages	4.18	0.87	Agree
Withdrawing from mobile money is not difficult	3.49	1.10	Agree
Weighted mean	4.08	0.78	Agree

Source: Field Data, September, 2016.

Table 11 also shows SMEs perception about the level of "convenience" of mobile payment services. The weighted mean score of 3.55 (SD=0.81) indicated that SMEs "agree" that adopting mobile payment services was "convenient". For all items used to determine service quality dimension of "mobile payment convenience", the SMEs "agree" that mobile payment services in the Municipality "conveniently" allow businesses to reduce the risk of holding physical cash with a mean score of 3.78 (SD=1.26), helps save time with a mean score of 3.73(SD=1.20), that users find mobile money payment service easy to use with a mean score of 3.57 (SD=1.14). However, SMEs opined that they neither agree nor disagree that the interface with mobile money was user friendly scoring a mean of 3.09 (1.51).

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Table 11: *Convenience of mobile payment services*

Ratings	Mean	Std. Deviation	Meaning
I find mobile money payment service easy to use	3.57	1.14	Agree
The interface with mobile money is user friendly	3.09	1.51	Neutral
Mobile money helps save time	3.73	1.20	Agree
Mobile money payment reduces risk of holding physical cash	3.78	1.26	Agree
Weighted mean	3.55	0.81	Agree

Source: Field Data, September, 2016.

Table 12shows SMEs perception of the "cost of transaction"for using mobile payments services. The Weighted mean3.28 (SD=1.39)indicated that the SMEs perceived transaction cost of mobile payment services "moderately inexpensive". For all items used to determine service quality dimension of "transaction cost", the mean score of 3.16 (SD=1.19) indicated money services are not expensive; as registration is free of charge with a mean score of 3.93 (SD=4.31); and thatmobile money transaction cost is acceptable compared to alternatives scoring a mean of 3.54 (SD=1.23). And that mobile money really help SMEs save time compared to processing cheques payment with mean score of 2.94 (SD=1.35).

Table 12: *Transaction cost of mobile payments services*

Ratings	Mean	Std. Deviation	Meaning
Using mobile money for my transactions is not expensive	3.16	1.19	Neutral
Mobile money registration is free of charge	3.93	1.31	Agree
Mobile money transaction cost is acceptable compared to alternatives	3.54	1.23	Agree
Mobile money helps me save time compared to processing cheques payment	2.94	1.35	Neutral
Weighted mean	3.28	1.39	Neutral

Source: Field Data Analysis, September, 2016.

Table 13 shows SMEs perception about "accessibility of mobile payment services". The weighted mean score of 3.29 (SD=0.97) indicated that indicated that the SMEs perceived as "moderately" the "accessibility" of mobile payment services in the Municipality. For all items used to determine service quality dimension of mobile payment services "accessibility", was indicative that with mean score of 2.57 (SD=1.36), mobile payment open at convenient times always;and that mobile money service network is always available to access for transaction payment with a mean score of 3.29 (SD=1.14); that SMEs did panic to the risk of losing money if mobile phone get missing money with a mean score of 3.52 (SD=1.10).However,with a mean score of 3.52 (SD=1.10) SMEs "agree" that mobile money services was secured from account being tempered with during sales transactions.

Table 13: *Accessibility of mobile payment services*

Accessibility of mobile payment services	Mean	Std. Deviation	Meaning
Mobile money opens at convenient times always	2.57	1.36	Neutral
Mobile money services network is always available to access for transaction payment	3.29	1.14	Neutral
If I lose my mobile phone, I will not lose my money as well	3.76	1.20	Agree
There is a low risk of other people tampering with my personal information during the transaction	3.52	1.10	Agree
Weighted mean	3.29	0.97	Neutral

Source: Field Data Analysis, September, 2016.

Discussion

The study investigated the impactsof mobile money services usage on the growth of SMEs in Ghana: A case study of SMEs in the Tarkwa Nsuaem Municipality. Mobile money services, the uncontrolled (or independent) variable in this study, was measured on four service quality dimensions that is (1) efficiency (2) transaction cost (3) convenience and (4) accessibility. The controlled variable in this study was the SMEs performance.

In this section findings are discussed in themes according to the research questions of the study in reference to literature or previous findings, and implications examined relative to existing theoretical positions.

On types of mobile money services that SMEs are currently aware of and use for their business transactions in the Tarkwa Nsuaem Municipality, it was evident that that all the 150 SMEs surveyed indicated that they are aware

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of mobile money payment services. However, relatively small proportion of the surveyed SMEs adopted mobile payment for sales transactions.   This finding is consistent with Nyaga & Okonga (2014) findings in a similar studyin Naivasha,Nigeria that owners of SMEs respectively find mobile money less important in business transactions in Naivasha town.

The analyses on which of the mobile money services are being used by enterprises for transactions, MTN mobile money services emerged the single most preferred service. This observation is consistent with the CGAP (2011, pg.9) Ghana report in which MTN mobile money service was found to be dominantly used than tiGo, Airtel or Vodafon mobile money services.With majority of them having adopted one or more services with MTN Mobile money with the most commonly used mobile payment system. The results of the survey unequivocally show that respondents (over 50%) are yet to and are willing to adopt mobile payment for sales transactions.Consistent with this study finding, in a study of "Antecedents of consumer trust in mobile payment adoption", in Auckland, New Zealand concluded that SMEs are willing to adopt mobile payment depending on their assessment of the trustworthiness of mobile service provider and vendor, their assessment of the functional reliability of mobile payment systems as well as their general disposition to trust and their cultural background, in particular, uncertainty avoidance.

On how mobile money services have affected the sales revenue of SMEs in Tarkwa Nsuaem Municipality, the survey showed that on 31.3% of the SMEs have their customers aware of that the can make payment through mobile money services. Majority do not accept mobile payment, or have not alerted their clients about adoption of mobile payment and in some cases

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unless the customers ask before they are told. The lack of awareness of the mobile payment service may contribute to the low impact of adoption of mobile money services by the SMEs surveyed.In this study paired sample t-test analysis of the data available showed that there is a statistically significant difference between levels of sales before and after adoption of mobile money payments for sales transitions and that the relatively insignificant difference of 0.19 between the mean sales after adoption and before adopting mobile money services are not likely due to adoption of mobile money payments.Actually significant proportion of the surveyed SMEs indicated that adoption of mobile payment had neither increased nor decreased their sales turnover/profit marginsand also some did not know the impact of mobile payment adoption on their sales turnover, though the data showed that mobile payment have affected significantly by percentage prompt payment of credit sales.

These findings are in contrast to findings of Kirui and Onyuma (2015) whose study finding on the role of mobile money transactions on revenue of microbusiness in Kenya revealed that mobile money transactions have a positive significant relationship with MSE sales turnover. Findings of this study also is in contrast to Ngaruiya, Bosireand Kamau (2014) whose studyfindings on "the effect of mobile money transactions on financial performance of small and medium enterprises in Nakuru Central Business, Kenya" revealed that mobile money transactions have a significant effect on sales revenue. It is suggested that a reason why Kenya's mobile money service has impacted on sales turnover positively among SMEs more than Ghana's case may be attributed to the fact that Kenya's mobile money service is

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operationalize years before that of Ghana and might have been developed well than that of Ghana.

On service quality provided by mobile service operators in the Tarkwa Nsuaem Municipality, the weighted mean score for the "efficiency of mobile money services" was 4.08 (SD=0.78)indicative that SMEs largely agree that the service quality of mobile money services provided by mobile money service operators was "efficient and reliable".On "convenience" of mobile money services, the weighted mean score of 3.55 (SD=0.81) means thatSMEs "agree" that largely mobile money service"convenient" as compared to holding physical cash or cheque, and also convening in terms of time. The SMEs surveyed also largely "agree" that the mobile money service provided in Tarkwa Nsuaem Municipality is "moderate" in terms of cost of the service with weighted meanscore of 3.28 (SD=1.39).Finally, on "accessibility" dimension of service quality, the SMEs surveyed with weighted mean score 3.29 (SD=0.97) "moderately agree" that mobile money services in the Municipality is accessible.

The mobile money services were perceived by users as safe and less risky, always available and opened at convenient times and places. This finding is consistent with Nyaga (2013) study on the impact of mobile money services on the performance of small and medium enterprises in an urban town in Kenya whose study revealed that efficiency and reliability dimensions of service quality of mobile money service providers contribute more to mobile money utility and SMEs growth.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter summarises the findings, draw conclusions of the study and makes recommendations for policy and areas that require further research.

Summary of Findings

The purpose of this study is to determine the effects of mobile money services on the growth of SMEs in Ghana using SMEs in Tarkwa Nsuaem Municipality as a case study.The study used secondary data from journals, books online materials to establish the theoretical background and adopted quantitative methods to obtain primary data using a survey questionnaire and a convenience study design and sampling technique to select respondents. The study findings were reported using mean, standard deviation, and graphs as well as paired sample test.The study was conducted in the Tarkwa Nsuaem Municipality of Western Region among 150 SMEs owners using convenience sampling technique to select traders, miners, hairdressers and textile cloth traders who operated in the domestic market. The majority of the business was one-man business who have operated their businesses most for the past three years and beyondwith a sizeable customer-base. To address the research objectives, the following research questions were asked:

1. Which types of mobile money services are SMEs currently aware of in Tarkwa Nsuaem Municipality?

2. Which mobile services do SMEs the use in Tarkwa Nsuaem Municipality?

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3. How has a mobile money service impact on the growth of SMEs in Tarkwa Nsuaem Municipality?

4. What is the level of service quality of mobile money services in the Tarkwa Nsuaem Municipality?

With a critical analysis of primary data, the following findings have been summarised for the key objectives of the study:

On mobile money services awareness among SMEs in Tarkwa Nsuaem Municipality,it was found that all the 150 SMEs surveyed are aware of mobile money payment services with majority of which have adopted it on personal basis but not for sales transactions. MTN Mobile money was the dominant mobile money service provider among the SME owners apart from tiGO, Airtel and Vodafon Cash. It was also seen that majority of the respondents thus over 50% of the SMEs surveyed accept mobile money payments systems while those who are yet to adopt are looking forward to adopt mobile payment in the very near future.

On how mobile money services have affected the sales revenue of SMEs in Tarkwa Nsuaem Municipality, data available did not show significant evidence that adoption of mobile payment have significant effect on sales turnover, profitability and increase in credit sales payment to lead to business growth.

On the level of service quality of mobile money services as provided by mobile money service companies, data available indicated that the SMEs "agree largely" that mobile money services were accessibility, efficient, low in transaction cost and reliable.

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Conclusions

This study finding showed that SMEs' owners in the Tarkwa Nsuaem Municipality were very much aware of mobile money services but did not fully explore its usage for business transactions. Also, available data did not indicate that there are no significant differences in sales revenue before and after adoption of mobile money services for business transactions. These findingsare contrast to Kirui& Onyuma, (2015) and Ngaruiya, Bosire & Kamau (2014) whose study findings in Kenya contrary revealed a positive impact of mobile money service adoption among SMEs on sales growth, it is concluded that available data did not support any findings that mobile money adoption have positive impact of SMEs growth in the Tarkwa Nsuaem Municipality.

Recommendations

Having analysed carefully the data from the field and summarised findings, the research will like advance some few recommendations for both mobile payment service providers towards providing a better mobile money services and to SMEs who are using it for their business.

Even though SMEs were very much aware of mobile money services, majority have not adopted it in sales transaction and also majority did not know of its possible impact on their business sales, profitability and turnover. According to Davis (1989), the perceived usefulness of a system is the extent to which individuals believe that using the new technology will enhance their task performance. Therefore, it is recommended that the mobile money service providers do more education for SMEs in the Tarkwa Nsuaem Municipality

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onthe possible positive impact of adopting mobile money service on SMEs growth and profitability to increase patronage.

It is also recommended that SMEs sensitise their customers to spread the rate of the technology usage to extend the benefit of security, convenience, reliability and low cost among their customers.

Suggestions of Further Research

It is recommended that this study be carried out in other commercial centres of the country to ascertain the impact of adoption of mobile money services on growth of SMEs.A study to explore factors that have led to MTN Mobile Money achieving higher uptake despite other cheaper mobile money service providers like Tigo will throw more light into the competiveness of MTN mobile money.

Follow-up studies on same topic could identify variations over time especially with the expectation that mobile money platform will have significant effect on sales revenue of SMEs in the municipality. That is, this study can be replicated in same setting at different time.

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APPENDICE

SURVEY QUESTIONNAIRE

This instrument is designed to collect data on the effects of mobile money services on the growth of SMEs in the Tarkwa Nsuaem Municipality. You are invited to complete the questionnaire bearing in mind that your honest responses will go a long way to determine the overall success of this exercise. This work is strictly for academic purposes and so information given shall be treated with absolute confidentiality.Thank you for your cooperation.

Business bio-data

1. Please how old is your business?

   i.   1 – 2yrs [ ]   ii.2 – 4 yrs [ ]   iii.5 – 6 yrs [ ]   iv. 7 yrs and above [ ]

2. What is the nature of your business? Please state…………………………………………

3. How many employees is there in this business? Please state……………………………..

4. Do you sell or do business outside Ghana?

   i.   Yes [ ] ii. No [ ] iii. Sometimes [ ]

5. Who owns the business?

   i.   Sole proprietorship   [ ]   ii.   Partnership   [ ]

   iii.   Limited liability Company   [ ]   iv.   Public corporation   [ ]

6. What is the size of your customer base?

   i.   1 – 50 [ ]

   ii.   51 – 100[ ]

   iii.   101 – 150[ ]

   iv.   151– 200 [ ]

   v.   2021and above [ ]

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7. What is the size of your sales on daily basis in GHC?

    i.   1 – 500 [ ]

    ii. 501 – 1000[ ]

    iii. 1001 – 1500[ ]

    iv. 1510– 2000 [ ]

    v.   2001and above [ ]

Level of user acceptance of mobile money transaction adoption among SMEs

8. Are you aware of mobile money?

    i.   Yes [ ]

    ii. No [ ]

9. Do you accept mobile money for payment from customers?
    i.   Yes at all times [ ]
    ii. Not often
    iii. Sometimes [ ]
    iv. Not at all [ ]

10. If you have not yet adopted mobile money payment for transactions, do you have any intention of accepting it any time soon?
    i.   Yes [ ]
    ii. No [ ]
    iii. Unsure [ ]

11. If yes, how long have you been using mobile money payment servics?

    Please state..........................

12. Which of the mobile money services do you use? Please tick as many

    as applicable.

    i.   MTN mobile Cash [ ]
    ii. Tigo mobile cash [ ]
    iii. Vodafon cash   [ ]
    iv. Airtel cash [ ]

13. When did you start accepting mobile money for payment of purchases? Please state……….

14. Are your customers aware you accept mobile payment for purchases they do?
    i. Yes [ ]
    ii. No [ ]
    iii. Somehow until they ask?

Growth level among SMEs due to adoption of mobile money transaction services

15. Before adopting mobile money payment for transaction how many customers did you service in a day sales?
    i.   1 – 10 sales/day   [ ]
    ii.   11 - 20 sales/day   [ ]
    iii. 21 – 30 sales/day   [ ]
    iv.   31 -40 sales/day   [ ]
    v.   41 and above sales/day   [ ]

16. After adopting mobile payment for transactions how may customers do you serve in a day?
    i.   1 – 10 sales/day   [ ]
    ii.   11 - 20 sales/day   [ ]
    iii. 21 – 30 sales/day   [ ]
    iv.   31 -40 sales/day   [ ]
    v.   41 and above sales/day   [ ]

SMEs adoption of mobile payments services based on four domains (1) efficiency and reliability, (2) convenience (3) transaction cost and (4) financial accessibility of the mobile payment services

17. The table below provides statements about efficiency and reliability, convenience, transaction cost and financial accessibility of the mobile payment services. For each of the statement, please indicate each statement influence your intention to use mobile payment system for your business financial transactions

    1= Strongly Disagree
    2=Disagree
    3=Neutral
    4=Agree
    5=Strongly Agree

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No.	Mobile money payment service	(Circle one) Strongly agree = 5 ..... 1 strongly disagree				
Efficiency and reliability of mobile payment services						
i.	I receive exact money when it is sent to me	5	4	3	2	1
ii.	Mobile money keeps proper records of all transactions with the service providers and customers	5	4	3	2	1
iii.	I believe the advantages of mobile money would outweigh the disadvantages	5	4	3	2	1
iv.	Withdrawing from mobile money is not difficult	5	4	3	2	1
Convenience of mobile payment services						
v.	I find mobile money payment service easy to use	5	4	3	2	1
vi.	The interface with mobile money is user friendly	5	4	3	2	1
vii.	Mobile money helps save time	5	4	3	2	1
viii.	Mobile money payment reduces risk of holding physical cash	5	4	3	2	1
Transaction cost of mobile payments services						
ix.	Using mobile money for my transactions is not expensive	5	4	3	2	1
x.	Mobile money registration is free of charge	5	4	3	2	1
xi.	Mobile money transaction cost is acceptable compared to alternatives	5	4	3	2	1
xii.	Mobile money helps me save time	5	4	3	2	1
Accessibility of mobile payment services						
xiii.	Mobile money opens at convenient times always	5	4	3	2	1
xiv.	Mobile money services network is always available to access for transaction payment	5	4	3	2	1
xv.	If I lose my mobile phone, I will not lose my money as well	5	4	3	2	1
xvi.	There is a low risk of other people tampering with my personal information during the transaction	5	4	3	2	1

Adoption of mobile money transaction services effected the growth of SMEs businesses in Tarkwa Nsuaem Municipality

18. How profitable has your business become after you adopted mobile payment services?
    i.   Yes adoption of mobile payment services for my business transaction has increased my revenue and profit margin   [ ]
    ii. No adoption of mobile payment services for my business transaction has reduced my profit margin due to the cost per transaction   [ ]
    iii. The adoption of mobile payment services for my business transaction has neither increased my profit margin nor reduced my profit margin   [ ]
19. Has adoption of mobile payments for business transactions affected your sales turnover?
    i.   To a very large extent
    ii. To a moderate extent
    iii. Neither increased nor reduced sales turnover
    iv. Note sure of the impact
20. Has mobile payment for business transaction affected prompt payment of credit sales/purchases?
    i.   To a very large extent
    ii. To a moderate extent
    iii. Neither increased nor reduced prompt payment of credit sales
    iv. Note sure of the impact

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