UNIVERSITY OF GHANA

THE IMPACT OF MOBILE MONEY SERVICES ON SMALL AND MEDIUM SCALE ENTERPRISES (SMEs) IN TEMA MUNICIPALITY

BY

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DECLARATION

I hereby declare that this submission is my own work and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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DATE
CERTIFICATION

I hereby certify that this long essay was supervised in accordance with the procedures laid down by the university.

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KOFI A. OSEI, PhD                      DATE

(SUPERVISOR)
DEDICATION

I dedicate this long essay to my lovely wife, Akua Mensah Bonsu for always believing in me. I love you so much.
ACKNOWLEDGEMENT

I will like to thank God Almighty for His immense blessings and protection upon my life throughout my stay here at UGBS.

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ABSTRACT

Small and Medium-sized Enterprises (SMEs) “in the developing world are increasingly deploying the use of mobile payment systems to enhance the quality of their services and increase growth. The pace of transformation in the SME sector has caused more micro businesses realizing the potential of using the mobile money services or mobile payment systems in their service delivery. However, there are only a handful of studies on the application of mobile money service for success and growth on SMEs”.

The study “aimed at investigating the success factors attributable to the use of mobile money service by SME operators. The study employs the Unified Theory of Acceptance and Use of Technology (UTAUT) which was extended to include other factors to help in predicting the success and growth in SMEs. The study is based on a case study conducted through administration of questionnaires. The data was collected from a sample of 100 SME entrepreneurs in Ghana, particularly in Tema. Analyses of the data revealed that performance expectancy (productivity), effort expectancy (ease of use) of the money mobile service plus its social influence, accessibility, cost, support (facilitating conditions) and security (trust) factors were related to behavioral intention to use and actual usage of the mobile money services by the micro businesses to enhance their success and growth. As part of the success factors, the use of mobile money service by SMEs operators makes them more productive, saves them time, is easy to use, is less expensive compared to banking transactions, need little skills and enable them to accomplish their tasks quickly. Also, the study revealed that the use of Mobile Money Service by SMEs operators is influenced by people, society and the customers they transact with. Also, the study revealed an association between the actual usage of mobile money service and the growth of SMEs. This growth can be seen through the expansion of the small SMEs from a single person run business to multiple employees and to a large enterprise with several branches. Promotion of efficiency in micro transaction or payments, growth in profit in business and finally making transactions faster, cheaper and more secure”.

This “study serves as a guide to players in the mobile money industry to develop a service which is robust, useful, easy to use and create a competitive environment that meet the needs and expectations of micro businesses. Also, this study provides motivation in developing marketing which focuses on these factors and provides reasons why SMEs intent to adopt the mobile money service”.
CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Mobile money is at the crossroads of mobile communications and financial services, its power in distribution and marketing is disguised under a façade of technology. It is, without doubt, disruptive to the business of incumbent financial services providers and has the potential to foster broad transformation through improved efficiency and simplified access. In Ghana, the mobile money wallet is mainly used to transfer value from one person to another person (P2P), for payment of goods and services such as buying airtime, paying for utility bills, Gold and DSTV bills, salaries of some workers, taxi fares, micro-credit, savings and micro-insurance (PSD 2016).

The Bank of Ghana in 2016 reported that mobile money volume of transactions registered a growth rate of 737.4 per cent from 2012 to 2016. The marked increase in mobile money usage is not unique to Ghana. Nigeria, Kenya, Uganda, and South Africa also registered significant growth in mobile money transactions (Diniz, Albuquerque & Cerney, 2011).

Emergence of mobile money services in the financial market is playing a critical role in economic development. Porteous (2006) asserts that the success of the new technology requires an enabling environment such as a working mobile money ecosystem requires a concerted effort from many players in the market (Jenkins, 2008). In Africa, the adoption rate of mobile money is high. Initially, focus on determinants to use mobile money aroused concern on the social and economic variables (Litondo & Ntale, 2013). More interest on the economic impact on
performance triggered a number of studies conducted on microenterprises indicating positive benefits for those who use it to carry business (Kwakwa 2012; Donner 2007).

The growth of mobile money services can be perceived to be a blessing to SMEs, which otherwise could not be served well by commercial banks (Mararo, 2018). It is possible for banked individuals to access their accounts through their phones. Mobile money services are being expanded and now reach rural areas. The ideal it provides has also enhanced the use of the platform to carry out various transactions that can be offered through banks or registered agents. The person who makes payment and the person who receives the payment are linked together with the existing framework. Mobile phones enable both communication and financial transaction processing. The new technology does not only cover local transaction, but also international transactions (Bangens & Soderberg, 2011).

1.2 Problem Statement

The majority of the SMEs in Ghana operate in the informal sector with most of them being sole proprietorships or family businesses usually employing less than five persons. They are involved in small semi organized and sometimes unregulated activities that are mainly concentrated in urban as well as in some parts of rural areas. The business functions are usually conducted by the owner/manager in market stalls, open-yards, and residential houses and on undeveloped open grounds. Many of these micro business operators do not have bank accounts while those who do, find the bank accounts cumbersome to operate as they have to leave their businesses unattended in order to conduct transactions in a bank. As a result, the mobile money services have become popular both for the unbanked and the banked. The adoption of the mobile money services has been accelerated by the relative affordability of mobile phones and the mobile banking services they offer.
Among the stakeholders interested in mobile money, policymakers and regulators are in a good position to drive change. When it comes to financial inclusion, mobile money appears very promising as it addresses the problems of cost and proximity, both of which contribute to the staggering figures of financial exclusion (Lewis, Villasenor, & West, 2017). When it comes to financial integrity however, mobile money seems less appreciated. Some worry that mobile money can be damaging to financial integrity as it increases the velocity of transactions.

Review of several existing studies on the phenomenon reveal that most of these studies were conducted in developed countries (Taga and Karlson, 2004; Porteous, 2006; Hughes and Lonie, 2007; Jenkins, 2008; Donavan, 2011) and thus may not reflect the impact on how it benefits business environments and in particular the micro businesses in a developing country like Ghana. Therefore, substantive research on the impact of mobile money services and its benefits to SMEs who are among those who use mobile payments systems particularly mobile money service, in Ghana is needed. So far there has been no clear insight into the role that micro payments play in the development of micro-business. This implies that technology providers, government agencies and development partners may not address the required interventions and there is therefore a need to examine the contribution of mobile money service on micro businesses and the impact on their growth. Also, the owners of the Small and Medium Scale enterprises in Ghana need to fully understand the entrepreneurial impact of this new technology on their business so as to cope with the increasing developments in the mobile money services and the challenges in the micro business operating environment. The choice and use of technology in micro business is dependent on how well it is likely to contribute to the growth of businesses.

As a result, this study investigates the potential of mobile money service as a means to achieve financial inclusion in the Tema Municipality.
1.3 Objectives/Aim/Research Questions

General Objective

The general objective of the study is to investigate the impact of mobile money services on the growth of SMEs in the Tema municipality.

Specific Objectives

1. To examine the awareness and use of mobile money services among SMEs in the Tema Municipality
2. To examine the factors that account for the mobile money service fast acceptance and usage among the micro business operators.
3. The effect mobile money service usage on growth of Small and Medium Scale enterprise.
4. To identify the challenges associated with mobile money services among SMES in the Tema Municipality.

Hypothesis

Hypothesis 1: Performance expectancy has a positive and significant relationship with behavioral intention to use mobile money service by SMEs.

Hypothesis 2: Effort expectancy has a positive and significant relationship with Behavioral intention to use mobile money service by SMEs.

Hypothesis 3: Social influence has a positive and significant relationship with Behavioral intention to use mobile money service by SMEs.

Hypothesis 4: Facilitating Condition has a positive and significant relationship with Actual usage of mobile money service by SMEs”.

Hypothesis 5: Perceived cost has a positive and significant relationship with behavioral intention
to use mobile service by SMEs.

Hypothesis 6: Perceived trust has a positive and significant relationship with Behavioral intention to use by SMEs

Hypothesis 7: Behavioral intention to use mobile money has a positive and significant relationship with the actual usage of mobile money service by SMEs.

Hypothesis 8: Actual usage of the mobile payments positively impacts on the growth of microenterprises.

1.4 Significance of Study

Financial inclusion can present a number of benefits to various stakeholders like the community, policy makers, and financial institution.

SMEs

If followed, the recommendations of this study can assist in helping SMEs to take advantage of the benefits associated with the use of mobile money services, if any.

Policy makers

This study can assist policy makers to develop various strategies that can assist in addressing the challenges and prospects of mobile money services across industries. With careful consideration given to benefits and challenges of mobile money, a plan for financial inclusion can be developed to benefit SMEs and other stakeholders. Financial services develop independence and build economic equality by giving people the ability to actively participate in their communities and countries.
Financial institutions

Financial institutions can adopt policies and implement projects that can increase their coverage by utilizing mobile money or mobile technology. Cost minimization has always been important to financial institutions. This study offers recommendations that can be adopted to ensure that financial services are provided for those outside the formal banking system without compromising on the cost that is associated with providing physical infrastructure in the various communities.

Academia

This study can be a source of literature for all those who want to conduct further research on the impact of mobile money services on SMEs. The further studies recommendation can also be taken on by other researchers in order to enlarge the scope of the study on mobile money services in the country.

1.5 Overview of Chapters

The research is grouped under five (5) main chapters. The first chapter, the introduction, gives a general outlook of the study. It introduced the main concepts under study, coupled with the problem that needs to be addressed and the objectives and questions among others. The second chapter, which contains the literature review, reviewed existing literature related to the concept of the influence of mobile money service and growth of SMEs in Tema. The methodology that was used to conduct the study was stipulated in chapter three captioned “methodology”. The fourth chapter dealt with the presentation and analysis of the results gathered. Chapter five discussed the result by comparing them with the secondary data and conclusions of other authors.
that have been reviewed. Lastly, it includes the summary and conclusion of the major points of the study and from it, make recommendations to appropriate stakeholders.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks at the review of relevant literature, theoretical framework of the study, and defines key concepts and mobile money service. Additionally, it takes a look at the key drivers of mobile money service, the mobile money ecosystem, involving diverse set of stakeholders from both mobile phone operators. Further, it looks specifically at SMEs in Tema.

2.2 Small and Medium Scale Enterprises in Tema

The use of payment methods through mobile phones have been the most recent development in Ghana and have revolutionized how business is conducted among the small-scale businesses. Hence, microenterprises in Tema have embraced the use of mobile money services in their operations. They view this mode of payment or transaction as an easier form of cash delivery to their suppliers and business partners, a system which is relatively affordable, personal and can be used anywhere and at any time. Currently, because there are more people with mobile phones, proprietors of microenterprises prefer using mobile banking and mobile payment services across the country than with bank accounts (Porteous, 2006).

Most of the Small and Medium enterprises in Ghana operate in the informal sector with most of them being sole proprietorships or family businesses usually employing less than five persons (Bampoe, 2015). Majority of the micro-businesses in Tema are involved in small semi-organized and sometimes unregulated activities and the business functions are usually conducted by the owner/manager in market stalls, open-yards, residential houses and on undeveloped open grounds. Under the Company Act 179 of 1963, these businesses are required to be registered and
licensed by the Registrar General and given the needed permit by the Tema Metropolitan Assembly (TMA) that is the area where they operate from but many of them are not registered. However, several of these Small and Medium Enterprises do not have bank accounts while those who do, consider the bank accounts cumbersome to operate as they have to leave their businesses unattended in order to conduct transactions in a bank.

Since the launch and active use of mobile money transfer system in Ghana from 2011, the mobile payment system has become popular with both the banked and the unbanked population. Micro-business operators in Ghana particularly, Tema have adopted the use of the mobile money services as a way of transacting their business because of the relative affordability of mobile phones and the mobile payment services they offer. Several transactions are conducted through the use of mobile money service such as paying suppliers for goods and services, paying bills, sending money to friends and relatives, withdrawing cash and topping up airtime accounts. According to Tobbin (2012), micro-businesses and sole proprietors in Ghana benefit hugely from the mobile phone revolution as they are able to make savings and gain access to more customers and new services.

Further, owners of Small and Medium Enterprises are able to transact payments directly with their customers and suppliers through a mobile phone in the palm of their hands without necessarily going through a bank and without having to leave their business premises (Tobbin, 2012). This is beneficial because all it requires is for one to have a mobile phone and basic literacy to operate the phone. According to Elder and Rashid (2009), other benefits derived from mobile money services are; Swiftness in transacting money transfers and accessibility to wireless system that does not rely on physical infrastructure which allows a larger part of the population to participate in business transactions. These benefits and features bring considerable
convenience to business operations. Also, agents of mobile money service providers’ are well distributed and easily accessible to the micro-business owners for support of their services in Tema. Additionally, owners or operators of small and medium enterprises find it easy to control their mobile phone accounts as they can access their accounts at any time.

Therefore, this study looks at the factors that account for the mobile money service acceptance among the owners of small and medium scale enterprises and effect of the mobile money service on micro business operators. The research applies the extended Unified Theory of Acceptance and Use of Technology (UTAUT) to get a better understanding of the micro business entrepreneurs’ behavior of using the mobile money technology to influence the micro business growth.

2.3 Underlying Theory

2.3.1 The Unified Theory of Acceptance and Use of Technology (UTAUT)

Several models have been employed in research in the area of acceptance, use, and adoption of Information Technology (IT). However, Venkatesh et al. (2003) posited the latest which is the Unified Theory of Acceptance and Use of Technology (UTAUT). UTAUT was developed through review and combination of constructs from eight popular technology adoption theories. The eight theories according to Venkatesh et al. (2003) include “the Motivational Model (MM), the Theory of Planned Behaviour (TPB), Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT), combined theory of Planned Behaviour/Technology Acceptance Model (TPB/TAM), and the Model of PC Utilization (MPCU)”.

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Venkatesh et al. (2003) drawing from the above theories suggested four core constructs of UTAUT that “are direct determinants of technology acceptance (behavioral intention) and use (behavior)”. The constructs are “Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions”. However, the effects of these four constructs were moderated by four other variables: “age, gender, experience and voluntariness of use” Venkatesh et al. (2003).

Validating UTAUT, it was found out that the theory “explains 70% of the variation in usage intention of technology greater than each of the eight previous models and their extensions”. Hence, according to the theory (UTAUT), “performance expectancy, effort expectancy and social influence are the three main factors that influence the intended use of information technology (IT)”. However, the behavioural intention to use a technology according to the theory has influence over the actual behavior based on the enabling or facilitating conditions. Hence, facilitating conditions (i.e. fourth construct) directly links actual use of the technology (Venkatesh et al., 2003).

Since its introduction, several studies have been conducted using UTAUT. Prior to the introduction of the UTAUT, it was noted that researchers selected constructs from various theories or apply all the constructs from a particular model of interest (Venkatesh et al., 2003). Given this, the aim behind the UTAUT theory was to arrive at the unified view to clarify or further explain users’ intentions to adopt mobile money service and subsequent behavior intentions (Venkatesh et al., 2003).

The Unified Theory of Acceptance and Use of Technology (UTAUT) has been empirically verified in many organizational contexts, for instance in educational institutions (e.g. Birsch and
Irvine 2009; Akbar, 2013); government bodies or agencies (e.g., Zhan, Wang and Xia, 2011); healthcare facilities (e.g. Mahboh Hamidfar, 2008; Venkatesh, Sykes and Zhang, 2011).

Table 2.1: Definitions of the constructs

Performance Expectancy: This construct measures the usefulness of a system (e.g. mobile money technology) in carrying out users’ daily activities (Venkatesh et al., 2003).

Effort Expectancy: Effort expectancy refers to “The degree of ease associated with the use of the system”. It resulted from a combination of constructs from three existing theories which are TAM/TAM2 (ease-of-use), MPCU (complexity) and IDT (ease of use) according to (Venkatesh et al., 2003).

Social Influence: “The degree to which an individual perceives how important others believe they should use the new system” (Venkatesh et al., 2003). Further, according to Venkatesh et al. (2003), it is a combination of constructs from TAM2, TPB/DTPB, TRA and C-TAM-TPB; also social factors in MPCU and IDT.

Facilitating Conditions: “The degree to which an Individual believes that organizational and technical infrastructure exists to support the system”.

Behavioral intention: According to Venkatesh et al. (2003), it is the intention to effectively use a future product or service by the user.
Figure 2.1: Graphic of UTAUT

Extended Variables

**Perceived trust**: “Perceived trust is defined as a measure of the customer’s level of assurance that a service will be provided with minimum possible hindrance” (Tobbin, 2010). Customers need to have a belief that the network is reliable (i.e. Mobile banking service) just as any other business transactions require an element of trust. To become a viable unit of doing business Mobile Banking transfer should overcome user distrust (Siau et al, 2003).

**Perceived financial cost**: Is defined as “the extent to which a person believes that using mobile banking will cost money” (Luarn and Lin, 2005). Also, economic motivations and outcomes are key when it comes to studies of information systems acceptance (Luarn and Lin, 2005). Transaction costs should be low to make the total cost of the transaction competitive. The cost of the mobile payments should be affordable to most of the micro business operators and far below what the banks normally charge for their comparable bank transactions.
2.4 Conceptual Framework

This research employed six independent variables comprised of core constructs from UTAUT (i.e. Social influence, Effort expectancy, Performance expectancy, facilitating condition) and borrowed few constructs from other theories such as Perceived trust, and Perceived cost. The dependent variable for the model was Growth of SMEs. Based on this a conceptual framework was developed for the study as shown in figure 2 below. Accordingly, six hypotheses are formulated to address the research problems and objectives. The focus on the study is aimed at testing the influence of factors mentioned earlier on the Growth of SMEs towards mobile money service adoption. The Hypotheses of this study are as follows:

![Conceptual Framework Diagram]

Figure 2.2: Conceptual Framework

2.5 Mobile Money Service

The mobile money service concept became popular from the perspective of the mobile industry when there were few scholarly works done on the phenomenon. Recent literature reviews reveal
that the majority of literatures that exist on mobile money based on cases from the developed world, with less or hardly no literature on mobile money service as a tool for development (Diniz, de Albuquerque and Cernev, 2011). According to Maurer (2012), the mobile money payment service was first established after the first mobile money service summit in 2008. Further, Tobbin and Adjei (2012) referred to it as a “set of financial services facilitated through mobile phones or mobile devices”. Tobbin further defined mobile money service “as money that can be accessed and used via mobile phone” (Tobbin, 2010).

Domestic and international services such as “person-to-person” transfer of money, retail transactions such as payment of bills, payment of credit units known as phone top-up and mobile banking are the major services offered under the mobile money service (Dermish, Kneiding, Leishman and Mas, 2011; Kirui, Nyikal and Okello, 2012). Further, the above-named services has the potential of transforming mobile devices into a business tools by replacing or complementing existing services such as ATM, banks and credit cards (Smutkupt, Krairit, and Esichaikul, 2010).

Gencer (2011) categorized “mobile money” service into three categories of “financial services as mobile finance, mobile banking and mobile payments. Mobile finance includes credit, insurance and savings services. Mobile banking can be transactional or informational whereas Mobile payments range from payment made from person-to-person, customer to business, government-to-person, and business-to-business”. He further stated that traditionally, these categories of financial services were carried out by microfinance institutions or commercial banks. All the Mobile money operators (AirtelTigo, Mtn and Vodafone) have the capabilities of offering these various services.
In order to meet customer transaction needs, for example bill payment, salary payment, local and international remittances could be included in mobile money service (Kirui, Nyikal, and Okello, 2012). Financial analysts see these additional features as trying to provide services to capture the unbanked. Customers are now able to pay fees for their children, utility bills (electricity and water, digital television), and other services with the help of mobile money services as such, the utilization of the service to pay bills is gradually gaining momentum.

The rapid growth in the use of mobile phones is said to have started since 1999 (Ludewig, 2010). Mobile phone enabled commerce (m-commerce) or services may have started prior to 2000. This was championed by Coca Cola through its mobile phone enabled Coca Cola vending machines and also the introduction of mobile phone banking services in Finland. Others are the launch of SMART money in Philippine in 1999 (Park, Ungson and Francisco, 2017).
However, the phenomenon (mobile money technology) began to spread to several other countries by the year 2000 (GSMA). In 2004, “GLOBE Telecom launched G-CASH” (Ndiwalana, MORAWCZYNSKI and Popov, 2010) while in India Bharti Airtel launched its mobile money transfer pilot project in 2007 (Bosi, Celly and Joshi, 2011).

In Africa, circa 2009 mobile enabled commerce started when a grant was given to Safaricom by GSM to facilitate the development of a social transfer payment project. Vodafone then developed M-PESA and was deployed in Kenyan by Safaricom which is its affiliate. After, its deployment in Kenya, M-PESA recorded a customer base of over 15 million in May 2012 (GSMA).

2.6 Key Drivers

In the developing countries the key drivers of the service can be attributed to the rise in local and foreign payment services and easy access to financial services to the population of the unbanked (Jack and Suri, 2011). The most significant achievement of the phenomenon is the one to one money transfer and the provision of banking services to the unbanked (SSONKO, 2011). Using Safaricom's mobile money services in Kenya (M-Pesa) for an example, in its “initial usage, it was characterized by person-to-person money transfer from the urban workers to their families in the villages” (SSONKO, 2011; Morawczynski, 2011). Also, according to Maurer (2012) in the Philippines, over two million people utilized Globe GCASH to remit money to family members on remote islands.

Also, fast expansion of telecommunication infrastructure in the developing or emerging markets especially in the cities meant most areas were being covered. In areas where it was not considered economically viable to build retail banks, mobile operators and their distribution channels have been able to easily expand and provide access to financial services to these previously underserved individuals. Finally, the instantaneous delivery when consumer
purchases an electronic value (e-value) gives customers’ the confidence in the use of mobile money service.

2.7 Mobile Money Service and Demographic

Demographic profiles often considered in a research include personal attributes (e.g. gender, occupation, marital status, income, age and household structure). Extensive research has been carried out in area of socio-economic characteristics and consumer behavioural intentions relationship on technology adoption (Cadwallader, Jarvis, Bitner and Ostrom, 2010; Lim and Park, 2013). In a study by Deng, Lu, Wei, and Zhang (2010) they profiled the “socioeconomic characteristics of mobile phone laggards”. Also, in the study by Al-Majali (2010) examined “the demographic characteristics of early adopters of mobile commerce compared to non-adopters”.

An individual’s educational level was found to have a direct relationship with the level of their resources, as a result influences their ability to adopt new technological innovations and also experiment (Peng, Zhu, Tong and Jiang, 2012). The impact of the age and income variables on innovativeness has come out with mixed outcomes from innovation diffusion studies. On one hand it was found that there is no significant effect of income, age and education on the adoption of an innovation (Steenkamp, and de Jong, 2010) whereas other literatures reported a positive correlation (Rogers, 1995; Ahlstrom, 2010). A consumer innovativeness study carried out country wide found that “five demographic variables of age, education, income, gender and mobility are major determinants of innovativeness of the consumer” (Baković, Lazibat and Sutić, 2013).

Additionally, studies reveal that consumers who are innovative are generally better educated and younger in age as compared to the mass of people (population). It also revealed that such people earn higher incomes and have better occupational status with the majority being females
compared to men (Rogers 1995). However, a negative correlation was revealed between age and consumer innovativeness in some literature (Kumar and Uzkurt, 2011; and Steenkamp, and de Jong, 2010).

In the largest survey on M-PESA carried out in Kenya on 3,000 randomly selected households the selected sample covered 92% of the entire Kenyan population (Jack and Suri, 2011). Additionally, the study revealed variations between adopters and non-adopters, early adopters and late adopters were respectively found. It was also revealed that significant difference did not exist between the gender of users; however, the adopters were seen to be more literate than the non-adopters (Jack and Suri, 2011). Also, the study found out that the early adopters of the M-PESA was more financially sound and literate compared to later adopters. In a similar study, a survey conducted between 2006 and 2009 to investigate micro-level data at Finaccess, revealed that people who often used M-PESA were mainly educated, urban dwellers, affluent and banked (Mbiti and Weil, 2011).

2.8 The Ecosystem of the Mobile Money Service.

Basically, either a mobile network operator, traditional banking institution or other third-party service provider are capable of delivering mobile money service, however, key to the business model is Mobile Network Operators (MNOs) (Tobbin, 2011). Therefore, this research is limited to the provision of financial services using MMS via MNO to the unbanked. Mobile phones are central to the mobile money service and extend beyond a technology. According to Donovan (2012), network of agents and merchants provide necessary payment infrastructure that facilitate users to cash-in and cash-out as a requirement for MMS. Below is a figure that displays the ecosystem and the key actors involved in mobile money service. The reason for the various actors in the mobile money ecosystem is because of the intersection between the
telecommunication and financial industries. In urban areas for example banks are seen to act as agent though the mobile operator's distribution agents’ exist. There are two regulators that are involved in the implementation of mobile money service in most countries; that is the financial regulator and telecom regulator due to the convergence (Merritt, 2011). Their major aim is to create and implement policies to provide competitive environment to protect consumers through enhanced service delivery. However, it is important to note that the key success of mobile money in Kenya (M-PESA) was also because of the absence of strong regulations from the beginning (World Bank, 2012). The advancement of the mobile commerce market requires new regulations to bridge gaps in the legal and regulatory frameworks and this according to Merritt (2011) will help protect consumer/ users and build trust as well as integrity in the mobile money service.

### 2.8.1 Mobile Network Operator (MNO)

MNOs play a key role in the MMS ecosystem and are said to be the custodians of the telecommunication assets and capabilities such as; “wireless communication, backend mobile commerce and application servers and the mobile device application” (Merrit, 2010). Per their role in the ecosystem, several distribution channels are created with the responsibility of selling to subscribers and pre-paid credit and these channels are far reaching than financial institutions branches could cover. Also, in any location where mobile coverage is, a representative (agent) of the distributor is available who sell prepaid cards. In the ecosystem “ability for MNOs to reach customers across all income

![Figure 2.4: Mobile Network Operators](source: Tobbin, 2011)
segments gives them the competitive edge to be key players in the mobile money ecosystem” (Jenkins 2008). However, the customers are said to belong to the mobile network operator. Further, Jenkins (2008) and Tobbin (2011) claimed that the mobile network operators provide customer service desk for their customers and training for their agents in dealing with the customers.

### 2.8.2 Distribution Channels (Agents)

In the mobile money service ecosystem, the primary contact with customers is facilitated by the distribution channels through their agents. The distribution channels are mostly either the MNO’s own retail center responsible for customer registration or the cash-in or cash-out services done on behalf of the MNO (Jenkins, 2008; Tobbin, 2011). Also based on their interaction with the customers they are able to gain knowledge and understanding and develop mobile money services to meet customer expectations. Primarily, the MNOs were expected to use their distribution channels, as reseller of airtime, as the main agents of mobile money, however, in recent implementations, general retailers have also been added to the pool as agents. Per the mobile money services rendered by agents the agent earns commission and though the commission on each MMS may appear insignificant, through the large volume of transactions, a substantial amount can be generated by agents thereby supplying them with significant commission. According to Jenkins (2008) existing retailers (agents) enjoy some benefits by not carrying huge cash to banks hence aid in reducing risk.

### 2.8.3 Financial Institutions (Banks)

Financial institutions provide primary function for payment systems and mechanisms to store value and add up to the ecosystem with their known experience in customer service and trust especially in handling money. Additionally, the banks are responsible for issuing out licenses
and keeping their customers money in trust accounts and also the merchants and distribution channels and their agents use the branch offices as collection point for financial transactions. The banks also play a key role as intermediary between the MNOs and the agents in acquiring e-value. For merchants, to facilitate their financial transaction from its electronic float account to its existing account, a link is provided by the banks to their accounts. Conversely, in the facilitation of the operations of the MNOs, the banks provide online banking integration to the m-commerce system. Financial institutions are the only institutions mandated to deal with foreign remittances and transaction. Finally, according to Jenkins (2008), the MNOs also benefit financial regulatory advice from the banks.

2.8.4 Merchants and Utilities

The merchants and utilities play a vital role in the mobile money service adoption. They are widespread and made up of retail shops, online shops, lotteries, and general goods and service providers etc. These adopt the mobile money service to facilitate payment from their customers. For example, in Ghana, Ghana Television (GTV), Ghana Water Company Limited (GWCL) and Electricity Company of Ghana have allowed for payment of utility services through Mtn, Vodafone, and AirtelTigo mobile money. Customers of these merchant purchase the equivalent e-value from their respective agent to pay their merchant which is done by transferring into the merchant’s account. The MMS also makes provision and allows customers with e-value on their mobile phone to make payments relieving customers from queuing for hours just to pay utility bills. This provides convenience for customers and also security and facilitates the swiftness of transaction between the customers and their merchant. They contribute enormously to the increment in the customer base of the MMS ecosystem and they also help to promote the mobile money services. Consequently, the adoption and use of MMS service will drastically reduce the
cost of making payment and its processing. In addition, customer convenience and timeliness of the payment can be assured and according to Jenkins (2008) would result in an increase in the merchants customers.

**2.8.5 The Regulators**

The regulators play a key role in formulating policies and regulations for the continuous survival of the mobile money ecosystem. With their experience and understanding, regulators are able to coordinate the various industries involved in this ecosystem. Through their role as regulators, they provide a congenial environment creating a balance among value creation, efficiency, innovation, financial inclusion and prudence. Additionally, the responsibility of regulators is to ensure that there is compliance with the regulations and also referee between competitors. According to Tobbin (2011) the role of the regulators spans across the various players of the mobile money ecosystem. The Global System for Mobile Communication Association (GSMA) has drafted guidelines on developing a regulatory framework for mobile money transfer, noting that mobile money service operators lack experience in payment regulation. The report is aimed at explaining potential regulatory solution for mobile operator payment services (GSMA 2013).

**2.8.6 The Customers**

In the ecosystem the customers are the end users of the mobile money service and they come along with various needs which can be considered as opportunities. According to Tobbin (2011) the success or failure of the ecosystem depends on customer behaviour towards the mobile money services. Hence, it is important that customers’ and that their needs are met by mobile money services. However, Jenkins (2008) claimed in his literature that some constraints to be aware of are the lack of financial literacy and cultural resistance towards new technology.
2.9 Mobile Money Service Process

The mobile network for the mobile money service is based on a client/server system and made up of interconnected systems. The SIM card, hosts the client application which is a chip that identifies the client mobile phone number, connected to m-commerce server of the MNO. If a service is activated by the client, the application uses an SMS protocol to connect to the MNO’s network and to gain access to the m-commerce server to facilitate communication. A typical MMS will usually involve these various four steps:

1. Registration
2. Cash-in
3. Transfer and
4. Cash-out

Step 1: The Registration Process

To start the use of mobile money service, a one-time registration process has to be completed before it can be used by an adopter. The registration process is a short process typically done by filling an application form; the customer visits an agent and is assisted through a registration process at virtually no cost. The agent verifies the identity of the customer either by their national ID, Health insurance card, driver’s license or other accepted form of identification, then registers the customer temporarily on the MNO’s m-commerce server using the agent’s phone. The m-commerce server sends an SMS confirmation back to the customer after the creation of an m-wallet. A secret PIN is chosen by the customer that becomes his code to be used for all future transactions. Finally, the completed application form is sent by the agent with the proof of the verification to the MNO then create the mobile wallet.
Step 2: Cash-in Process

The cash-in process involves the purchase of “electronic money (e-value)” into the mobile money wallet. For a customer to deposit money in the wallet, the customer purchases an equivalent e-value from the agent. It is transferred by the agent’s special SIM mobile phone to the customer through the m-commerce server. As part of the process, communication is established between the agent’s mobile phone and the m-commerce server. This is done through “an encrypted SMS sent from the agent’s mobile phone to the m-commerce server, requesting for, the transfer to be drawn between the two accounts” (Bampoe, 2015). Finally, an encrypted SMS is also sent to the customer to confirm the transaction.

Step 3: Actual Transfer Stage

The customer is able to initiate a transaction or transfer from a smartphone or basic phone driven by standard software installed on all mobile phones that makes it easy to use, secured and saves costs (Hughes and Lonie, 2007). Using the menu, the customer can then transfer the e-value amount from the mobile wallet to the mobile wallet of the recipient. Instantaneously, an encrypted SMS is sent to the m-commerce server from the sender including an instruction to transfer the required amount to the recipient.

Additionally, checks are done to verify if the funds are available on the customer’s account on the m-commerce server where the instructions are carried out. The customer’s account is then debited with the amount including transaction charges if it applies and then the recipient receives payment. Both the sender and the recipient receive a confirmation through an encrypted SMS. The technology platform primarily used by most mobile money service implementations is either Universal Subscriber Identity Module (USIM) or SIM Toolkit (STK) application toolkits,
however, according to Camnar and Sjöblom (2009) other platforms exist like Unstructured Supplementary Service Data (USSD) used by Vodacom in Tanzania. The four basic steps used by the customer to transfer the money is illustrated in Figure 5. Confirmation of the transaction follows in which the recipient receives an encrypted text to inform them about the transfer and confirms the recipient’s new account balance in the m-wallet.

Step 4: Recipient Cash Out

The fourth step involves the process of the recipient visiting the agent to withdraw the e-value that was transferred. However rather than cashing out, the recipient might decide to either use it to make payments, or leave it in the account (store of value) for a period.

![Figure 2.5: Mobile Money Transaction](image)

2.10 Research Analysis Gap

There have been several studies carried out in the field of IT/IS to ascertain the impact of mobile money service on small and medium scale enterprises (Mbogo, 2010; Mararo, 2018; Nyaga, 2013; Tobbin, 2012). However, most of this research or literatures have focused on the use of other theories such as the theory of Entrepreneurship and Innovation Theory (EIT), Innovation Diffusion Theory (IDT) but predominantly used is the Technology Acceptance Model (TAM)
with little or no evidence of any using the UTAUT theory holistically. This however, creates a theoretical gap which needs attention; this study therefore intends to fill the theoretical gap by employing almost all the constructs and almost all the moderating factors.

Another gap identified is the geographical gap in literature. Most of the existing literature from the developing countries looked at phenomenon from a wider perspective (on a national level). This study also seeks to fill the geographical gap by considering the influence of Mobile Money Services on Small and Medium Scale Enterprises (SMEs), hence using Tema Municipality as a case study.

2.11 Review of literature on methods of Data Analysis

Tumaini (2016), conducted a study on “The impact of mobile money services on the growth of micro, small and medium enterprises in Nkasi district council”. The study research approach used was quantitative. In the analysis of data, both descriptive and quantitative analysis were conducted and information collected from micro, small and medium enterprises in Nkasi District were presented in a form of numbers, frequencies, percentage or descriptive statistics. Data was entered into a computer program for analysis by using Statistical Packages for Social Sciences (SPSS) Version 16.0. Questionnaire was organized by coding them for analysis. STATA 09 was also used for the data analysis, the study had adopted logistic model to analyse the variable since the regressed is binary choice that is mobile money services increase growth of MSMEs. Moreover, the logistical model is easy in computations than other limited dependent variable models such as probit and linear probability model; that is why logit model is often used as a substitute of probit model (Pindyck and Rubinfeld, 1991).

Similarly, Mararo (2018) in a study on the “Influence of Mobile Money Services on The Growth of SME in Nakuru Town Kenya” used a quantitative research approach and a survey as the
research design. The collected data was analyzed by both descriptive and inferential statistics with the aid of the Statistical Package for Social Sciences (SPSS) version 24. Descriptive analysis involved frequencies and percentages for demographic data of respondents. In addition, means and standard deviations were employed across all variables (independent and dependent variables). Inferential statistics in form of correlation and multiple regression analyses were employed. The study used the t-test to test the hypotheses at 95% level of Confidence ($\alpha=0.05$). In addition, coefficient of determination ($R^2$) was used to test the contribution of each independent variable on the dependent variable. The findings of the study were presented in form of statistical tables.

Further, Nyaga (2013) conducted a study on “The Impact of Mobile Money Services on the Performance of Small and Medium Enterprises in an Urban Town in Kenya”. He employed the mixed research approach but primarily used quantitative research approach. Quantitative techniques used in the data analysis included both descriptive methods and inferential statistics. For the analysis, Statistical Packages for the Social Sciences (SPSS) and Microsoft Excel statistical packages were used once the questionnaires were checked for completeness. The researcher validated entries through regular checks to ensure data was recorded accurately. Coefficient of correlation was used to find out whether independent variables of transaction cost, transaction time and convenience, financial accessibility and efficiency, and reliability are correlated with SMEs performance. Multiple regression analyses were used to determine whether the four independent variables had any significant effect on SMEs performance. The qualitative approach which formed a smaller part of the study, was used to analyze the challenges experienced while using mobile money service.
Also, Mararo (2018), in order to assess the impact of mobile money transfer services on the socioeconomic status of mobile money transfer vendors within Kumasi Metropolis, used questionnaire for the primary data collection. Data gathered by the questionnaire were quantitative in nature where the Likert Scale was predominantly used. The data was subjected to statistical analysis and graphs, tables and pie charts were used with the aid of SPSS in the analysis.

Ngahu and Mararo1 (2017) in their study sought to “examine the influence of mobile money services on the growth of SMEs in Nakuru town Kenya. The study examined the influence of mobile payments, mobile finance and mobile banking on the growth of SMEs”. The entrepreneurship and innovation theory introduced and developed by Joseph Schumpeter (1838-1950) was used for the study. The target population included all SMEs in the town. A sample of 100 SME entrepreneurs was used. A close ended questionnaire constructed on a 5-point Likert scale was used for data collection. Data was analyzed using Statistical Package for Social Sciences (SPSS). Analysis was done in form of descriptive and inferential statistics. The study employed multiple regression analysis in determining the influence of independent variables on the growth of SMEs.

Mbogo (2010), in his study investigated the success factors attributable to the use of mobile payments by micro-business operators using M-Pesa in Kenya. The study adopted a quantitative research approach and was based on a survey conducted through administration of questionnaires. The data for the study was collected from a sample of 409 micro business entrepreneurs in Nairobi, Kenya. The study adopted the Theory of Technology Acceptance Model (TAM) which was extended to include other factors to help predict success and growth in micro-businesses. Data was analyzed using Statistical Package for Social Sciences (SPSS).
Analysis was done in form of descriptive and inferential statistics (correlations and regression analysis). Findings were presented in statistical tables and discussions.
CHAPTER THREE

METHODOLOGY

3.1 Introduction
Discussion on the methods and techniques employed in carrying out the study in order to answer the research questions to achieve the objectives of the study are presented in this Chapter. This chapter also covers the research setting, research design, the study population, samples size and techniques. It further provides an outline of instruments for data collection. The methods adopted in the administration of the research instrument, data collection procedure and data analysis are also contained in this chapter.

3.2 Research Setting
The Tema metropolis is a coastal district situated about 30 kilometers East of Accra, the capital city of Ghana. It shares boundaries on the North-East with the Kpone Katamanso and Ningo-Prampram Districts, South-West by Ledzekuku Krowor Municipal, North-West by Adentan Municipal and the Ga East Municipal, and the South by the Gulf of Guinea. The Ashaiman Municipal is an in-lock enclave within the Tema Metropolis. The Metropolis covers an area of about 396km² with Tema as its capital and lies within the coastal savannah zone.

The Greenwich Meridian (i.e. Longitude 0°) passes through the Metropolis, which meets the equator or latitude 0° in the Ghanaian waters of the Gulf of Guinea. The proximity to the sea with its low lying terrain which projects into the sea makes it a natural endowment for a harbour. This evidently informed the decision of the construction of the Tema Harbour in 1957, making Tema “the Eastern Gateway of Ghana”. “According to the 2010 Population and Housing Census, the total population of the Tema Metropolitan Assembly was 292,773. This consists of 139,958
males representing 47.8% and 152,815 females representing 52.2%. The 2014 projected population of the Metropolis is pegged at 324,429 persons”. The distribution of the population of Tema Metropolitan area shows that the age group 25-29 recorded the highest population with 11.4 percent whilst 90-94 and 95-99 age groups had the least population which represents 0.1 percent respectively. On average, there are more females than males in the metropolitan with a male-female ratio of 92:100. This means that for every 100 females in the Metropolitan area, there are approximately 92 males. (TMA, 2019).

3.3 Study Design

This study adopts a quantitative research method. Quantitative methods involve the processes of collecting, analyzing, interpreting, and writing the results of a study. Hence, this study used descriptive study design particularly the case study. Yin (2017) states a case study approach is particularly appropriate for individual researchers because it gives an opportunity for one aspect of a problem to be studied in some depth within a limited time scale. Data aggregation, organization and data analysis methods will make it possible to identify patterns and relationships in it that will not otherwise not be visible.

3.4 Study Population

The target population is made up of all the managers and owners in charge of the SMEs in Tema. According to Polit and Beck (2004), population refers to “the aggregate or totality of those conforming to a set of specifications”. Also, Bryman and Bell (2007) defined a population as “the total number of units of the phenomena to be investigated that exist in the investigation area, which are all possible observations of the same kind that a sample is acquired from”. Creswell (2014) observed that, prerequisite to sample selection is to define the study population as narrowly as possible and that the sample selection depends only on the population size and its
homogeneity, as well its cost and the degree of precision required. The study population can then be any size to which a researcher would like to generalize research findings. First and foremost, the choice of Tema metropolis was chosen because the most industrious city or hub in Ghana, and that is where most SMEs are located. There are around 25,000 registered firms in Ghana, and among these more than 80% of them are small and medium sized enterprises and around 55% of them are located within the Greater Accra/Tema region (Nexus Partnerships Limited, 2019). Tema is also the most industrialized city in the country.

3.5 Sampling method

Sampling is described as “observing a part in order to gather information about the whole is an almost instinctive human act” (Corbetta, 2003). Also, according to Anderson (2004) it is a deliberate selection of a number of units to denote a larger population. Hence, the sampling process is required to aid in organizing the study to a controllable size (Saunders et al., 2009).

Sampling techniques can be divided mainly into probability and non-probability sampling techniques. The main distinguishing factor of the two is that, non-probability sampling mostly does not involve random selection while probability sampling does. With this simple difference there might be the confusion as to whether non-probability sampling techniques would give the right representation of the population. Although in some cases this can be true, what it means is that non-probability samples would not rely on the probability theory in terms of analysis or interpretation of data.

A purposive sampling, a form of non-probability sample technique will be adopted to select the managers and/ owners of the SMEs in Tema for the study. Custer sampling will be used to divide the Municipality into the already existing demarcation. From these locations, the study used
purposive sampling to select five SMEs each from the demarcated locations. At each location, a list was made of all the SMEs available with consideration given to years of existence, activity, etc. In total a sample of 100 SMEs was used in the study.

### 3.6 Data Collection Instrument

The study used a questionnaire for data collection. The questionnaire was grouped under four (4) parts; I: Characteristics of Staff and Business II: The awareness and use of mobile money services III: The effect of mobile money services on operations. IV: Challenges associated with mobile money services.

### 3.7 Data collection process

Primary data was collected and used for the study. For the primary data, two weeks was used for the data collection by the researchers. A structured questionnaire for collecting data was used for the quantitative method. The questionnaires were administered by the researchers approaching participants (owners/ managers) at the premise of SMEs. For each of the hundred (100) participants, structured questionnaires were pre-schedule and conducted by the researchers in premise of the SMEs in their various offices. The researchers spent between 10-20 minutes with each respondent. Data was cross-checked on a daily basis to ensure that all the information and questionnaires were intact.

### 3.8 Data Analysis

Inferential statistics in the form of correlation and multiple regression analyses was employed for the analysis on the effect of mobile money service usage on growth of Small and Medium Scale enterprise.
Quantitative techniques used in the data analysis included both descriptive methods and inferential statistics. For the analysis, Statistical Packages for the Social Sciences (SPSS) and Microsoft Excel statistical packages were used.

In the analysis of the socio-demographic data, percentages, frequency, tables and charts was employed.

In examining the awareness and use of mobile money services among SMEs in the Tema Municipality, descriptive statistics was used. That is percentages, and tables were use in the description of the awareness.

Also, before running the test for objective 2 and 3, test for reliability and validity of the factors/constructs as well as the various items under the factors were carried out using Cronbach Alpha test in order to know which items were reliable and valid.

Hence, in order to examine the factors that account for the mobile money service fast acceptance and usage among the micro business operators, Pearson Coefficient of correlation (r) was used to find out whether independent variables of transaction cost, transaction time and convenience, financial accessibility and efficiency, and reliability are correlated with SMEs performance.

For the effect mobile money service usage on growth of Small and Medium Scale enterprise, multiple regression analyses consisting of analysis of variance (ANOVA) was used to determine whether the four independent variables had any significant effect on SMEs performance.

The qualitative approach which formed a smaller part of the study was used to analyze the challenges experienced while using mobile money service. This was done through summary and thematic content analysis.
CHAPTER FOUR

ANALYSIS AND DISCUSSION OF RESULTS

Table 4.1 summarizes the demographic profile of the respondents, there were more female than male respondents (54%, 46%). Seventy three percent (73%) of the sample respondents have been in the business for less than 5 years whereas 22% have been in the business between 5-10 years. Only three percent (3%) and two percent (2%) had been in the business between 11-20 years and more than 20 years respectively. Over 93% of the sample respondents are between twenty-one and forty years old. Six percent (6%) were from 41 and above while 1% was between 15-20 years.

Table 4.1: Socio-Demographic Description

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender of respondents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>46</td>
<td>46%</td>
</tr>
<tr>
<td>Female</td>
<td>54</td>
<td>54%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
<tr>
<td>Number of years in business?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 5 years</td>
<td>73</td>
<td>73%</td>
</tr>
<tr>
<td>5-10 years</td>
<td>22</td>
<td>22%</td>
</tr>
<tr>
<td>11 -20 years</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Over 20 years</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>
### Age of respondents

<table>
<thead>
<tr>
<th>Age of respondents</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-20</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>21-25</td>
<td>29</td>
<td>29%</td>
</tr>
<tr>
<td>26-30</td>
<td>47</td>
<td>47%</td>
</tr>
<tr>
<td>31-40</td>
<td>17</td>
<td>17%</td>
</tr>
<tr>
<td>41-50</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>Over 50</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

### 4.1 Awareness and use of mobile money services among SMEs in the Tema Municipality.

From Table 4.2, on the awareness of mobile payment services by the small and medium scale enterprises owners, from Table 4.2, hundred (100%) answered “Yes” that there were aware of mobile money service. Additionally, on the use of the mobile money service, sixty one percent (61%) have used the money services for over 2 years year while 26% have used the services for between 1 and 2 years. Thirteen percent (13%) have used the service for less than 1 year.

**Table 4.2: Awareness and Duration of Using Mobile Money Service Use**

<table>
<thead>
<tr>
<th>“Are you aware of Mobile Money Service?”</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>“Number of years you have used Mobile Money Service?”</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td>1-2 years</td>
<td>26</td>
<td>26%</td>
</tr>
<tr>
<td>Over 2 years</td>
<td>61</td>
<td>61%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 4.3 shows the results of descriptive statistics. A higher mean value generally means that there is a higher level of measured construct. This study is exploratory in nature and therefore the collected data are further analyzed using Pearson’s Correlation coefficient to measure how variables are related.

**Table 4.3: Descriptive Statistics**

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Expectancy</td>
<td>1.5625</td>
<td>.61789</td>
<td>100</td>
</tr>
<tr>
<td>Effort Expectancy</td>
<td>1.6500</td>
<td>.61648</td>
<td>100</td>
</tr>
<tr>
<td>Social Influence</td>
<td>2.0883</td>
<td>.75599</td>
<td>100</td>
</tr>
<tr>
<td>Perceived Facilitating Condition</td>
<td>2.1592</td>
<td>.68145</td>
<td>100</td>
</tr>
<tr>
<td>Perceived Trust</td>
<td>2.4683</td>
<td>.88365</td>
<td>100</td>
</tr>
<tr>
<td>Perceived Cost</td>
<td>2.1775</td>
<td>.71976</td>
<td>100</td>
</tr>
<tr>
<td>Behavioral Intention</td>
<td>1.7300</td>
<td>.59117</td>
<td>100</td>
</tr>
<tr>
<td>Actual Usage</td>
<td>1.6325</td>
<td>.64300</td>
<td>100</td>
</tr>
<tr>
<td>SMEs Growth</td>
<td>2.1675</td>
<td>.71012</td>
<td>100</td>
</tr>
</tbody>
</table>

Cronbach’s alpha shown in Table 4.4 was used to assess the internal consistency reliability for each of the eight variables. All the constructs in the questionnaire were factor analyzed to validate their reliability. Higher scores indicate more reliability for the measurements. Hair et al (2010) has indicated 0.7 to be an acceptable reliability coefficient but lower thresholds are sometimes used. It should be noted that the reliability of for all the constructs were relatively strong.
<table>
<thead>
<tr>
<th>Performance Expectancy (PE)</th>
<th>Cronbach's Alpha Item</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile money service is useful in my daily activities (PE1)</td>
<td>.851</td>
<td></td>
</tr>
<tr>
<td>Mobile money service enables me to perform financial transactions quickly (PE2).</td>
<td>.812</td>
<td></td>
</tr>
<tr>
<td>Mobile money service saves me tremendous time in order to carry out other activities daily (PE3).</td>
<td>.818</td>
<td></td>
</tr>
<tr>
<td>Mobile money service provides convenience in my daily transactions (PE4).</td>
<td>.808</td>
<td></td>
</tr>
<tr>
<td>Effort Expectancy (EE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is easy and clear for me to interact with the mobile money service (EE1).</td>
<td>.834</td>
<td></td>
</tr>
<tr>
<td>I have the skills to use mobile money service hence it is easy for me (EE2).</td>
<td>.819</td>
<td></td>
</tr>
<tr>
<td>Mobile money service is easy to use (EE3).</td>
<td>.782</td>
<td></td>
</tr>
<tr>
<td>It is easy for me to learn the use of mobile money service (EE4).</td>
<td>.778</td>
<td></td>
</tr>
<tr>
<td>Social Influence (SI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business partners who are influential to me suggest I use mobile money service (SI1).</td>
<td>.728</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.3: Measurements Reliability Statistics for Each Construct
Customers suggest that I use mobile money service (SI2).

Mobile service providers encourage us to use mobile money service (SI3).

My staff encourage me to use mobile money service (SI4).

**Perceived Facilitation Condition (PFC)**

I have the resources necessary to use mobile money service (PFC1)  .792

There is adequate Quality of services from the mobile money service provider (PFC2)  .711

There is adequate support from the mobile money service providers (PFC3)  .701

Government provides the right enabling environment to support the use of mobile money service (PFC4)  .747

**Perceived Trust (PT)**

No chance of losing money through mobile money transactions (PT1)  .818

There is adequate security by mobile money providers (PT2)  .758

My account information is kept confidential (PT3)  .813
<table>
<thead>
<tr>
<th>Perceived Convenience (PC)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile money service provides affordable cost in transaction (PC1).</td>
<td>.652</td>
</tr>
<tr>
<td>Affordable cost of replacement of sim card (PC2)</td>
<td>.730</td>
</tr>
<tr>
<td>I don’t face any financial challenge in using mobile money service (PC3).</td>
<td>.626</td>
</tr>
<tr>
<td>Affordable cost in registration of mobile money service (PC4).</td>
<td>.707</td>
</tr>
<tr>
<td>Behavioural Intention (BI)</td>
<td></td>
</tr>
<tr>
<td>I would have the intention of using mobile money service if I had access (BI1).</td>
<td>.916</td>
</tr>
<tr>
<td>I would actually use the mobile money service, if I had access (BI2).</td>
<td>.817</td>
</tr>
<tr>
<td>It would be beneficial for me to adopt mobile money service if it is available (BI3).</td>
<td>.840</td>
</tr>
<tr>
<td>Actual Usage (U)</td>
<td></td>
</tr>
<tr>
<td>I have used mobile money service since the past week (U1)</td>
<td>.899</td>
</tr>
<tr>
<td>I have used mobile money since the past two weeks (U2)</td>
<td>.884</td>
</tr>
<tr>
<td>I have used mobile money service since the past month (U3)</td>
<td>.941</td>
</tr>
<tr>
<td>Statement</td>
<td>Score</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>I have used mobile money service since the past year (U4)</td>
<td>0.899</td>
</tr>
<tr>
<td><strong>SME’s Growth (SME)</strong></td>
<td></td>
</tr>
<tr>
<td>Use of mobile money services has been a great help in the expansion of my business (SG1)</td>
<td>0.883</td>
</tr>
<tr>
<td>I have seen growth in profit in my business since the time I started using mobile money services (SG2)</td>
<td>0.884</td>
</tr>
<tr>
<td>Mobile money service has enabled me gain credit facilities to grow my business (SG3)</td>
<td>0.886</td>
</tr>
<tr>
<td>My business has grown to the extent of employing more people to assist in running of the business (SG4)</td>
<td>0.882</td>
</tr>
<tr>
<td>Use of mobile money service enables my quick response to customers’ needs (SG5)</td>
<td>0.891</td>
</tr>
<tr>
<td>The presence of mobile relieves me the problem of having to open a bank account (SG6)</td>
<td>0.881</td>
</tr>
<tr>
<td>Promotes efficiency of micro transaction or payments (SG7)</td>
<td>0.891</td>
</tr>
<tr>
<td>MMS makes transactions faster, cheaper and more secure (SG8)</td>
<td>0.883</td>
</tr>
</tbody>
</table>
4.2 Factors that account for the mobile money service fast acceptance and usage among the micro business operators.

Test of Hypothesis

Table 4.5, presents the Bivariate Correlation test showing the degree of correlation among the variables. Pearson’s correlation coefficient gives information about the degree of correlation as well as the direction of the correlation. Some variables indicated a strong degree of correlation among them with correlations above .502, further, some variables also indicated a moderate correlation among them lying between .306 and 0.488 while some had a low correlation 0.131.

The first hypothesis assumed performance expectancy has a positive and significant relationship on the intention to use mobile money service by SMEs. The results revealed a positive and significant relationship (r=.637, N=100, p < α=.05). This appears there was a moderate correlation between the two variables. This indicated that an increase in levels of performance expectancy relate to increase levels of mobile money service usage.

The second hypothesis assumed effort expectancy has a positive and significant relationship on intention to use mobile money service by SMEs. It was found out that there was a positive and significant relationship (r=.549, N=100, p=.000 < α=.05). This indicated there was a moderate correlation between them and that increases in effort expectancy were associated with increase in levels mobile money service usage.

The third hypothesis assumed social influence has a positive and significant relationship on the behavioural intention to use mobile money service. The results revealed a positive and significant relationship (r=.409, N=100, p=.000 < α=.05). This indicated there was a moderate
correlation among them and that higher levels of Social Influence were associated with higher levels of mobile money service usage.

The **fourth hypothesis** assumed facilitating condition has positive and significant relationship on actual usage by SMEs. The results revealed a positive and significant relationship ($r = .402$, $N= 100$, $p < \alpha=.05$). This indicated a moderate and significant association between them.

The **fifth hypothesis** assumed perceived cost has a positive and significant relationship on behavioural intention to use mobile money service. The results revealed a positive and significant relationship ($r=.365$, $N=100$, $p=.000 < \alpha=.05$). This indicated there was a moderate correlation among them hence an increase of perceived cost was associated with an increase in mobile money service usage.

Also, the **sixth hypothesis** assumed perceived trust has a positive and significant relationship with behavioural intention to use mobile money service. The results revealed a positive and significant relationship ($r=.365$, $N=100$, $p=.000 < \alpha=.05$). This indicated there was a moderate correlation among them hence an increase of perceived trust was associated with an increase in mobile money service usage.

Also, the **Seventh hypothesis** assumed behavioural intentions to use mobile money service has a positive and significant relationship with the Actual usage of mobile money service by SMEs.

The results revealed a positive and significant relationship ($r=.638$, $N=100$, $p=.000 < \alpha=.05$). This indicated there was a strong correlation among them hence an increase of intentions to use mobile money service was associated with an increase in actual mobile money service usage.
From the Pearson correlation above variables that account for mobile money service fast acceptance and usage among the micro business operators were, performance expectancy, effort expectancy, social influence, facilitating condition.

Table 4.5: Correlations

<table>
<thead>
<tr>
<th>Performance Expectancy</th>
<th>Effort Expectancy</th>
<th>Social Influence</th>
<th>Perceived Facilitating Condition</th>
<th>Perceived Trust</th>
<th>Perceived Cost</th>
<th>Behavioral Intention</th>
<th>Actual Usage</th>
<th>SMEs Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Expectancy</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effort Expectancy</td>
<td>.598**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Influence</td>
<td>.389**</td>
<td>.448**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Facilitating Condition</td>
<td>.341**</td>
<td>.468**</td>
<td>.505**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Trust</td>
<td>.306**</td>
<td>.387**</td>
<td>.451**</td>
<td>.628**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Cost</td>
<td>0.131</td>
<td>.332**</td>
<td>.524**</td>
<td>.579**</td>
<td>.619**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioral Intention</td>
<td>.637**</td>
<td>.549**</td>
<td>.409**</td>
<td>.402**</td>
<td>.365**</td>
<td>.365**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Actual Usage</td>
<td>.556**</td>
<td>.502**</td>
<td>.335**</td>
<td>.284**</td>
<td>.304**</td>
<td>.324**</td>
<td>.638**</td>
<td>1</td>
</tr>
<tr>
<td>SMEGrowth</td>
<td>.455**</td>
<td>.437**</td>
<td>.596**</td>
<td>.529**</td>
<td>.449**</td>
<td>.488**</td>
<td>.519**</td>
<td>.392**</td>
</tr>
</tbody>
</table>

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

4.3 The effect mobile money service usage on growth of Small and Medium Scale enterprise

The eight hypothesis looked at the influence mobile money service usage has on growth of SMEs in Tema municipality. To ascertain this hypothesis, analysis of variance was done at p<.05 level of significance. The findings from the analysis were as shown in the following tables.
Table 4.6: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.392(^a)</td>
<td>0.154</td>
<td>0.145</td>
<td>0.65657</td>
</tr>
</tbody>
</table>

* a. Predictors: (Constant), AvgUsage

The analysis gave an adjusted R-squared value of 0.145 indicating that **mobile money usage** can account for up to 14.5% of the total variance in the **growth of SMEs** in Tema Municipality. Thus, mobile money plays a significant role in the growth of SMEs in Tema. ANOVA gave the following results shown in table 4.7.

Table 4.7: ANOVA\(^a\)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>7.677</td>
<td>1</td>
<td>7.677</td>
<td>17.810</td>
<td>.000(^b)</td>
</tr>
<tr>
<td>Residual</td>
<td>42.246</td>
<td>98</td>
<td>.431</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>49.923</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* a. Dependent Variable: AvgSMEs_Growth
* b. Predictors: (Constant), AvgUsage

The table 4.7 indicated that the F-value (F (1, 99) = 17.810, p=.000) for mobile money usage was significant at p<.05 level of significance. Therefore, mobile money usage was shown to have a significant influence on the growth of SMEs in Tema Municipality. The researcher concluded that mobile money usage significantly influences the growth of SMEs in Tema Municipality.
Table 4.8: Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.460</td>
<td>.180</td>
<td></td>
<td>8.117</td>
</tr>
<tr>
<td>AvgUsage</td>
<td>.433</td>
<td>.103</td>
<td>.392</td>
<td>4.220</td>
</tr>
</tbody>
</table>

a. Dependent Variable: AvgSMEs_Growth

From Table 4.13, on the impact of Actual Usage has on SMEs growth, the results (B=.433, p=.000 < α) indicated that there was a positive and significant relationship between Actual Usage and SMEs growth.

4.4 Challenges associated with mobile money services among SMEs in the Tema Municipality.

From the study challenges associated with mobile money services among SMEs in the Tema Municipality were; users unable to control the level of transactions by approval, the hanging up or interruption of the process during the transaction. Increase cost in transaction since mobile money transactions are charged per transaction. Respondents also stated that some challenges faced include sending money to wrong numbers and stress associated with retrieving the money, network issues distorting the functioning of the service, vendors not always available, issues of security, restrictions or limitations placed on the amount of money to send and receive from people, accessibility to service in remote areas, the fear of being defrauded and finally unable to receive huge sums of money.
CHAPTER FIVE

SUMMARY OF FINDINGS

5.1 Introduction
This chapter discusses the findings of the study based on the objectives; examine the awareness and use of mobile money services among SMEs in the Tema Municipality, examine the factors that account for the mobile money service fast acceptance and usage among the micro business operators, the effect mobile money service usage on growth of Small and Medium Scale enterprise, the challenges associated with mobile money services among SMES in the Tema Municipality.

5.2 Conclusion
From the study, it was concluded that the use of mobile money service by SMEs impacted their success and growth. This was reflected in the expansion of the SMEs from a single person run business to multiple employees and to a large enterprise with several branches. Also, the use of mobile money service by SMEs brought enhanced efficiency in micro transaction or payments, growth in profit in business, making transactions faster, cheaper and more secure.

5.3 Discussion
This research proposed an extended UTAUT model in understanding the behavioral aspect of mobile money service on growth of small and medium scale enterprises. The findings of the study are discussed in this section.

From the study, it was found that about 95% of SMEs have been in the business for less than 10 years. The study found out that the majority of SMEs owners who were mobile money service
adopters were young (i.e. ages below 40 years). This is consistent with the statement that early adopters are quite younger in age and are modest and make prudent choice in their adoption of innovation.

On the awareness and use of mobile money services among SMEs in the Tema Municipality, about 96% of SMEs owners in Tema municipality were aware of Mobile money service for their transactions, whereas 87% of SMEs have used the mobile money service for more than a year.

From the study, the factors that account for the mobile money service fast acceptance and usage among the micro business operators in the Tema Municipality were Performance Expectancy, Effort expectancy, Facilitating Conditions, Perceived cost, Social Influence and Perceived Trust. All the eight hypotheses were supported in this study. Performance expectancy was found to have a positive and significant relationship towards behavioral intention to use mobile money service (r=.637, p < 0.05), which is consistent with the findings of Venkatesh et al. (2003), Oliveira et al. (2014), Casey and Wilson-Evered (2012). With the increase in the growth of mobile phones and their ubiquitous nature, it is not surprising to note that users expect mobile phones to increase their productivity through the adoption of mobile money service, helps to save time, and enable them to accomplish their tasks quickly. This could be a result of heavy reliance on and usage of mobile technology. A positive and significant relationship was also found between effort expectancy and behavioral intention (r=.549, p < 0.05), which is also consistent with the findings of Venkatesh et al. (2003), Casey and Wilson-Evered (2012) and Tosuntas et al. (2015). This implies users might be technically savvy in using mobile technology, hence less effort is required in learning to use mobile money service and user possess the skills at using it. This study also found a positive and significant relationship between social influence and behavioral intention (r=.409, p < 0.05) which is also consistent with the findings of
Venkatesh et al. (2003), Yu (2012) and Thomas et al. (2013). This is not surprising, as according to Hofstede’s (2001) cultural dimensions, Ghana is a highly collectivist country, which means that individuals are highly committed to families, friends, and extended relationships. In the context of this study this could mean that adopters of mobile banking in Ghana do so because they are greatly influenced by people that are close to them. They choose to use mobile money service because they believe that if people who are important or familiar to them think that they should use mobile money service in their transaction they themselves will be more inclined to use it. They choose to use mobile money service because of people around them and in their surroundings use it. Also, for the relationship between behavioral intention and usage behavior, a positive and significant relationship was found (r = .638, p = .001 < 0.05). This is in line with previous findings of Venkatesh et al. (2003), Yu (2012) and Ifinedo (2012). This positive finding clearly indicates continuous adoption of mobile money service among SMEs in the Tema Municipality.

From the two constructs that were added to the existing UTAUT model in this study, the study found out that there was a positive relationship between perceived trust and behavioral intention (r = .365, p < 0.05). This is consistent with the findings of Dasgupta et al. (2011), Yu (2012) and Jeong and Yoon (2013). This could be interpreted as that, even though users have become more technically savvy and more mobile, they believe mobile money service is secure in conducting transactions and provides them with a secure environment. Of all the hypotheses supported, perceived performance expectancy posited the strongest relationship. This evidently indicates that of all the reasons why SMEs in Tema choose to adopt mobile money service, perceived performance is seen as the most important one. They strongly value the fact that mobile money
service provides convenience in their daily transactions, saves time, and enables them to accomplish their tasks quickly.

Also, this study supported the hypothesis that there is a positive relationship between facilitating conditions and usage behavior. This could mean that users believe that they do have the necessary resources to use mobile money service, and that it is compatible with their lives. They could also believe that assistance is available to them when they encounter problems in using mobile money service. This finding is consistent with the findings of Venkatesh et al. (2003).

On the effect mobile money service usage on growth of Small and Medium Scale enterprise, from the study findings, the study concluded that mobile money services significantly influence the growth of SMEs in Tema municipality. This is depicted by the findings in this study that shows direct relationships between mobile money service usage and the growth of SMEs. Therefore, the study concluded that the increased use of mobile money service has a positive impact on the growth of SMEs in Tema municipality. This growth can be seen through the expansion of the small SMEs from a single person run business to multiple employees and to a large enterprise with several branches. Promotion of efficiency in micro transaction or payments, growth in profit in business and finally making transactions faster, cheaper and more secure.

5.4 Recommendations

Based on the findings, this study proposes both practical as well as academic recommendations. Academically, this study proposes a comprehensive extended UTAUT model for researchers, who can use this framework as a guideline in their future research along the lines of technology adoption in the context of a developing country. Also, researchers in the future may extend the
sample size to other regions of the country, where the technology has been deployed and verify if the findings/results are in line or remain consistent.

Practically, this study provides solid empirical evidence as to factors considered by SMEs in their decision to adopt mobile money service the developing countries. It is recommended that SMEs and mobile application developers must understand the behavior of the users when they develop applications and to help them promote its usage and growth among the users. The respondents in this study believed that mobile money service usage is necessary for the growth of SMEs, and that all necessary attention and assistance by government and service providers be made available to SMEs when they encounter problems in using it. What Service providers could therefore do is to provide a channel whereby SMEs have access to support or call in customer service representatives when they have questions or face problems with using mobile money service.

5.5 Limitation

First and foremost, this was a single study conducted for a limited number of SMEs in Ghana, therefore the results should be considered with caution when applying it to other types of technology or in other countries.

Secondly, this study extended the UTAUT model with two additional constructs. Further studies might incorporate other factors (e.g. Competitive Intensity, Perceived risk) that might better explain the growth of SMEs in Ghana. Thirdly, data collected in this study was done at a single point in time making it cross sectional. The longitudinal method of data collection might serve as a better approach of collecting data in the future. Future research could address these issues and extend the model by integrating constructs such as perceived risk.
Acknowledgement

This research would not have been possible without the support and guidance of Dr. John Ackah, the dissertation advisor. His expertise and dedication to the field of mobile banking were instrumental in shaping this work. I would also like to thank the participants of the study, who shared their insights and experiences with me. Their cooperation was invaluable in conducting this research.

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APPENDIX: QUESTIONNAIRE

I am a postgraduate student at the University of Ghana Business School, and this questionnaire forms part of my thesis research. I am conducting a research about on the topic “The Impact of Mobile Money Services on Small and Medium Scale Enterprises (SMEs) in Tema Municipality”. Your contribution in completing this questionnaire would be much appreciated to the success of the study. This exercise is strictly for academic purposes and all information provided will be thus kept confidential. Thank you and really, I appreciate your participation.

SECTION A

DEMOGRAPHIC INFORMATION

1. Gender
   Male ( )       Female ( )

2. Age Group
   15-20 ( ) 21-25 ( ) 26-30 ( ) 31-40 ( ) 41-50 ( ) Over 50 ( )

3. Number of years in business?
   Less than 5 years ( ) 5-10 years ( ) 11-20 years ( ) Over 20 years ( )
SECTION B

MOBILE PHONE AWARENESs

4  Are you aware of Mobile Money Service?
   Yes ( )  No ( )

5  Number of years you have used Mobile Money Service?
   Less than 1 year ( )  1-2 years ( )  Over 2 years ( )

SECTION C: INTENTION TO USE MMS AND ADOPTION FACTORS

For the following questions, please indicate by ticking the extent you agree with each of the following statements below.

(Strongly Agree = 1, Agree = 2, Neutral = 3, Disagree = 4, Strongly Disagree = 5)

<table>
<thead>
<tr>
<th></th>
<th>Performance expectation</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobile money service is useful in my daily activities (PE1).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mobile money service enables me perform financial transactions quickly (PE2).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Mobile money service saves me tremendous time in order to carry out other activities daily (PE3).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Mobile money service provides convenience in my daily transactions (PE4).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Effort Expectancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Statement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>It is easy and clear for me to interact with the mobile money service (EE1).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>I have the skills to use mobile money service hence it is easy for me (EE2).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Mobile money service is easy to use (EE3).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>It is easy for me to learn the use of mobile money service (EE4).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Social Influence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Business partners who are influential to me suggest I use mobile money service (SI1).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Customers suggest that I use mobile money service - (SI2).</td>
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<td>11</td>
<td>Mobile service providers encourage us to use mobile money service- (SI3).</td>
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<td>12</td>
<td>My staff encourage me to use mobile money service (SI4).</td>
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<td></td>
<td><strong>Perceived Facilitating Condition</strong></td>
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<td>13</td>
<td>I have the resources necessary to use mobile money service (PFC1)</td>
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<td>14</td>
<td>There is adequate Quality of services from the mobile money service provider (PFC2)</td>
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<td>15</td>
<td>There is adequate support from the mobile money service providers (PFC3)</td>
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<td></td>
<td>Perceived Trust</td>
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<td>16</td>
<td>Government provides the right enabling environment to support the use of mobile money service (PFC4)</td>
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<td>17</td>
<td>No chance of losing money through mobile money transactions (PT1).</td>
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<td>18</td>
<td>There is adequate security by mobile money providers (PT2).</td>
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<td>19</td>
<td>My account information is kept confidential (PT3).</td>
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<tr>
<td>20</td>
<td>My mobile money account is secured (PT4).</td>
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<tr>
<td></td>
<td>Perceived Cost</td>
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<td>21</td>
<td>Mobile money service provides affordable cost in transaction (PC1).</td>
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<td>22</td>
<td>Affordable cost of replacement of sim card (PC 2)</td>
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<td>23</td>
<td>I don’t face any financial challenge in using mobile money service (PC3).</td>
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<td>24</td>
<td>Affordable cost in registration of mobile money service (PC4).</td>
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<td>Intention</td>
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<td>25</td>
<td>I would have the intention of using mobile money service if I had access (BI1).</td>
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<td>26</td>
<td>I would actually use the mobile money service, if I had access (BI2).</td>
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</tbody>
</table>
It would be beneficial for me to adopt mobile money service if it is available (BI3).

**Usage**

27. I have used mobile money service since the past week (U1)

28. I have used mobile money since the past two weeks (U2)

29. I have used mobile money service since the past month (U3)

30. I have used mobile money service since the past year (U4)

### SECTION D: GROWTH OF SMEs

**SMEs Growth**

32. Use of mobile money services has been a great help in the expansion of my business (SG1)

33. I have seen growth in profit in my business since the time I started using mobile money services (SG2)

34. Mobile money service has enabled me gain credit facilities to grow my business (SG3)

35. My business has grown to the extent of employing more people to assist in running of the business (SG4)

36. Use of mobile money service enables my quick response to customers' needs (SG5)
<table>
<thead>
<tr>
<th></th>
<th>The presence of mobile relieves me the problem of having to open a bank account. (SG6)</th>
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<tbody>
<tr>
<td>37</td>
<td></td>
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<td></td>
<td>Promotes efficiency of micro transaction or payments (SG7)</td>
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<td>38</td>
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<td></td>
<td>MMS makes transactions faster, cheaper and more secure (SG8)</td>
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<td>39</td>
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</table>

**SECTION E: CHALLENGES FACED BY OWNERS OF SMEs**

1. What are some of the challenges you face using mobile money services for your business?

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