

Original Research Article

ASSESSING THE IMPACT OF MOBILE MONEY INTEROPERABILITY ON SMALL AND MEDIUM SCALE ENTERPRISES PAYMENTS AND RECEIPTS IN GHANA

ABSTRACT

Background: The study examines the influence of mobile money interoperability on the payment and receipts of small and medium-sized businesses, with case studies from the Ga Central Municipal Assembly. The findings are intended to provide insight into how mobile money interoperability has benefited SMEs, as well as the level of awareness among SMEs and the challenges they face in using the mobile money interoperability service in their daily operations, in order to make recommendations to relevant stakeholders to improve service delivery in the municipal assembly and throughout Ghana.

Methods: The research design for the study is quantitative in nature specifically a survey design. The study established that mobile money interoperability has a positive effect on payment and receipts of SMEs in many ways.

Results: Accessibility, efficiency, and dependability, as well as transaction prices and transaction time, are all elements that influence SMEs' decision to use mobile money interoperability, according to the report. The study also discovered that mobile money interoperability has an impact on SMEs' profitability, sales turnover, credit sales/purchase payments, and daily sales.

Conclusions: The report recommends that SMEs improve their awareness of mobile money interoperability payment and receipt systems in order to increase usage and educate SMEs on interoperability theft, usage, and benefits in order to make it safer and more beneficial for them. Finally, the study recommended that mobile money providers make conscious efforts to strengthen the security characteristics of mobile money interoperability systems in order to prevent theft cases.

Key Words: *Mobile Money Interoperability, Small and Medium Scale Enterprises, Ga Central Municipal Assembly, Mobile Network Operators*

INTRODUCTION

In today's world, mobile money is an important aspect of providing financial services. In the last decade, the supply of financial services to the poor has undergone a major shift. For years, financial organizations such as microfinance institutions (MFIs) and banks have competed to reach the world's poor. Technological progress, on the other hand, has resulted in novel business models and, with them, new opportunities for extending financial services delivery. Digital payments services are the driving force behind this financial transformation, allowing almost any individual or business organization to conduct transactions for any purpose in real time and from virtually anywhere in the country, resulting in a more inclusive payment ecosystem (Max & Claudia, 2018).

In our globalized society, interconnections between electronic financial outlets have recently become the backbone of fiscal activities. A strong and effective payment system is critical for a financial system's security, reliability, and soundness. Efficient financial payment results in speedy completion of financial transactions, resulting in economic progress, improved living conditions, and the creation of jobs. Overall, improvements in payment systems have an impact on the entire economy because of their interconnectedness with the external, fiscal, and real sectors. Mobile Money has become a household term, and the majority of these mobile payment systems' worldwide popularity can be seen in developing markets such as Africa (Groupe Speciale Mobile Association, 2013).

Mobile money fraud, on the other hand, is worth noting, however the available literature does not contain much information on fraudulent transactions with mobile money services. This could be due to the use of ineffective indicators for detecting, measuring, and preventing fraud (Osei-Assibey, 2015). Controlling mobile money risk, particularly mobile money fraud, is difficult. It causes reputational damage to service providers and the industry as a whole, in addition to financial losses to clients, mobile money agents, and mobile money service providers. As a result, a strong risk management approach is required, with the primary goal of reducing the risk of fraud (Gilman & Joyce, 2012).

Due to restricted access to conventional financial institutions in Ghana, mobile payment services have become the norm for emerging economies. The cell phone, which was formerly a luxury item available only to a selected few, has evolved into a less costly need in our daily life. As of February 2017, Ghana had 39.2 million mobile voice subscribers, representing a total penetration rate of 139.09 percent (National Communication Authority, 2017). MTN, Airtel Tigo, and Vodafone are the three (3) mobile money operators operating in Ghana at the moment (National Communication Authority, 2018).

Mobile money services are simple to use, and customers can deposit money at a low cost compared to banks or Micro Finance Institutions (MFIs). These payment methods have advanced the poor's access to financial services. Various business entities, especially SMEs, now use mobile money as a platform to expand their customer base and provide innovative non-financial and financial services and products. Mobile money channels are also being used by MFIs, FinTechs, and banks to deliver loan, savings, insurance, and other financial inclusion services. 2018 (Max & Claudia). Technology is frequently mentioned as a stumbling barrier for small and medium-sized businesses (SMEs) all around the world. It is commonly known that technology may help improve accuracy, efficiency, cost savings, and reach out to more people. However, many SMEs lack the financial resources to invest in appropriate backend technologies, or they operate in areas where vital infrastructure, such as the Internet, is limited. Others continue to spend money on ineffective technology investments or refuse to invest at all, hampering their capacity to develop and compete (Rosenberg, 2009).

The vast acceptance of mobile money services by subscribers can be linked to low-income earners' need for relatively inexpensive and accessible mobile money services, which makes up the bulk of the population. Because some SMEs are unable to use banks' financial services, they can use this service in their business operations (Mbogo, 2010). SMEs' development and expansion are frequently reliant on a good working environment and a stable financial system, in which all commercial banks provide money transfer, leasing, savings, and credits, to name a few

services (Mataba, 2009 as cited in Ackah, 2016). These services are useful, but they are unreliable when it comes to completing SMEs transactions, which frequently take place overnight.

Mobile money, on the other hand, offers a variety of services that SMEs can benefit from. Some of these services include mobile ATMs, money transfers, bulk payments, mobile vouchers, mobile insurance, savings, content purchases and deliveries, information services, mobile banking, and so on (Nyaga, 2013). Small and Medium Enterprises (SMEs) account for over 92 percent of enterprises in emerging countries like Ghana, contributing roughly 70% of the country's Gross Domestic Product (GDP). Because of the low cost of mobile phones and the availability of mobile banking services, SMEs in Ghana have adopted the mobile payment system as a means of conducting business transactions (Villars, 2004). This study attempts to take use of Ghana's tremendous rise in mobile money interoperability as a means of digitising payments, particularly among SMEs.

METHODS

Research Design and Approach

The study utilized a survey design. This design was suitable because the study sought to assess the impact of mobile money interoperability on SMEs payment and receipt system. Mobile money interoperability was introduced in Ghana in May, 2018 so there isn't much studies on it especially with regards to the SMEs usage and views or opinions on the usage hence the need for the study. To achieve the research objectives, a quantitative research approach was adopted. This approach was selected because the study employed numeric data collected. Quantitative approach was also reasonable because questionnaire was used in collecting data for the study. Furthermore, there was the need to use a method that allows the researcher to get a detailed experience of the participants hence the use of quantitative research method. The study employed a descriptive research design which enabled the researcher to highlight the association between the variables under the study.

Population of the Study

Population according to Bryman and Bell (2011) is the universe of units from which a sample is to be selected. The target population for the study comprised all SMEs in the Ga Central Municipal Assembly.

Sample Frame

Considering the total number of the population, it will not be feasible and also lots of time will be required to use the entire population hence samples were selected for the study. Mixed sampling approach was used by employing both probability and non-probability sampling method. Some sampling designs that were employed are:

Cluster random sampling technique: This is a probability sampling which allows a group of individuals to be selected from a given population from which subjects are selected. This was used in dividing the whole SME population into clusters using the nine electoral areas in the

GCMA which are; Awoshie, Anyaa, Ablekuma, Santa Maria, Sowutuom, Lomnava, Nii Okaiman West, Nii Okaiman East and Kwashiebu because the list of all SMEs in the Ga Central Municipal Assembly is too large. Sowutuom was then chosen for the study because it is densely populated.

Purposive sampling: This is a non-probability sampling and also known as deliberate sampling. This involves intentionally selecting particular units of the universe as sample to represent the universe. Purposive sampling technique was utilized in selecting from a population of SMEs that operate in sowutuom electoral areas.

Sequential sampling: This sampling design is employed where most sample size is undefined prior to study but use available information to make a mathematical decision as survey advances. In view of the indeterminate sample population, deliberate convenient sampling was employed to select one hundred SMEs from sowutuom electoral area.

Sources of data

The study relied on both primary and secondary data. Secondary information was collected from journals, books, research reports, policy documents, working papers, Bank of Ghana's official website, United Nations Development Programme's official website, World Bank official website, available legal and constitutional framework as well as relevant literature. This information aided in identifying relevant underpinning theories, statistics on mobile money interoperability usage and SMEs and in supporting findings and generalizations from the data. Primary data was collected through administered questionnaires. The researcher in order to ensure errors were reduced in the field and increase accurate response rate collected data personally.

Data Collection Method

Questionnaires were employed for the quantitative data collection. This is because quantitative research is suitable for data collection techniques such as questionnaire or statistics generates numerical data or analysis of graphs (Saunders, NK, Lewis, & Thornhill, 2008). The questionnaires contain guidelines on how to respond to each question and were close ended. The use of administered close ended questionnaires enabled the researcher to gather the relevant information from respondents to meet the objectives of the study.

Questionnaire administration was also cheaper and convenient for most respondents who were often busy. Respondents' consent was sought and confidentiality assured before questionnaires administrations. This was needful as required by research ethics. After approval is given, the researcher delivered the questionnaires to them to fill. Questionnaires were taken back after been answered and went through them to confirm each question was accurately answered. Data collection would take **one month**.

Description of instrument

Data collected will first be edited to eliminate errors. This is done whiles data is being collected on the field. For the analysis, Statistical Product and Service Solutions (SPSS) will be employed in capturing the questionnaires data to generate the necessary reports. The administered questionnaires were summarized in a way that could be interpreted easily after the result is

produced. The questions were then keyed in the variable data, which serve as the headings for the various responses entered under them. The various closed ended answers to the questions were then coded by giving each response a number to be inputted. Frequencies, tables, percentages and charts were generated using this software to explain the data.

Operationalisation of Key Variables

The independent variable defined by the adoption of mobile money services has four characteristic intervening variables namely;

- Mobile money services reliability.
- Mobile money services convenience.
- Transaction cost of the mobile money services and
- Financial accessibility of the mobile money services.

The dependent variable defined by SMEs Growth also has two intervening variables

- Increase in sales of SMEs and
- Increased profitability of SMEs.

The model asserts that SMEs adoption of Mobile Money Services potentially enhance growth and financial operations of SMEs (Nyaga, 2013).

Profile of Ga Central Municipal Assembly (GCMA)

The Ga Central Municipal was carved out of the then Ga South Municipal Assembly in the Greater Accra Region and was established by Legislative instrument 2135 (2012) with the capital at Sowutuom. It was inaugurated on 28 June 2012. Ga Central Municipal Assembly (GCMA) covers a total land area of about 48.997 square kilometres according to the 2010 Population and Housing Census (PHC). The Municipality shares boundaries with Accra Metropolitan Assembly (AMA) to the South, Ga West to the East and North, and Ga South Assembly to the west. There are about 52 communities in the municipality with a high population concentration mainly along the urban and peri-urban areas of the Municipality.

The population of Ga Central Municipal Assembly, according to the 2010 Population and Housing Census, is 117,220 with relatively more females (51.1%) than males (48.9%), giving a sex ratio of 95.7. The population of the Municipality is youthful with 34.4 percent of the population aged below 15 years and the elderly persons (aged 60 years and older) in smaller proportion (3.9%). Thus, the Municipality's population pyramid has a broad base and tapers off with a small number of elderly persons. The total age dependency ratio for the Municipality is 58.2. The child dependency ratio (54.4) is higher than the old age dependency ratio (3.8).

The household population in the municipality is 114,745 with a total number of 28,936 households. The average household size in the Municipality is 4.0 persons per household.

Children constitute the largest proportion of the household members accounting for 41.1 percent of the total household population. Households' heads and spouses form about one-quarter (25.2%) and 13.1% respectively of the household population. Nuclear households (head, spouse(s) and children) constitute 34.4 percent of the total number of households in the Municipality (Ghana Statistical Service, 2014).

RESULTS

This section gives a brief overview of the demographic characteristics of respondents including data on gender, age and educational level. It shows that most of the respondents are females constituting 52% while male respondents were 48% from the table. This implies that more females engage in Small Medium Enterprises than males in the GCMA and can be concluded that most women are motivated to venture into running their own business to make time to tend to their families. Also, according to the 2010 Population and Housing Census, out of the population 117,220 for Ga Central Municipal Assembly, females constituted 51.1% while males constituted 48.9%, giving a sex ratio of 95.7. Nearly two-thirds (65.9%) of females and about two-fifth (39.9%) of males are self-employed persons without employees (Ghana Statistical Service, 2014). Nonetheless, no gender disparity was employed in choosing the respondents but were selected as they showed interest in the project.

The age distribution presented ranged between 20 to 51 years and above. Respondents were categorized into four groups which are (20-30 years), (31-40 years), (41-50 years), and (51 and above). The breakdown is as follows; 19 representing (19%) of the respondents were between the ages of 20 – 30, 31 – 40 years formed 26%, while 33% of the 100 respondents were between 41 – 50 years and remaining 22 (22%) were 51 years and above. The findings indicate that more than half (78%) of the respondents were 50 years and below and the rest (22%) were 51 years and above. This shows an imbalance between the youth and old age. It was deduced by the Ghana Statistical Service that the population of the GCMA is youthful with 34.4% of the population aged below 15 years and the elderly persons (aged 60 years and older) in smaller proportion (3.9%). Thus, the Municipality's population pyramid has a broad base and tapers off with a small number of elderly persons (Ghana Statistical Service, 2014). Furthermore, the youthfulness of population is affirmed through this study by the fact that about 54% of the country's population is young according to the Population and Housing Census (2000). With regards to education, out of the 100 respondents, 22 (22%) had a Basic level certificate, 28 (28%) SHS certificate, College/University certificate 35 (35%) and Graduate level/ Masters Degree 15 (15%) with no case from anyone who had not had any form of educational certificate.

Nature of Respondent's Business

The analysis under this section begins with the background characteristics of respondents' business. The background characteristics of the respondents' business studied included; number of years of business, number of employees, ownership, customer base as well as daily sales in Ghana Cedis (GHs).

Out of 100 respondents, 17% of the SMEs have been in operation in the municipality for about 9 years and more implying that it started operation before the municipality was carved out of the then Ga South Municipal Assembly and inaugurated on 28 June 2012 (Ghana Statistical Service, 2014). In addition, 31% have been in operation for the past 6-8years, whereas 40% of the SMEs have been operating for 3-5years and 12% have been in operation for 1-2years.

Also, on data collection on the number of employees the results showed that 59% of the respondents were recorded to have 1-10 employees, 17% had 11-20 employees, 8% SMEs had about 21-30 employees while 16% had 31+ employees. This implies that the nature of businesses that operate in the municipality generate high level of employment which is a confirmation to Ghana Statistical Service's assertion that private informal sector is the largest employer in the Municipality, employing 77.5 percent of the population (Ghana Statistical Service, 2014).

With respect to ownership, out of 100 respondents, 84% of the SMEs is owned and run by one person with no distinction between the owner and entity (Sole proprietorship) whereas 7% is run by two or more people to oversee its operations as well as share its profit and liabilities (Partnership) and 9% is run by sole proprietorship with the limited liability of a corporation (Limited liability). None of the SMEs identified as a public corporation.

Among the respondents, it was discovered that 43% have a customer base of 1-50, while 38% have a customer base of 51-100, followed by 8% with 101-150%, 6% with 151-200 customer base and 5% having 201 or more customer base. In sum, 89% of SMEs surveyed customer base is below 151 which should be worrying because the more customers they get, the more they get to generate revenue to employ more hands and pay taxes as well. It can be assumed that SMEs within the municipality currently is not well equipped to reach its full potential yet. Regarding daily sales of the 100 respondents, 25% make daily sales of GHS1-500, while 17% sales ranges from GHS501-1,000. 39% SMEs make sales of GHS1001-1,500 daily whereas another 16% falls within GHS 1,501-2000 with the remaining 3% making sales of GHS2,001 or more sales daily.

Objective One: Awareness and use of mobile money interoperability services by SMEs

Respondents who know About the Existence of Mobile Money Interoperability

The study in line with assessing the impact of mobile money interoperability on small and medium scale enterprises' payment and receipts first assessed if respondents had heard of mobile money interoperability. This was necessary to investigate whether the respondents were conversant with the term. The findings indicated that 86% of the respondents had heard of the generic term one way or the other with 14% not hearing of it hence it can be concluded that there is no challenge with mobile money interoperability awareness creation.

Mobile Money Operators Service Patronised by Respondents

Three (3) Mobile Money Operators currently provide mobile money services which are; MTN, Airtel Tigo and Vodafone (National Communication Authority, 2018). Out of the hundred

respondents, 52% use MTN mobile money, 11% use Airtel Tigo cash and 37% use Vodafone cash.

Purpose of Respondents Usage of Mobile Money Wallet

Among the hundred respondents, it was learnt that, 14% use their mobile money wallet to perform only personal transactions, 52% use it to make and receive payments, 19% only receive payment on their wallet while 15% use it to make payment only.

Respondents Acceptance of Mobile Money Interoperability Payments

The study in line with examining the awareness and use of mobile money interoperability services among SMEs also assessed if respondents accept mobile money interoperability payments. This was to help understand whether the respondents were conversant with mobile money interoperability payment after being introduced in Ghana. The data collected reveals that 14 out of the 100 respondents do not accept mobile money payment from customers, 32 accept it sometimes while 54 accept it at all times. These findings support the view that technology-led innovations is not the reason for growth of mobile-payments but rather an answer to an unfulfilled need. Users are now able to authorize, initiate and complete a financial transaction by transferring electronic money using mobile communication network to other individuals (Slade, Williams, & Dwivedi, 2013). Seemingly, Mobile Money (MM) has emerged as a major means of payment for the unbanked including SMEs and the underserved in Ghana.

Respondents Reason for Not Accepting Mobile Money Interoperability Payments and Intention of Accepting

This was a follow up question to 14 respondents that indicated that they do not accept mobile money interoperability payments. Out of the fourteen respondents that answered no to accepting mobile money interoperability payment; 7(50%) said it is complex to operate, 3 (21.4%) felt their customers do not need it while 2 (14.3%) found it expensive and 2 (14.3%) alluded their inability to continue its usage because it's unreliable.

"I once needed to make withdrawal badly and almost all the merchants I visited said they didn't have the amount of money I wanted and the banks were closed so I had to wait till the following day to visit the bank for the money which delayed me" a respondent remarked.

When asked about how soon they intend to accept mobile money interoperability payment, 64.3% of the respondents answered yes while 21.4% said no, 14.3% however were not sure if they will use it sooner or not.

Respondents Usage of Mobile Money Interoperability Payments, Awareness and Impact on Business

It depicts a follow up question that was answered by the 86 respondents that indicated that they accept mobile money interoperability payment. It entails the details of how long respondents have been accepting mobile money interoperability payments and their customer's awareness. The Bank of Ghana (BoG) launched Ghana's first Mobile Money Interoperability on May 10th, 2018 (Alliance for Financial Inclusion, 2018). After almost two years, the study in line with examining the awareness and use of mobile money interoperability services among SMEs discovered that out of the eighty-six (86) respondents that accept mobile money interoperability payment, 62 adopted it within 1-6 months, 18 within 7-12 months, 3 within 13-18 months and 3 for about 19 months or more. With respect to their customers awareness of their acceptance of mobile money interoperability payments, 75 answered yes, 11 said until the customers ask and none said no. It can be assumed that, awareness creation is well underway.

Objective Two: Factors that account for the mobile money interoperability service fast acceptance and usage among SMEs operators.

Factors that influence respondents to use mobile money interoperability

Apropos the main objective of the study to identify the impact of mobile money interoperability on small and medium scale enterprises' payment and receipts, it was prudent to assess the factors that influence respondents to usage mobile money interoperability in GCMA. Amidst the numerous factors, five main factors were identified which include; user friendly, efficiency and reliability, convenience, lower transaction cost and accessibility of mobile money interoperability..

With regards to user friendliness of the interoperability payment process, 5 of the respondents strongly disagree, 6 disagree, 12 were neutral, 42 agree and 21 strongly agree that mobile money interoperability is user friendly. In respect to the efficiency and reliability of mobile money interoperability, 6 strongly disagree, whiles another 6 disagree with 11 being neutral. 47 on the other hand agree and 16 strongly agree that mobile money interoperability is efficient and reliable.

Also, when it comes to convenience of mobile money interoperability payment, 7 out of the 86 respondents strongly disagree, whiles 5 disagree, 11 were neutral, whereas 50 agree and 13 strongly agreed to the fact that mobile money interoperability is convenient. In all, 73.2% respondents opined that mobile money interoperability is convenient.

Again, 3 strongly disagree, 7 disagree, with 16 neutral albeit 46 agree and 14 respondents strongly agree that mobile money interoperability has a low transaction cost because unlike mobile money subscribers account, payment point accounts are not charge when making withdrawals. Lastly, when asked about accessibility of mobile money interoperability, 6 strongly disagree, 18 disagree, 14 neutral, 42 agree and 6 respondents strongly agreed that mobile money interoperability is accessible.

The result indicates that most of the respondents agree that the factors that influence their acceptance of mobile money interoperability payment are user friendly, efficient and reliable, convenient, lower transaction cost and accessibility. In addition, the findings confirm Jenkins's assertion that mobile money interoperability introduction has been helpful in the management of SMEs payment and receipt system by integrating into the formal financial system the excluded which is essential for effective market participation and development (Jenkins, 2008). The results also support Aker's view that mobile money was convenient and inexpensive (Aker, Ksoll, & Lybbert, 2010). Again, it verifies Nyaga's argument that mobile money services enhance rapid mobile money penetration and its access allows SMEs and the unbanked to save for business transactions. Growth in mobile money services' savings increase SMEs chance of securing finances that boost growth of the business (Nyaga, 2013).

Mobile Money Theft Cases

Respondents' mobile money interoperability robbery experience

As part of examining the factors that account for the mobile money interoperability service fast acceptance and usage among the SMEs operators, it was thought wise to further inquire about mobile money theft experience of the 86 respondents that indicated that they accept mobile money interoperability payment. Out of the 86 respondents that use mobile money interoperability, 22 indicated being robbed on their mobile money account before whiles 64 said they have not been robbed before.

Number of times Respondents have been robbed on mobile money account and report of theft cases

This section was a follow up question that was answered by 22 respondents who indicated that they have been robbed on their mobile money account before. When asked the number of times respondents have been robbed on their SMEs mobile money account, 20 indicated that 1-3 times, whiles 1 respondent indicated 4-6 times and additional 1 respondent indicated 7-9 times with none recording 10 or more times out of the 22 respondents that indicated being robbed on their mobile money account.

"Some of my employees can be careless sometimes resulting to the high robbery case experience so I've been engaging my service providers to assist me to educate them from time to time". Explained by the respondent who has recorded 7 mobile money robbery on SMEs account. When further asked if they report such theft cases to their service providers, 16 respondents answered yes whiles the remaining 6 said no.

Feedback on mobile money theft cases reported by Respondents

This was a follow up question that was answered by the 16 respondents that indicated that they usually report theft cases to service providers. Among the 16 respondents, 9 (56.2%) shared that they usually receive feedback from their service providers. However, 7 (43.8%) on the other hand shared that they did not receive any feedback from their service providers after reporting mobile money theft cases.

Respondents view on mobile money service providers help in curbing mobile money theft cases

The data gathered from the 86 respondents that use mobile money revealed that 54 (62.8%) is of the view that their mobile money service providers are helping to curb mobile money theft cases while 32 (37.2%) opined that their service providers are not helping in curbing theft cases.

Respondents' opinion on security of mobile money

Among the 86 respondents, 7 strongly disagree that mobile money is secured, 12 also disagree that it is secured while 11 are neutral. On the other hand, 53 agree that mobile money is secured while 3 strongly agree that it is secured. Based on the findings, 65.1% of respondents opined that mobile money is secured. Although they form a majority, there is still a need for MNOs to take adequate measures to make it secured for all.

Objective Three: Effect of mobile money interoperability service usage on growth of Small and Medium Scale enterprises

SMEs Profitability after adoption of mobile money interoperability

The study further looked at SMEs profitability after mobile money interoperability adoption by the respondents. To assess its impact, respondents were made to make a comparison between sales/service profit they were making before and after mobile money interoperability adoption. Out of the 86 respondents, 54 answered yes to their profit margin increasing and 16 answered no and rather indicated that there's a reduction in profit as a result of factors such as transaction cost and mobile money theft and the remaining 16 answering that their profit margin has neither increase nor decrease. Respondents also confirmed that accepting mobile money interoperability payment has had a positive impact on their business by enabling customers on different network to conveniently pay for their goods and services patronized.

Prompt payment of credit sales/purchase after Adoption of Mobile Money Interoperability to SMEs

When asked if mobile money interoperability adoption has affected prompt payment of credit sales/purchase to them, 59 respondents answered to a very large extent while 19 answered to a moderate extent with 8 not being sure of the impact. This implies that mobile money has facilitated prompt payment by enabling customers on other network instantly make payment to services/sales without having to go to a merchant to make withdrawals before coming back to make payment. Also, customers do not have any excuse to leave and come back to make payment later because they do not have enough physical cash.

Daily sales before and after Adoption of Mobile Money Interoperability to SMEs

In accordance to the third objective of the study which is to identify the effect mobile money interoperability service usage has on growth of Small and Medium Scale enterprises, the respondents were asked about number of sales before adoption of mobile money interoperability payment. About 39.5% indicated between 1-10 sales daily, 53.5% also indicated between 11-20 sales daily while 7% answered between 21-30 sales daily with none recording between 31-40 sales daily or 41 and above daily sales.

“My customers use to ask if they could make payment with a different mobile money wallet and had to go and withdraw elsewhere before coming to make payment and they never come back sometimes.” A respondent explained.

On the other hand, after the adoption of mobile money interoperability; 14 respondents indicated 1-10 sales daily, also 14 indicated 11-20 sales daily and 39 between 21-30 sales daily, with 16 recording between 31-40 sales daily and 3 recording 41 or more sales. The results indicate that prior to mobile money interoperability adoption; none (100) of the respondents were making daily sales above 30 but there has been a significant improvement where 22.1% of respondents are able to now make daily sales of 31-41+ after mobile money interoperability payment adoption. 16 respondents confirmed making daily sales of 31-40 and 3 respondents recording 41+ daily sales. This confirms Financial Analyst, Sydney Casely Hayford view as cited by Goldstreet Business that fusion of the payment systems into a single platform will cause a surge in the transactions of SMEs in a convenient and most efficient manner. “A lot of the time, SME’s transact business through payment by cash. The benefit of this system is that the economy can be run throughout without people necessarily going to the bank to convert mobile money to cash for business transactions”, he said (Goldstreetbusiness, 2018).

The result from comparing the daily sales before and after mobile money interoperability payment adoption by respondent gives a confirmation that subscriber’s inability to transfer funds directly from one network to another resulted in delay in the process of transaction affecting daily sales. Mobile money users were compelled to join multiple mobile networks to be able to transact with other network users directly (GhIPSS, 2018). It is therefore obvious that mobile money interoperability has reduced the difficulties involved with transfers across the three operators in Ghana which use to be only possible through the token system. This has given rise in daily sales being recorded by respondents and is an attestation to GhIPSS’ prediction that, the introduction of MMI has made smooth barriers to inter network mobile money transactions (GhIPSS, 2018).

DISCUSSION

The study's major goal is to determine the influence of mobile money interoperability on payment and receipts in small and medium-sized businesses. The first volume of the report which is broken into five chapters, which covers an overview of mobile money interoperability and SMEs operations in Ghana. The first chapter briefly explored the statement of the problem, the study's aims and questions, the study's scope and importance, and the thesis structure. The presentation of review of literature and theoretical foundations for the study is in the following chapter. The methodology for the study is detailed in the third chapter. The study used a quantitative approach, with questionnaire administration as the data collection technique. The study focused on SMEs operating within the Ga Central Municipal Assembly (GCMA), using a sample of 100 SMEs in Sowutuom chosen using cluster sampling. The data acquired for the study was examined on a thematic level, with a focus on the study's goal. The fourth chapter contains data analysis, discussion, and interpretation. Despite the fact that a quantitative technique was utilized, the chapter contains quantitative data and occasionally incorporated comments made by respondents during the administration of the questionnaire to corroborate the data's findings. This provided the foundation for drawing study conclusions.

According to the report, females make up 52 percent of the respondents, while males make up 48 percent. Furthermore, more than half of the respondents (78%) were 50 years old or younger, with the remaining (22%) being 51 years old or older. This demonstrates a disparity between youth and old age. In general, respondents had a good level of education. The research was aided by this degree of literacy, particularly during data gathering. The study intended to address the concerns because the majority of the respondents were aware of them.

According to the data, 86 percent of the respondents had heard of the generic word in some form or another, while 14 percent had not. After nearly two years of mobile money interoperability, the results indicate that awareness building is well underway. Only 7% of respondents said they had adopted it before the last twelve months, while 93 percent said they had adopted it within the last year. In addition, 75 respondents stated that their consumers are aware that they accept interoperability payment, whereas 11 stated that they will not accept interoperability payment until the client asks, and none answered no.

The second goal was to look into the elements that contribute to SMEs' quick acceptance and use of mobile money interoperability services. The study identified five key characteristics of mobile money interoperability, including user friendliness, efficiency and dependability, convenience, decreased transaction costs, and accessibility. The bulk of the respondents (73%) believe that mobile money interoperability is user-friendly. In addition, 73 percent of respondents preferred to use the system because of its efficiency and dependability. In addition, 73 percent say mobile money interoperability is convenient, 69.8% believe mobile money interoperability has low transaction costs, and 55.8% believe mobile money interoperability accessibility is a factor in their utilization.

Furthermore, just 22 of the 86 people that use mobile money interoperability said they had been robbed on their mobile money account. 16 of these respondents said they reported such thefts to

their mobile money service providers, with 9 saying they generally receive feedback from them. Despite this, 62.8 percent of respondents said their service providers assist them in preventing mobile money theft. Interoperability of mobile money is secure, according to 65.1 percent of respondents. The study also looked into the impact of mobile money interoperability services on the growth of small and medium-sized businesses. 62 percent of respondents claim that their profit margin has grown since implementing mobile money interoperability payment, with 68.6 percent claiming that credit sales/purchases are paid promptly to a great extent.

CONCLUSION

The study discovered that mobile money interoperability is a multi-faceted phenomenon that may be leveraged in a variety of ways by SMEs. Another takeaway from the study is that, regardless of how much awareness is raised, a variety of factors influence people's willingness to accept mobile money interoperability. According to David (1993), their decision to embrace a technology that increases job production with less effort is influenced by their trust in it. The findings back up the World Bank's (2010) assertion that the mobile money platform's efficacy encourages its use by SMEs and their customers.

The study's findings further support the assertion that mobile money interoperability has a significant influence on SMEs' payment and receipt systems. In practice, the findings provide useful information for a better understanding of the factors that influence mobile money interoperability acceptance and impact on SMEs payments and receipts, with the goal of increasing mobile money interoperability patronage and user experience for SMEs. Indeed, SMEs' awareness of and use of mobile money interoperability leaves a lot to be desired.

Interoperability of mobile money, on the other hand, is not without its flaws. Its acceptance by SMEs for payments and receipts is limited by factors such as its complexity to operate and theft incidents, among others. Accepting it is thought to result in an increase in sales turnover and profit for SMEs. The findings support the notion that mobile money interoperability has an impact on SMEs' payment and receipt processes. However, more work remains to be done to improve the user experience of mobile money interoperability in order to encourage SME adoption. This is a call for action to all stakeholders to play their part and improve the benefit with minimal hurdles in order to promote patronage, particularly among SMEs, by making payment and receiving processes easier.

CONSENT

Permission was sought from individual respondents included in the study before embarking on the study. Respondents were given the free will to decide whether to partake in the study or not. Anonymity and confidentiality of the actual source(s) of information obtained from the study were ensured by not indicating the names of individuals who took part in the study. Instances where respondents did not have a better understanding of a particular question or how to answer it, the researcher assisted the respondents through in an impartial manner in order not to sway the study.

ETHICAL APPROVAL

The ethical clearance and administrative approval were obtained from the Ethics Review Committee of the Ga Central Municipal Assembly.

Reference

- Abor, J., & Quartey, P. (2010, May). Issues in SME Development in Ghana and South Africa. *International Research Journal of Finance and Economics*, 39, 218-228.
- ACP. (2014). *mobile money services: "A bank in your pocket"*. Retrieved 2020, from African,
- Caribbean and Pacific Group Web site: https://publications.iom.int/system/files/pdf/mobile_money.pdf
- Aker, J. C., Ksoll, C., & Lybbert, J. T. (2010). Can Mobile Phones Improve Learning? Evidence from a Field Experiment in Niger. *Journal of Economic Perspectives*, Pages 207–232.
- Alliance for Financial Inclusion. (2018, May 16). *Alliance for Financial Inclusion 2009-2019*. Retrieved from Alliance for Financial Inclusion 2009-2019: <https://www.afiglobal.org/news/2018/05/ghanas-first-mobile-money-interopability-system-deepensfinancial-inclusion>
- Aron, J. (2015, April 30). Leapfrogging?: a Survey of the Nature and Economic Implications of Mobile Money. 7-59. Retrieved January 5, 2020, from <file:///I:/08babf461e435940e5903440e7a71f0940af%20J%20ARON%202015.pdf>
- Bampoe, H. S. (2015, July). *UG Space*. Retrieved from UG Space Web site:
• <http://ugspace.ug.edu.gh/handle/123456789/8173>
- CGAP. (2011, Febuary). *www.cgap.org*. (M. Flaming, C. McKay, & M. Pickens, Eds.) Retrieved
• January 3, 2020, from www.cgap.org:
<https://www.cgap.org/sites/default/files/CGAPTechnical-Guide-Agent-Management-Toolkit-Building-a-Viable-Network-of-Branchless-Banking-Agents-Feb-2011.pdf>
- CGAP. (2012). *Interoperability In Electronic Payments: Lessons and Opportunities*.
- Davis, F. D. (1993, March). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*,
• 38(3), 475-487. Retrieved 2 1, 2020, from <https://www.sciencedirect.com/science/article/abs/pii/S0020737383710229>
- Dermish, A., Kneiding, C., Leishman, P., & Mas, I. (2011). Branchless and Mobile Banking:A
• Survey of the Literature. *The MIT Press Journals*, 6(4), 81-98. Retrieved January 20,
• 2020, from https://www.mitpressjournals.org/doi/pdf/10.1162/INOV_a_00103

- Ehrbeck, M. P., & Michael. (2012, February). Financially Inclusive Ecosystems: The roles of government today. *CGAP*.
- Etim, A. (2013). Mobile banking and mobile money adoption for financial inclusion.
- Fishbein, M. A., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research* (Vol. 27). Reading, MA: Addison-Wesley.
- Ghana Statistical Service. (2014). *District Analytical Report*. Ghana Statistical Service, Population and housing. Accra: Copyright © 2014 Ghana Statistical Service.
- GhIPSS. (2018). Retrieved JULY 2019, from <http://www.itwebafrica.com/fintech/855ghana/245216-ghana-advances-on-mobile-money-interopability>
- GhIPSS. (2019, MAY). (G. I. Systems, Ed.) Accra, Ghana: Ghana Interbank Payment and Settlements Systems. Retrieved October 5, 2019, from <https://ghipss.net/productsservices/gh-link/mobile-money-interopability-faqs/12-blog/investment/196-value-ofmobile-money-interopability-transaction-for-half-year-hits-gh-217m>
- GhIPSS. (2019). *Consumer Perspective Survey on Choice of Payment Channels*. GhIPSS. Accra: GhIPSS. Retrieved from <https://ghipss.net/publications?download=6:consumerperspective-survey-on-choice-of-payment-channels>
- Goldstreetbusiness. (2018, December 21). Mobile Money interoperability set to boost SMEs transaction. Accra, Ghana. Retrieved January 2, 2020, from <https://goldstreetbusiness.com/business/mobile-money-interopability-set-to-boostsmes-transaction/>
- Groupe Speciale Mobile Association. (2013). *The Mobile Economy*. Retrieved August 8, 2019, from GSMA.com: AT Kearney. <http://gsma.com/newsroom/wp-content/uploads/2013/12/GSMA-Mobile-Economy-2013.pdf>
- GSMA. (2013, February). Mobile Money for the Unbanked Case Studies: Insights, best practices and lessons from across the globe. Retrieved December 16, 2019, from <http://www.gsma.com/mobilefordevelopment/>
- GSMA. (2014). State of the Industry Report: Mobile Financial Services for the Unbanked. Retrieved December 5, 2019, from <http://www.gsma.com/mobilefordevelopment/wp>
- GSMA. (2015). State of the Industry Report on Mobile Money. London, United Kingdom. Retrieved November 2019
- Hope, R., Foster, T., Krolikowski, A., & Rouse, M. J. (2012).
- Iansiti, M., & Levien, R. (2004). Strategy as ecology. *Harvard Business Review Home*, 68-78.
- Jack, W., & Suri, T. (2014, January). The Risk Sharing BeneÖts of Mobile Money. *American Economic Review*. Retrieved January 13, 2020, from <http://hdl.handle.net/1721.1/88137>
- Jenkins, B. (2008). Developing Mobile Money Ecosystems.
- Kayanula, D., & Quartey, P. (2000, 2 1). The Policy Environment for Promoting Small and Medium-Sized Enterprises in Ghana and Malawi. *Finance and Development Research Programme*. Manchester, Crawford House, Precinct Centre, Oxford Road, Manchester M13 9GH, United Kingdom. Retrieved 2020, from <http://www.man.ac.uk/idpm/>

- Kendall, J., Machoka, P., Veniard, C., & Maurer, B. (2011). An Emerging Platform: From Money Transfer System to Mobile Money Ecosystem. *Legal Studies Research Paper Series* No. 2011-14. Retrieved 2020, from <https://www.gsma.com/mobilefordevelopment/wpcontent/uploads/2012/06/ssrnid1830704.pdf>
- Max, M., & Claudia, M. (2018). Building Inclusive Payment Ecosystem in Tanzania and Ghana.
- Mbogo, M. (2010, February 25). The Impact of Mobile Payments on the Success and Growth of Micro-Business. *Journal of Language, Technology & Entrepreneurship in Africa*, 2.
- Moore, G. C., & Benbasat, I. (1991). Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation. 1982-222.
- Moore, J. F. (1996). The Death of Competition: Leadership and Strategy in the Age of Business Ecosystems. *Harper Business*, 1-29. Retrieved from <http://www.herbrubenstein.com/articles/THE-DEATH-OF-COMPETITION.pdf>
- National Communication Authority. (2017, February). (National Communication Authority)
- Retrieved August 3, 2019, from [nca.org.gh](http://www.nca.org.gh): <http://www.nca.org.gh/industry-data-2/market-share-statistics-2/voice-2>
- National Communication Authority. (2018). *Payment System Statistics*. Accra: NCA.
- Nyaga, K. M. (2013). *The Impact of Mobile Money Services on the Performance of Small and Medium Enterprises in an Urban Town in Kenya*. Kenya.
- Omol, E. J., Ogalo, J. O., Abeka, S. O., & Omieno, K. K. (2016). Mobile Money Payment Acceptance Model in Enterprise Management: A Case Study of MSE's in Kisumu City, Kenya. *Mara Research Journal of Information Science & Technology*, 1-12.
- Omwansa, T. (2009). M-PESA: Progress and Prospects. *Innovations Case Discussion: M-PESA*, 63-81.
- Palys, T. (2008). Purposive Sampling. In L. M. Given (Ed.), *The Sage Encyclopedia of Qualitative Research Methods* (Vol. 2, pp. 697-8). Los Angeles.
- Rosenberg, J. (2009). The Hype Cycle and Mobile Banking. Retrieved from <https://www.mypaga.com/paga-web/customer/static/>
- Saunders, M., NK, M., Lewis, P., & Thornhill, A. (2008). Research methods for business students.
- Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research. *Journal of Consumer Research*.
- Slade, E. L., Williams, M. D., & Dwivedi, Y. K. (2013). Mobile payment adoption: Classification and review of the extant literature. *The marketing review*, 167-190.
- Steel, W. F., & Webster, L. M. (1991, June). *Small Enterprises under Adjustment in Ghana*.
- World Bank, Recent World Bank Technical Papers. Washington, D.C. 20433, U.S.A:
- World bank. Retrieved 2020, from worldbank.org.

- United Nations. (2019). *Sustainable Development Goal 8 Knowledge Platform*. Retrieved from
- United Nations web Site: <https://sustainabledevelopment.un.org/sdg8>
- United Nations. (2016). Retrieved 2019, from UN Statistics Division:
- <https://unstats.un.org/sdgs/report/2016/goal-08/>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003, September). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27, pp. 425-478.
- Villars, J. (2004, June 5). *Speech Delivered at a Workshop of the Ghana Investment Advisory Council*. Akosombo: Open Journal of Business and Management. Retrieved from Open Journal of Business and Management.
- Wishart, N. A. (2006, 1 1). *Worldbank*. Retrieved from [worldbank.org](http://documents.worldbank.org/curated/en/886371468160779311/Micro-paymentsystems-and-their-application-to-mobile-networks):
- <http://documents.worldbank.org/curated/en/886371468160779311/Micro-paymentsystems-and-their-application-to-mobile-networks>
- World Bank. (2010). Unleashing the Power of Convergence to Advance Mobile Money Ecosystems. *Mobile Money Summit*.
- World Bank. (2012). Innovation in retail payment worldwide. *Financial Infrastructure Series*
- *Payment Systems Policy and Research*. Retrieved 2020
- World Bank. (2019, June 14). *Ghana Economic Update: Enhancing Financial Inclusion*.
- Retrieved August 2019, from <https://www.worldbank.org/en/country/ghana/publication/ghana-economic-updateenhancing-financial-inclusion>