# Factors Influencing the Increase in Mobile Money Transactions in Ghana

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**Abstract— Purpose** – *The purpose of this study was to determine the factors influencing the increase in mobile money transaction in Ghana.* **Design/methodology/approach** – *A descriptive quantitative research approach was used. Convenience sampling method was adopted. Data collection was done through the use of structured questionnaire involving Likert-Scale type of questions.* **Findings** – *The study identified that mobile money users in Ghana are influenced by the process involves in the use of mobile money services, the registration process and the speed of the process, time saving, paying bills and other utilities, and the reliability of the mobile money services to use mobile money services. Mobile money users in Ghana prefer mobile money transactions to banking transactions because mobile money transactions are less expensive, it is easy to perform, mobile money transaction is fast and save time, and it has more outlets than banking outlets.* **Practical implication** – *The findings advise mobile money operators in Ghana to use the identified factors to increase their customer base. Banks are to pay attention to the identified factors that have made mobile money users in Ghana to prefer mobile money transactions to banking transactions when designing new banking services.* **Originality/value** – *Finding the factors influencing the increase in mobile money transactions, and finding out why consumers prefer mobile money transaction to banking transaction in Africa using data from the Ghanaian economy as there is no unified view concerning factors influencing the increase in mobile money transactions.*

**Keywords— Factors, mobile money, mobile money users, technology, transactions, Ghana.**

## I. INTRODUCTION

Mobile money services have grown in popularity in most countries in the world. Mobile money services allow mobile money users to purchase or sell goods and services. Mobile money transactions are performed with the aid of mobile wallets on cellular phone (Makanyeza, 2017). The introduction of mobile money services have brought change on how transactions are performed currently. With mobile phone subscribers do not need to have bank account before using it. Mobile money technology allows mobile phone subscribers to store their money electronically on their Subscriber Identity Module (SIM) Card. The SIM Card is used by the telecommunications operators to create a unique identity account for each mobile phone subscriber (MTN, 2020).

Mobile money services have become important tool used in Ghana's financial system. In Ghana mobile money services can be received in most of the remote areas. Ghanaians have been migrating from one place to another place in Ghana because of transfers by their employer or to search for job in

the urban areas. Hence, the introduction of mobile money in Ghana has helped Ghanaians migrants to transfer money to their family members. Mobile money introduction in Ghana has reduced the sending of money through Ghanaian drivers, conductors and postal offices (MTN, 2020).

Mobile money services in Ghana are provided by MTN, Vodafone, AirtelTigo and some banks in Ghana. Their activities are regulated and supervised by Bank of Ghana. E-money guidelines was established in July, 2015 by Bank of Ghana to regulate and supervise all mobile money transactions in Ghana (Bank of Ghana (BOG), 2020). According to this e-money guidelines mobile money subscribers are to receive interest on their mobile money account. The e-money guidelines were established to achieve the following (BOG, 2020): (a) promote financial inclusion by protecting the safety and soundness of Ghana's financial system; (b) extension of financial services to every Ghanaian through electronic medium; (c) to ensure that electronic money is provided by financial institutions regulated by Ghana's Banking Act, 2004 and duly licensed non-bank entities by Bank of Ghana which solely engage in e-money business; and (d) assisting mobile money customers to enjoy transparency, fair treatment and effective recourse.

In May, 2018 Ghana Interbank Payment Settlement System together with the three mobile money operators (MTN, Vodafone and AirtleTigo) in Ghana and the financial institutions introduced mobile money interoperability system which allows mobile money users to transfer funds from one mobile network to another mobile network (Ghana Interbank Payment Settlement Systems Limited (GhIPSS), 2020). This implies that money can be transferred directly from one mobile wallet to another wallet across networks. Before the introduction of mobile money interoperability in Ghana, mobile money transaction from one mobile network to another was done through the token system. The token system on average was recording 90,000 transactions per month. With the current interoperability system, on average 100,000 transactions were recorded in the month of June, 2018 and 280,000 transactions were recorded in the month of August, 2018 (GhIPSS, 2020). This data shows that the introduction of interoperability system has helped to increase cross network transactions.

Mobile money services have increased tremendously in Ghana after its introduction in the year 2009 by MTN Ghana (BOG, 2020). Vodafone Ghana, AirtelTigo and GCB Bank have also joined MTN in the provision of mobile money services in Ghana. The value of mobile money transactions in

Ghana recorded an average figure of GH₵35.4 billion in 2015, GH₵51.4 billion in 2016 and GH₵109 billion in 2017. This indicates a growth of 112 percent over 2016 average figure of transactions (BOG, 2020). The number of mobile money subscribers in Ghana increased from 5 million in 2013 to 20 million in 2016 as compared to bank customers that increased from 5 million to 10 million in 2016. The number of mobile money subscribers in Ghana stood at 22 million at the end of 2017 (BOG, 2020). Although there is an increase in the use of mobile money services in Ghana indicating the acceptance of mobile money services in the country, the actual factors causing this increase are not known.

A review of previous empirical studies on mobile money services have indicated that existing research works on mobile money have been focused on interoperability of mobile, mobile payments, cashless payment and problems of mobile money usage (Osewa, 2018; Kenya, 2017; Hoering and Bourreau, 2017; Kumari and Khanna 2017; Reaves, Scaife, Bates, Traynor and Butler, 2015). Other studies that were directed towards factors influencing the acceptance of mobile money services in other countries have revealed fragmented findings proven that there is no universal agreement on factors influencing mobile money usage among people in the rural and urban places, context and time (Makanyeza, 2017). The fragmented findings have called for further research in the area of mobile money usage on factors influencing people to use mobile money services, and finding out why consumers prefer mobile money transactions to banking transactions. Considering the economic activities, types of markets and innovations in Africa it is important to conduct a research on the factors influencing the increase in mobile money transactions, and finding out why consumers prefer mobile money transaction to banking transaction using data from the Ghanaian economy, where the average value of mobile money transactions and number of mobile money subscribers keep on increasing. The study focused on four main objectives; to determine the factors influencing the increase in mobile money transaction in Ghana, to find out why consumers prefer mobile money transactions to banking transactions, to identify the type of mobile money network frequently use by customers, and to find out the type of mobile money service frequently use by customers.

The findings of the study will contribute to literature by providing information on the factors influencing the increase in mobile money transactions in Ghana. The study will help entrepreneurs, mobile money operators, policy makers, technology developers and mobile money customers to understand the factors causing an increase in the use of mobile money in Ghana. The results will also assist policy makers to formulate good policies for the mobile money industry. Finally, the study will serve as literature to researchers who want to study on the factors influencing mobile money transactions in Ghana. The remaining parts of this research paper include literature review, research methodology, empirical results, discussion and conclusions.

## II. LITERATURE REVIEW

### Mobile Money

Mobile money can be defined as exchange of electronic money value that has been stored on a SIM Card in a mobile phone which has been registered by the mobile network operators (MTN, 2020). Mobile money may also be described as product that allows customers of mobile money to use text messages to store value in an account created on their SIM Card which become accessible by the handset. Mobile money allows customers to directly save on their SIM card and provides them with the ability to convert cash in and out of their account, and transfer money between users without visiting the brick and mortar of a financial institution (Vodafone, 2020). Mobile money is a service provided by telecommunication networks that allow users to perform financial transaction on their phones. Transactions such as transfer of money, payment, buying of airtime can be carried out on the mobile money platform any time anywhere (BOG 2020).

Mobile money can be classified into three different categories namely mobile finance, mobile banking and mobile payments. Mobile finance covers the provision of credit, insurance and savings services. Mobile banking services can be informational or transactional whilst mobile payments range from payment made from one person to another person, government to individuals and one business to another business (Batista and Vicente, 2013).

### Introduction of Mobile Money in Africa

In Africa, mobile money was first introduced in Kenya by Safaricom in the year 2007. Mobile money is called M-PESA in Kenya. In 2008 mobile money in Kenya had over 1 million active account users Global System for Mobile Communications (GSMA, 2015). Mobile money was described in Kenya as an innovation that clearly dominates its money–transfer predecessors on virtually all dimensions. Jack (2011) studied mobile adoption in Kenya and found that Mobile Money is faster, cheaper, more reliable, and safer.

With M-PESA Kenya is at the forefront in mobile money revolution. The number of agents across the country increased by 40% in 2013. It is now estimated that 24 million subscribers use mobile money services in Kenya (GSMA, 2013).

### Mobile Money in Ghana

Mobile money services were introduced in Ghana in the year 2009 by MTN Ghana. Mobile money services in Ghana is currently provided by MTN, Vodafone, Airtel-Tigo and some banks in Ghana (GhIPSS, 2020). Their activities are regulated and supervised by Bank of Ghana. MTN Ghana started mobile money services in Ghana with the assistance of 9 banks and over 2 million active users. The mobile money service has seen significant growth over the years (BOG, 2020).

In the middle of the year 2016 mobile money transactions in Ghana have reached a total of 679.17 million Ghana cedis. This resulted in a growth rate of 20% when compared to 547.96 million Ghana cedis mobile money transactions recorded at the end of 2015 (GhIPSS, 2020). The increased in

mobile money transactions in Ghana shows the acceptance of mobile money services by Ghanaians. Mobile money has enabled users to satisfy and secure money transfer without having or using bank account and hence making a huge impact on the unserved population in Ghana (Bastista and Vicente, 2013).

*Mobile Money Interoperability in Ghana*

In May, 2018 Ghana Interbank Payment Settlement System together with the three mobile money operators (MTN, Vodafone and AirtleTigo) in Ghana and the financial institutions introduced mobile money interoperability system which allows mobile money users to transfer funds from one mobile network to another mobile network (GhIPSS, 2020). The mobile money interoperability system was introduced in two phases (GhIPSS, 2020). Phase one on the system allowed the interconnectivity of mobile money platforms and the Ghana National Switch (gh-link system). The second phase of the system introduced the interconnectivity between mobile money and ezwich system in Ghana. The second phase provided mobile money users and e-zwich users to move money across these two platforms. With the completion of the two phases funds in Ghana can be moved across all the three platforms namely the mobile money platform, gh-link platform and the e-zwich platform (GhIPSS, 2020).

Mobile money interoperability system in Ghana now will create convenience for mobile money users in transfer of their money, promote financial inclusion, lower transaction cost, increase service reach, reduce reliance on cash and 24/7 access to funds in wallets and bank accounts. In addition the system will make it easy for funds to be moved between wallets and bank accounts. It will also make it easy for users to receive and make payment for goods and services (GhIPSS, 2020).

*Economic and Social Benefits of Mobile Money Services*

Mobile Money Services are used by people who have bank accounts and people who do not have bank accounts. Mobile money services help these users especially the people without bank accounts to receive the benefits of financial services (Kirui and Onyuma, 2015). Through the use of mobile money services users are able to save money which assist in the mobilization of funds in Ghana. Through savings users are able to improve their economic status by given them opportunity to meet their financial needs in times of emergency (Dicastri, 2013). It is easily accessible to all user during the day or night. Mobile money services provide secure services at reduce cost as compared to the traditional banking transaction cost (Dombo, 2011). Mobile money services are offered to all low income and high income earners which is not like the traditional banking that focus mainly on the high income earners. Users of mobile money services have control over their accounts as they always have their mobile phones in their hands (Sedzro, 2013).

In addition mobile money services promote economic growth. Mobile money services have created employment for people who have registered as mobile money agents (Hinson, 2011). It has also help businesses that have registered as merchant to easily receive payment of their goods and services

and pay for goods and services. It has also assisted employers to easily pay their employees (Morawczynski, 2011).

*Theories Supporting the Adoption of Mobile Money*

The adoption of mobile money service in the world is supported by technological theories since mobile money services are provided through technology. The two main theories supporting the adoption of mobile money are Technology Acceptance Model and Diffusion of Innovation Model (Boateng, 2011).

*Technology Acceptance Model*

Technology Acceptance Model was developed by Davis in 1989 (Aron, 2015). The model describes how users accept and use information technology. Some aspects of the Technology Acceptance Model justify the acceptance of mobile money services. The theory suggests that a person's intention to use a particular technology is based on two beliefs namely perceived ease of use and perceived usefulness (Capgemin, 2013).

*Perceived Ease of Use*

According to the theory a person may accept and use information technology with the believe technology will be easy to use and will not be complex. This suggests that a person will always accept an information technology only when the person believes he/she can use it (Domeher, 2014).

The theory suggests the perceived ease of use of information technology in the mobile money services may cover how easy the registration process may be, the ease of the payment method, easy access to customer services, availability of mobile money agents and how easy to use the basic features of the mobile phone (Mauree, 2013).

*Perceived Usefulness*

According the theory of Technology Acceptance Model a person will accept and use an information technology only when the person believes that the technology will assist to increase his job performance or to achieve a particular results (Ondiege, 2015).

In addition the person may also believe that the technology should assist him/her to perform job easier, quicker and efficiently. Customers of mobile money services may accept the services if the technology will aid their financial transactions (Pritchard, 2015).

*Diffusion of Innovation Model*

This Model was developed by Rogers in 1983 to explain the acceptance of information technology by people (Orotin, 2014). Diffusion was defined by Roger in 2003 to mean the process by which an innovation is disseminated to people through the use of some channels over a period of time (Aker, 2010).

The theory suggested that information technology is assessed by how, why and what rate of new ideas are communicated to people (Donovan, 2012). According to Model the acceptance of an innovation by people depends on five main factors which include relative advantage,

complexity, compatibility, trailability and observability (Muisyo, 2014).

### Relative Advantage

Relative advantage of innovation of a new technology refers to the additional benefits the new technology can provide to people over an existing technology (Scharwatt, 2014). Hence the acceptance of mobile money technology will depend on the advantages people may derived from mobile money services than the existing methods of transfer and payment of funds. Relative advantage can be obtained from low cost of transaction, availability of the mobile money operators and agents, operational hours and stable network (Jack, 2011).

### Complexity

Complexity is used to describe the difficulty a people has in understanding and using a new technology (Juiper, 2011). Therefore the greater the complexity of using a new technology as compared to existing technology the slower the rate of acceptance. On the other hand, the lesser the complexity of using a new technology as compared to existing technology the greater the rate of acceptance (Passer, 2013).

### Compatibility

Compatibility of a new technology deals with the extent to which the technology is consistent with existing values, past experiences and serving the needs of users. People accept and use new information technology when it is seen as compatible (Nunoo, 2011). Hence, the more compatible a new information technology may be when compared to existing technology the greater it is accepted and the less compatible the new information technology may be as compare to existing technology the lesser it is accepted (Merritt, 2010).

### Observability

Observability refers to the degree to which the results of innovation become visible and tangible to users of the new technology (Mas, 2010). Visibility and tangibility of the results may depend on the impact the new information technology will have on the users after they use it. Therefore, the greater the positive impact of the new information technology on people as compare to existing information technology the greater its acceptance (Diniz, Albuquerque and Cerney, 2015).

### Trialability

Trialability of the new information technology deals with the chance users will have to try the technology before its full adoption. Hence, the more people can try a technology before it full implementation the greater it is accepted (Dermish, Kneiding, Leishman and Mass, 2014).

### III. RESEARCH METHODOLOGY

### Research Design

The study used descriptive research design because it focused on examining situations in order to establish what the norm is, that is, what can be predicted to happen again under the same circumstances. Descriptive research tries to determine the current practices or situations in order to establish or predict what will happen next (Passer, 2013).

The researcher used the following research questions for the study:
1. What factors influence consumers to use mobile money in Ghana?
2. Why consumers prefer mobile money transaction to banking transaction?
3. What mobile money network do you use frequently?
4. What mobile money service do you use frequently?

### Population of the Study

The target population for the study is the mobile money subscribers in the Accra Metropolitan Assembly and Kumasi Metropolitan Assembly. These two regions were selected because the two regions are the highly populated regions in Ghana. In 2018 the total number of registered mobile money accounts (cumulative) in Ghana was 32,554,346. The total active mobile money accounts stood at 13,056,978 (Bank of Ghana, 2020).

### Sampling Procedure

The researcher could not use the entire mobile money users in the two regions due to the huge number of mobile money users is the area. Hence, the researcher used non-random sample technique called convenience sampling technique to select the sample size of 322 for the study. Krejcie and Morgan (1970) table for determining sample size for a study was adopted to select the sample size.

### Data Collection Instruments

The researcher used a structured questionnaire to collect data for the study. Questionnaire provides high reliability, consistency, sensitivity and objectivity in collecting data. The questionnaire was structured into five (5) sections. It covered demographic characteristics, factors influencing consumers to use mobile money, why customers prefer mobile money transaction to banking transaction, mobile money network frequently use by customers, and mobile money service frequently use by customers. The questionnaire composed of Likert-Scale which was based on 5 options. This involves strongly agree, agree, neutral, disagree and strongly disagree. There was also Yes/No response. The questionnaire used for the study was pre-tested using 50 mobile money subscribers in the two selected regions.

### Data Collection Procedures

The researcher followed ethics of data collection by obtaining respondents consent (Hair and Lukas, 2014). The researcher obtained respondents consent by briefing them on the research purpose and relevance of the study. Questionnaires were distributed to the respondents by the researcher.

The researcher gave respondents some period of time to complete the questionnaires. Questions that were not clear to respondents were further explained by the researcher to help the respondents provide the necessary answers. All the 322 questionnaires distributed were retrieved from respondents. The researcher used four weeks in the data collections process.

*Data Processing and Analysis*

Collected data was edited, coded and analyzed. Numbers were used in coding the questionnaires. After editing and coding were done, the researcher entered the data into the IBM Statistical Package and Service Solution (SPSS) version 21. Descriptive analyze was performed. In analyzing the data collected, tables were used to consolidate and summarize the data set to make it more understandable.

## IV. RESULTS OF THE STUDY

*Summary of Socio Demographic Characteristics of the Respondents*

Table 1 presents the profile of the respondents used in the study. The results indicate that majority (179) of the respondents forming 55.6% were males. Majority (150) of the respondents were aged between 26 and 35. With regards to education level majority (190) representing 59.1 had attained tertiary education. In addition, the results show that majority (155) of the respondents constituting 48.1% were using MTN mobile money services in Ghana.

TABLE 1: Descriptive Statistics of the Respondents

| Variable | Frequency | Percentage (%) |
|---|---|---|
| **Sex** | | |
| Male | 179 | 55.6 |
| Female | 143 | 44.4 |
| **Total** | **322** | **100** |
| **Age** | | |
| 18 – 25 | 70 | 21.7 |
| 26 – 35 | 150 | 46.6 |
| 36 – 45 | 64 | 19.9 |
| 46 and above | 38 | 11.8 |
| **Total** | **322** | **100** |
| **Level of education** | | |
| JHS | 46 | 14.3 |
| SHS | 86 | 26.7 |
| Tertiary | 190 | 59.1 |
| **Total** | **322** | **100** |
| **Mobile Networks** | | |
| MTN | 155 | 48.1 |
| Vodafone | 94 | 29.2 |
| AirtelTigo | 73 | 22.7 |
| **Total** | **322** | **100** |

*Factors that Influence Consumers to use Mobile Money in Ghana*

This part of the study display the results that enabled the researcher to provide answer to the first research question of the study: What factors influence consumers to use mobile money in Ghana?

*Perceived ease of use and service quality of mobile money*

Table 2 displays the results concerning how perceived use and service quality of mobile money will influence respondents to use mobile money services. The results show that out of the 322 respondents that gave responses on how ease of mobile money process may influence them to use the mobile money services about 22.5% of the respondents strongly agreed, 52.5% of the respondents agreed, 10.8% stood neural, 7.5% disagreed and 6.7% strongly disagreed.

Table 2 also shows the respondents responses on the question how easy the mobile money registration process may influence them to use the mobile money services. The results indicate that 18.3% of the respondents strongly agreed, 57.5% of the respondents agreed, 10.0% of the respondents stood neutral and disagreed respectively and 4.2% of the respondents strongly disagreed.

In addition, Table 2 reports on the results concerning the question mobile money is fast and save time. Table 2 displays that 25.0% of the respondents strongly agreed, 48.3% of the respondents agreed, 9.2% of the respondents stood neutral, 10.8% of the respondents disagreed and 6.7% of the respondents strongly disagreed.

Moreover, Table 2 also reports on the question covering how easy payment of bills and other utilities will influence respondents' ability to use mobile money services. Table 2 indicates that 15.0% of the respondents strongly agreed, 46.7% of the respondents agreed, 13.3% of the respondents stood neutral, 16.7% of the respondents disagreed and 8.3% of the respondents strongly disagreed.

TABLE 2: Perceived Ease of Use and Service Quality of Mobile Money

| Perceived ease of use and service quality | Strongly Agree % | Agree % | Neural % | Disagree % | Strongly Disagree % | Total % |
|---|---|---|---|---|---|---|
| Mobile money process is easy to use | 22.5 | 52.5 | 10.8 | 7.5 | 6.7 | 100 |
| Registration procedure are easy | 18.3 | 57.5 | 10.0 | 10.0 | 4.2 | 100 |
| Mobile money is fast and saves time | 25.0 | 48.3 | 9.2 | 10.8 | 6.7 | 100 |
| Pay Payment of bills and other utilities are easy | 15.0 | 46.7 | 13.3 | 16.7 | 8.3 | 100 |
| Mo Mobile money service is reliable | 36.7 | 51.7 | 0 | 8.3 | 3.3 | 100 |

Finally, Table 2 reveals results on how the reliability of mobile money services can influence people to use mobile money services. Table 2 shows that 36.7% of the respondents strongly agreed, 51.7% of the respondents agreed, 0.0% of the respondents stood neutral, 8.3% of the respondents disagreed and 3.3% of the respondents strongly disagreed.

*Transactional Cost of Mobile Money Service*

Part of Table 3 of this study reports results concerning how less expenses on mobile usage can influence people to use the

services. The results show that 11.7% of the respondents strongly agreed, 57.5% of the respondents agreed, 4.2% of the respondents stood neutral, 15.8% of the respondents disagreed and 10.8% of the respondents strongly disagreed.

Another portion of Table 3 of this study also reports findings concerning how opening of mobile money account is affordable to the people. The findings show that 68.3% of the respondents strongly agreed, 25.0% of the respondents agreed,

6.7% of the respondents stood neutral, 0.0% of the respondents disagreed and strongly disagreed respectively.

Finally, the last aspect of Table 3 covers the findings on how affordable it is to send money from mobile money agents. The findings indicate that 55.0% of the respondents strongly agreed, 37.5% of the respondents agreed, 1.7% of the respondents stood neutral, 2.5% of the respondents disagreed and 3.3% of the respondents strongly disagreed.

*Distribution of Mobile Money Service*

Table 4 shows the findings covering the time it takes to process mobile money transfer as a factor to influence people to use mobile money services. The results indicate that 20.8% of the respondents strongly agreed, 60.0% of the respondents agreed, 4.2% of the respondents stood neutral, 9.2% of the

respondents disagreed and 5.8% of the respondents strongly disagreed.

Table 4 reveals results on how easy to access agents as a factor to influence people to use mobile money services in Ghana. The results show that 30.8% of the respondents strongly agreed, 65.0% of the respondents agreed, 0.0% of the respondents stood neutral, 2.5% of the respondents disagreed and 1.7% of the respondents strongly disagreed.

Finally, the last aspect of Table 4 covers the findings on how users can transfer money on their own. The findings indicate that 58.3% of the respondents strongly agreed, 21.7% of the respondents agreed, 5.8% of the respondents stood neutral, 9.2% of the respondents disagreed and 5.0% of the respondents strongly disagreed.

TABLE 3: Transactional Cost of Mobile Money Service

| Transactional cost of mobile money service | Strongly Agree % | Agree % | Neural % | Disagree % | Strongly Disagree % | Total % |
|---|---|---|---|---|---|---|
| Using mobile money service is less expensive | 11.7 | 57.5 | 4.2 | 15.8 | 10.8 | 100 |
| Opening mobile money account is affordable | 68.3 | 25.0 | 6.7 | 0.0 | 0.0 | 100 |
| Sending money from an agent is affordable | 55.0 | 37.5 | 1.7 | 2.5 | 3.3 | 100 |

TABLE 4: Distribution of Mobile Money Service

| Distribution of mobile money service | Strongly Agree % | Agree % | Neural % | Disagree % | Strongly Disagree % | Total % |
|---|---|---|---|---|---|---|
| Takes short time to process mobile money transfer | 20.8 | 60.0 | 4.2 | 9.2 | 5.8 | 100 |
| Easy to access agents | 30.8 | 65.0 | 0.0 | 2.5 | 1.7 | 100 |
| Can transfer money on you own | 58.3 | 21.7 | 5.8 | 9.2 | 5.0 | 100 |

*Mobile Money Transaction versus Banking Transaction*

This section of the study presents the results covering the second research question the researcher used for the study: Why consumers prefer mobile money transaction to banking transaction?

*Perceived ease of use and service quality of mobile money*

Part of Table 5 of this study reports findings concerning how easy to perform mobile money transaction than banking transaction. The findings show that 60.0% of the respondents strongly agreed, 24.2% of the respondents agreed, 4.2% of the respondents stood neutral, 8.3% of the respondents disagreed and 3.3% of the respondents strongly disagreed.

Another portion of Table 5 of this study also reports findings concerning how mobile transaction is fast and save time than banking transaction. The findings show that 54.2% of the respondents strongly agreed, 33.3% of the respondents agreed, 5.0% of the respondents stood neutral, 4.2% of the

respondents disagreed and 3.3% of the respondents strongly disagreed.

Part of Table 5 covers the findings on how easy is it to open mobile money account than opening bank account. The findings indicate that 48.3% of the respondents strongly agreed, 32.5% of the respondents agreed, 1.7% of the respondents stood neutral, 9.2% of the respondents disagreed and 8.3% of the respondents strongly disagreed.

Moreover, Table 5 also reports on the question covering the number of outlets mobile money has as compared to banking outlet. The results indicate that 74.2% of the respondents strongly agreed, 25.8% of the respondents agreed, 0.0% of the respondents stood neutral, disagree and strongly disagree respectively.

Finally, Table 5 reveals results on accessibility to loan. The results show that 62.5% of the respondents strongly agreed, 24.2% of the respondents agreed, 0.8% of the respondents stood neutral, 7.5% of the respondents disagreed and 5.0% of the respondents strongly disagreed.

TABLE 5: Perceived Ease of Use and Service Quality of Mobile Money

| Perceived ease of use and service quality | Strongly Agree % | Agree % | Neural % | Disagree % | Strongly Disagree % | Total % |
|---|---|---|---|---|---|---|
| Mobile money transaction is easy to use than banking transaction | 60.0 | 24.2 | 4.2 | 8.3 | 3.3 | 100 |
| Mobile money transaction is fast and saves time than banking transaction | 54.2 | 33.3 | 5.0 | 4.2 | 3.3 | 100 |
| Opening mobile money account is easy than opening bank account | 48.3 | 32.5 | 1.7 | 9.2 | 8.3 | 100 |
| Mobile money outlets are more than banking outlets | 74.2 | 25.8 | 0.0 | 0.0 | 0.0 | 100 |
| Easy to get loan through mobile money transaction than bank transaction | 62.5 | 24.2 | 0.8 | 7.5 | 5.0 | 100 |

*Transactional Cost of Mobile Money Service*

Table 6 reports findings concerning whether mobile money transaction is less expensive than banking transaction. The

findings show that 19.2% of the respondents strongly agreed, 52.5% of the respondents agreed, 7.5% of the respondents

stood neutral, 13.3% of the respondents disagreed and 7.5% of the respondents strongly disagreed.

Table 6 also reports findings concerning how opening of mobile money account is less affordable as compared to opening bank account. The findings show that 58.3% of the respondents strongly agreed, 35.0% of the respondents agreed, 5.0% of the respondents stood neutral, 1.7% of the respondents disagreed and 0.0% of the respondents strongly disagreed.

Finally, Table 6 covers the findings on how affordable it is to send money from mobile money agents than sending money from bank. The findings indicate that 15.8% of the respondents strongly agreed, 46.7% of the respondents agreed, 17.5% of the respondents stood neutral, 12.5% of the respondents disagreed and 7.5% of the respondents strongly disagreed.

*Distribution of Mobile Money Service*

Table 7 shows the findings concerning the time it takes to for transferred money to reflect in mobile money account as compared to reflecting in bank accounts. The results indicate that 21.7% of the respondents strongly agreed, 58.0% of the respondents agreed, 8.3% of the respondents stood neutral, 10.0% of the respondents disagreed and 9.2% of the respondents strongly disagreed.

Finally, Table 7 reveals results on how easy to access mobile money agents as a factor to influence people to prefer mobile money transaction to banking transaction. The results show that 76.7% of the respondents strongly agreed, 16.7% of the respondents agreed, 4.1% of the respondents stood neutral, 2.5% of the respondents disagreed and 0.0% of the respondents strongly disagreed.

TABLE 6: Transactional Cost of Mobile Money Service

| Transactional cost of mobile money service | Strongly Agree % | Agree % | Neural % | Disagree % | Strongly Disagree % | Total % |
|---|---|---|---|---|---|---|
| Using mobile money transaction is less expensive as compare the use of banking transaction | 19.2 | 52.5 | 7.5 | 13.3 | 7.5 | 100 |
| Opening mobile money is less expensive than opening bank account | 58.3 | 35.0 | 5.0 | 1.7 | 0.0 | 100 |
| Sending money through mobile money is affordable than sending money through bank | 15.8 | 46.7 | 17.5 | 12.5 | 7.5 | 100 |

TABLE 7: Distribution of Mobile Money Service

| Distribution of mobile money service | Strongly Agree % | Agree % | Neural % | Disagree % | Strongly Disagree % | Total % |
|---|---|---|---|---|---|---|
| It takes a short time for transfer money to reflects in mobile money account than bank account | 21.7 | 50.8 | 8.3 | 10.0 | 9.2 | 100 |
| Easy to access mobile money agents than bank tellers | 76.7 | 16.7 | 4.1 | 2.5 | 0.0 | 100 |

*Mobile Money Network Use Frequently by Customers*

This part of the study focused on the results the researcher obtained from the third research question: What mobile money network do you use frequently?

*Mobile Money Network Frequently Use by Customers*

Table 8 shows the results concerning mobile money network frequently use by customer. The results reveal that 73 of the respondents were using MTN mobile money representing 60.8% of the respondents, 32 of the respondents were using Vodafone mobile money representing 26.7% and 15 of the respondents representing 12.5% were using AirtelTigo mobile money.

TABLE 8: Mobile Money Network Use by Customers

| Mobile money network use by customer | Frequency | Percentage (%) |
|---|---|---|
| MTN mobile money | 73 | 60.8 |
| Vodafone mobile money | 32 | 26.7 |
| AirtelTigo mobile money | 15 | 12.5 |
| **Total** | **120** | **100** |

*Mobile Money Service Use Frequently by Customers*

This part of the study focused on the results the researcher obtained from the fourth research question: What mobile money service do you use frequently?

Table 9 reveals the results for mobile money service use frequently by customers. The results show 7 of the respondents representing 5.8% use mobile money to buy goods and services frequently, 21 of the respondents forming 17.5% use mobile money to buy airtime frequently, 36 of the respondents constituting 30.0% use mobile money to withdraw money frequently, 39 of the respondents forming 32.5% use mobile money services for sending money to friends and family members frequently and 17 of the respondents representing 14.2% use mobile money to pay bills frequently.

TABLE 9: Mobile Money Service use Frequently by Customers

| Mobile money service frequently use | Frequency | Percentage (%) |
|---|---|---|
| Buy Goods and Services | 7 | 5.8 |
| Buy airtime | 21 | 17.5 |
| Withdraw money | 36 | 30.0 |
| Send money to others | 39 | 32.5 |
| Pay bills | 17 | 14.2 |
| **Total** | **120** | **100** |

*Discussion of the Results of the Study*

Studies conducted towards factors influencing the usage of mobile money services in other countries have revealed fragmented findings proven that there is no universal agreement on factors influencing mobile money usage among people in the rural and urban places, context and time (Makanyeza, 2017). This study focused on four main objectives; to determine the factors influencing the increase in mobile money transaction in Ghana, to find out why consumers prefer mobile money transactions to banking

transactions, to identify the type of mobile money network frequently use by customers, and to find out the type of mobile money service frequently use by customers. This study is unique because the research questions used for the study were answered using data from Ghana.

The results imply that the proportion of male respondents is slightly higher than female respondents. This could suggest that males are more interested in using mobile money than females. The results on age distribution indicate that there may be a higher probability that the younger population may demand mobile money service than the elderly people. This implies that the youth may prefer mobile money services because they easily adopt technology. The results on education mean that most of the respondents are literates whilst few of the respondents are illiterates. Majority of the respondents are literates because educated people can use the mobile money technology than illiterates. Educated people also embrace change than uneducated people.

Depending on the strongly agree and agree responses the results imply that majority of the respondents are using mobile money services because the process involves in the use of mobile money services is easy. Hence it can be concluded that the simple process involve to use mobile money services influence most Ghanaians to use mobile money services. Based on strongly agree and agree responses the results imply that majority of the respondents are using mobile money services due to the fact that the registration process is easy. Therefore, the researcher can conclude that the mobile money registration process influence people to use mobile money services. Depending on the strongly agree and agree responses the results imply that majority of the respondents are using mobile money service because mobile money services is fast and save time. Hence it can be concluded that most Ghanaians are influence by how fast and time saving feature of mobile money services to use mobile money. Based on the strongly agree and agree responses the findings imply that majority of the respondents are using mobile money services because it is easy to use mobile money to pay bills and other utilities. Therefore, the researcher can concluded that the easy use of mobile money to pay bills and other utilities influence people to use mobile money services. Relying on the strongly agree and agree responses the results imply that majority of the respondents are using mobile money services because mobile money services is reliable. Hence it can be concluded that most Ghanaians are influence by the reliability of mobile money services to use mobile money.

Relying on the strongly agree and agree responses the findings imply that majority of the respondents are using mobile money services because mobile money services is less expensive. Hence it can be concluded that most Ghanaians use mobile money because they are influenced by the less expensive charges on mobile money services. This denotes that mobile money is seen to have presented a new way of making financial transactions at lower cost for users as compared to the banks. Depending on the strongly agree and agree responses the findings mean that majority of the respondents are using mobile money services because opening mobile money account services is affordable. Therefore, it can

be concluded that the affordability of opening mobile money account influence most to use mobile money services. This denotes that mobile money is seen to have presented a new way of making financial transactions at lower cost for users as compared to the banks. Based on strongly agree and agree responses the findings imply that majority of the respondents are using mobile money services because it is affordable to send money from mobile money agents. Therefore, the researcher can conclude that most Ghanaians are influenced by the affordability to send money from mobile money agents to use mobile money services.

Relying on strongly agree and agree responses the results mean that majority of the respondents are using mobile money services due to the fact that it takes short time to process mobile money transfer. Therefore, the researcher can conclude that the short time it takes to transfer money through the mobile money services influence people to use mobile money services in Ghana. Based on the strongly agree and agree responses the findings imply that majority (95.8%) of the respondents are using mobile money services because they find it easy to locate mobile money agents. Hence it can be concluded that most Ghanaians are influenced by the accessibility of mobile money services to use mobile money in Ghana. Based on strongly agree and agree responses the findings imply that majority of the respondents are using mobile money services due to the fact that users can transfer money on their own. Therefore, the researcher can conclude that most Ghanaians are influenced by their ability to transfer money on their own to use mobile money services.

Relying on the strongly agree and agree responses the results imply that majority of the respondents are using mobile money transaction than banking transaction because mobile money transaction is easy to perform when compared to performing banking transaction. Hence it can be concluded that most Ghanaians prefer to use mobile money transaction to banking transaction because it easy for them to perform mobile money transaction as compared to performing banking transaction. Depending on the strongly agree and agree responses the findings mean that majority of the respondents prefer using mobile money transaction to banking transaction because mobile money transaction is fast and save time than banking transaction. Therefore, it can be concluded that the possibility of mobile money users to perform mobile money transaction fast and save their time than performing banking transaction influence mobile money users to prefer mobile money services to banking services. Based on strongly agree and agree responses the results imply that majority of the respondents prefer to use mobile money transaction to banking transaction because it is easy for mobile money users to open mobile money account than opening bank account. Therefore, the researcher can conclude that most Ghanaians are influenced by how easy they can open mobile money account than opening bank account to prefer mobile money services to banking services. Based on strongly agree and agree responses the findings imply that majority of the respondents prefer mobile money transaction to banking transaction because mobile money has more outlets than banking outlets. Therefore, the researcher can conclude that since mobile

money has more outlets than banking outlets it influence mobile money users to prefer mobile money transaction to banking transaction. Relying on the strongly agree and agree responses the findings imply that majority of the respondents are using mobile money services than banking services because it is easy to get loan through mobile money than getting loan from bank. Hence it can be concluded that most Ghanaians are influenced by their ability to secure loan easily from mobile money to prefer mobile money transaction to banking transaction.

Relying on the strongly agree and agree responses the findings imply that majority of the respondents are using mobile money services because mobile money transaction is less expensive as compared to banking transaction. Hence it can be concluded that most Ghanaians use mobile money because they are influenced by the less expensive charges on mobile money transaction as compared to banking transaction. This denotes that mobile money is seen to have presented a new way of making financial transactions at lower cost for users as compared to the banks. Depending on the strongly agree and agree responses the findings mean that majority of the respondents are using mobile money transaction as compared to bank transaction because opening mobile money account is less expensive than opening bank accounts. Therefore, it can be concluded that the less expensive nature of opening mobile money account influence most users to prefer mobile money transaction to bank transaction. Based on strongly agree and agree responses the findings imply that majority of the respondents prefer to use mobile money transaction to banking transaction because it is affordable to send money from mobile money agents than sending money through the bank account. Therefore, the researcher can concluded that most Ghanaians are influenced by the affordability to send money from mobile money agents to prefer mobile money transaction to banking transaction.

Relying on strongly agree and agree responses the results mean that majority of the respondents are using mobile money transaction due to the fact that it takes short time for transferred money to reflect their accounts than reflecting in their bank account. Therefore, the researcher can conclude that the short time it takes for transferred money to reflect in mobile money account influence people to prefer mobile transaction to bank transaction. Relying on the strongly agree and agree responses the findings imply that majority of the respondents prefer to use mobile money transaction to bank transaction because mobile money users find it easy to locate mobile money agents than bank tellers. Hence it can be concluded that most Ghanaians are influenced by the easy access they get to mobile money agents than bank tellers to prefer mobile money services to use mobile money transaction to bank transaction.

The use of MTN mobile money services by majority of the respondents may be attributed to the larger market share captured by MTN service provider in Ghana. The use of mobile money services by mobile users to remit money to their dependant could have resulted in the frequently use of mobile services by the respondents to send money than using it for other purposes.

## V. CONCLUSIONS

Based on the perceived ease of use and quality services it can be concluded that the simplicity of mobile money process and registration procedure, mobile money service being fast and saves time, easy payment of bills and other utilities and reliability of mobile money service positively influence mobile money users to use mobile money services. Transactional cost factors including: using mobile money is less expensive, opening mobile money account is affordable and sending money from agent is affordable were found to affect users positively in their choice to use mobile money services. Distribution factors such as it takes short time to process mobile money transfer, easy to access agents and users transferring money on their own were also identified in the study to have positive influence in users' decision making to use mobile money.

In addition the study concludes that depending on perceived ease of use and quality services factors such as mobile money transaction been easy to use, mobile money transaction being fast and saves time, easy to opening mobile money account, mobile money services having more outlets and easy to get quick loan through mobile money services, mobile money users prefer mobile money transaction to bank transaction since all these factors have advantage over banking transaction. Again relying on transaction cost factors such as mobile money transaction is less expensive, opening mobile money account is less expensive, and sending money through mobile money agent is affordable mobile money users prefer mobile money transaction to banking transaction. With distribution factors: it takes short time for transfer money to reflect in mobile money account and easy to assess mobile money agents mobile money prefer mobile money transaction to banking transaction. Finally, the study concludes that majority of mobile money users use MTN mobile money services and mobile money users frequently use mobile money to send money.

Based on the conclusions of this research the researcher recommends that mobile money service providers should expand their service to all parts of the Ghana to capture more customers as Ghanaians prefer their transactions to banking transactions. The mobile money service providers should also make their network more stable and develop strong security system to protect their customers to assist them than attract more customers as Ghanaians are current enjoying their services. The researcher recommends that banks should widen their partnership with mobile networks through the migration of their services to the mobile money platform to make it easily accessible to bank customers. The banks should also intensify their education on their digital products to enable customers have in depth knowledge on various bank services.

The limitation of the study is the failure of the researcher to use statistical tools to test the relationship the variables used for the study. Hence, the researcher suggests that statistical tools such as regressions and correlations can be used to measure the relations between mobile money usage and perceived ease of use and quality services, low transaction cost and better distribution of services using data from Ghana.

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