



**ASHESI UNIVERSITY**

**MOBILE MONEY SERVICES: A FACTOR ALTERING THE SAVINGS OF  
FISHERFOLKS IN ANAFO COMMUNITY**

Undergraduate Thesis

By

Christopher Obiorah

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University in partial fulfillment of the requirement for the award of Bachelor of Science degree  
in Business Administration

Supervised by: Dr. Edgar Cooke

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IMPACT OF MOBILE MONEY

DECLARATION

I hereby declare that this thesis is my original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature.....

Candidate's name: Christopher Obiorah

Date: 11<sup>th</sup> May 2020

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on the supervision of the thesis laid down by Ashesi University.

Supervisor's Signature.....

Supervisor's name: Dr. Edgar Cooke

Date: 11<sup>th</sup> May 2020

## IMPACT OF MOBILE MONEY

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## IMPACT OF MOBILE MONEY

## ABSTRACT

Since its inception, mobile money service has had a positive impact on the economy of countries that have adopted it. The service has given room to the banked and unbanked population to be able to have access to financial services. This study looks at the impact of mobile money services on the savings of fisherfolks in fishing communities in Ghana using Anafo community as a test case. It sought to investigate the following: the impact of mobile money services on the savings of fisherfolks in Anafo Community; their preferred saving methods and the motivation(s) for their choice of saving method; whether fisherfolks have adequate income to save after paying for their expenses; and lastly, the challenges fisherfolks face in saving. Adopting a mixed method, the data for this study were collected from the fisherfolks of Anafo using questionnaires and interviews and processed through descriptive and inferential analysis. The findings indicate that fisherfolks use mobile money services for different purposes, from sending and receiving money to saving money. Also, the majority of these fisherfolks are not using mobile money services to save due to insufficient incomes and cases of fraud associated with using these services. But, for the few who manage to save money, the mobile money service has increased their savings. It is recommended that, in order to boost the patronage of mobile money services by the fisherfolks, especially for savings, the service providers should educate them to use the service effectively, especially regarding fraud.

## IMPACT OF MOBILE MONEY

## Table of Contents

DECLARATION .....	ii
ACKNOWLEDGMENT.....	iii
ABSTRACT.....	iv
LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
CHAPTER ONE: INTRODUCTION.....	1
1.1 Introduction .....	1
1.2 Background .....	3
1.3 The Research Problem .....	4
1.4 Research Question.....	6
1.5 Research Objectives .....	7
1.6 Significance of the Study .....	7
1.7 Methodology .....	8
1.8 Organization of Study .....	8
CHAPTER TWO: LITERATURE REVIEW.....	9
2.1 Introduction.....	9
2.2 Theoretical Framework .....	9
2.2.1 Definition of Financial Literacy .....	9
2.2.2 Factors Affecting Financial Literacy .....	10
2.3 Existing Literature.....	11
2.3.1 The Role of Mobile Phones in Financial Inclusion .....	11
2.3.2 The Role of Mobile Money Services in Financial Inclusion.....	13
2.3.3 Mobile Money Services and Financial Inclusion .....	14
2.3.4 Who Are the Unbanked Population? .....	15
2.3.5 Savings and Mobile Savings.....	16
2.3.6 Developing a Successful Mobile Money Service.....	18
2.4 Empirical Research .....	19
2.5 Summary .....	22
CHAPTER THREE: METHODOLOGY .....	23
3.1 Introduction .....	23
3.2 Scope of the Study.....	23

## IMPACT OF MOBILE MONEY

3.3 Research Design .....	23
3.4 Hypothesis .....	25
3.5 Data Sources .....	26
3.6 Sampling Size and Technique .....	26
3.7 Data Analysis .....	27
3.8 Ethical Consideration .....	27
3.9 Limitations of the Research .....	28
CHAPTER FOUR: DATA ANALYSIS AND RESULTS .....	29
4.1 Introduction .....	29
4.2 Characteristics of Respondents .....	29
4.3 The Use of Mobile Money Services .....	33
4.3.1 <i>The Use of Mobile Phones</i> .....	33
4.3.1.1 <i>Age Group of Respondents who Use or do not Use Mobile Phones</i> .....	33
4.3.1.2 <i>Respondents' Gender and Mobile Phone Use</i> .....	34
4.3.2 Use of Mobile Money Services .....	35
4.3.2.1 <i>Mobile Money Usage</i> .....	35
4.3.2.2 <i>Frequent Use of Mobile Money Services</i> .....	36
4.3.2.3 <i>Type of Mobile Money Service</i> .....	36
4.3.2.4 <i>Use of Mobile Money</i> .....	37
4.3.2.4.1 <i>Mobile Phone Use and Mobile Money Services</i> .....	37
4.3.2.4.2 <i>Respondents' Gender and Mobile Money Use</i> .....	38
4.3.2.4.3 <i>Respondents' Source of Income and Mobile Money Use</i> .....	39
4.3.3 <i>Reasons for not Using Mobile Money Services</i> .....	40
4.4 Respondents' Monthly Income and Expenses .....	41
4.4.1 <i>Monthly Income and Source of Income</i> .....	41
4.4.2 <i>Gender and Monthly Income</i> .....	42
4.4.3 <i>Budgeting</i> .....	43
4.4.4 <i>Respondents' Expenses</i> .....	44
4.4.5 <i>Managing of Money</i> .....	46
4.5 Saving Behavior .....	46
4.5.1 <i>Savings of Respondents</i> .....	46
4.5.1.1 <i>Source of Income and Savings</i> .....	47

## IMPACT OF MOBILE MONEY

4.5.2 <i>The Preferred Saving Method of Respondents</i> .....	47
4.5.3 <i>Saving with Mobile Money</i> .....	48
4.5.4 <i>Challenges with Saving with Mobile Money Services</i> .....	49
4.6 Relationship Between Mobile Money Savings and An Increase in Amount of Savings ....	50
4.6.1 <i>Hypotheses Testing</i> .....	50
4.6.1.1 <i>Results</i> .....	50
4.7 Challenges of Saving.....	51
CHAPTER FIVE: SUMMARY, RECOMMENDATION AND CONCLUSION.....	52
5.1 Introduction .....	52
5.2 Summary .....	52
5.3 Recommendation.....	53
5.4 Conclusion.....	54
5.5 Areas for Further Research .....	55
References.....	56
APPENDIX I .....	62

LIST OF TABLES

Table 4.1: *Respondents Gender* ..... 29

Table 4.2: *Age Distribution of Respondents* ..... 31

Table 4.3: *Level of Education of Respondents*..... 31

Table 4.4: *Mobile Phone Usage*..... 33

Table 4.5: *Mobile Money Usage*..... 35

Table 4.6: *Type of Mobile Money Service* ..... 36

Table 4.7: *Budgeting*..... 44

Table 4.8: *Savings*..... 46

Table 4.9: *Preferred Saving Method*..... 47

Table 4.10: *Mobile Money Savings*..... 48

Table 4.11: *Chi-Square Results* ..... 50



## IMPACT OF MOBILE MONEY

## LIST OF FIGURES

Figure 4.1. Bar Chart of Age to Mobile Phone Use.....	34
Figure 4.2. Bar Chart of Gender to Mobile Phone Use .....	35
Figure 4.3. Bar Chart of Mobile Phone Use to Mobile Money Services.....	38
Figure 4.4. Bar Chart of Gender to Mobile Money Use .....	39
Figure 4.5. Bar Chart of Source of Income to Mobile Money Use .....	40
Figure 4.6. Bar Chart of Source of Income to Monthly Income.....	42
Figure 4.7. Bar Chart of Gender to Monthly Income .....	43
Figure 4.8. Bar Chart of Source of Income to Savings.....	47

# IMPACT OF MOBILE MONEY

## CHAPTER ONE: INTRODUCTION

### 1.1 Introduction

Savings is the portion of income not spent on consumable goods, or, the accumulation of assets, that is, the buying of livestock, houses, and lands (Wray, 1992). Individuals have many reasons why they put money down for future use (Karlan, Ratan & Zinman, 2014). Some of these reasons include: for crisis or illness; for financial gains; as a retirement plan; and for funding schooling, among others (Karlan *et al.*, 2014).

Saving is very critical for individuals and the well-being of the society because it helps households to smoothen their consumption and finance their investments in human and business capital (Karlan *et al.*, 2014). Rates of savings also determine the growth of an economy (Karlan *et al.*, 2014). Despite the importance of saving money, access to financial institutions, especially in rural areas, is difficult, and this is one problem that led to the introduction of mobile money services in Ghana (Zaney, 2015).

The introduction of mobile money services has opened new frontiers for the access to financial services (Jack & Suri, 2011), making mobile money services a significant means of payment for the unbanked in Ghana (Bank of Ghana, 2017). Mobile money service providers have also impacted individuals and the economy of Ghana through their services, which are faster, convenient, and cheaper than formal financial institutions (ACP Observatory on Migration, 2014). The introduction of mobile money services has provided access to financial services in rural areas that traditional banks have overlooked (ACP Observatory on Migration, 2014). In most rural areas where infrastructure like electricity and roads are poor, mobile phones have the potential to improve the standard of living (ACP Observatory on Migration, 2014).

## IMPACT OF MOBILE MONEY

In improving the saving habits of individuals, the introduction of mobile money services has reduced the cost involved in sending and receiving cash. Comparing mobile money transaction costs to the costs involved in money transfers, using companies like Western Union or MoneyGram, is seen as expensive with charges of about 8.36 percent (ACP Observatory on Migration, 2014) while mobile money services have a lower charge rate of 1 percent (Zaney, 2015).

Ghana is the fastest-growing mobile money market in Africa after registered accounts increased from about 3 million customers in 2012 to over 20 million customers who use mobile money services in the year 2017 (Ozyurt, 2019). This increase in numbers showed that technology could boost financial inclusion in the country (Ozyurt, 2019). These numbers showed that more people were using mobile money platforms to access financial services and transactions.

However, there are risks, such as a breach of trust and sim fraud, involved with the usage of this platform (Buku, 2017). These risks can be mitigated through customer awareness campaigns, agents' training on acceptable practices, and employees' training on roles and responsibilities (Gilman & Joyce, 2012). With all these risks involved, mobile money services have found ways to help the poor save and have given them financial support for their small-scale businesses.

With the increasing rate of Ghanaians adopting mobile money services as part of the ways to make financial transactions, this research focused on how mobile money services in Ghana have increased savings of fisherfolks in Anafo community, a suburb in Cape Coast.

## IMPACT OF MOBILE MONEY

### 1.2 Background

Mobile money services in Ghana was introduced in 2009 by MTN telecommunication services (Zaney, 2015), and later followed by Zain telecommunications with Zap mobile money service (Mobile World Live, 2010). The introduction of mobile money services in Ghana was primarily to counter the problem of the inaccessibility of financial services to the large unbanked population in the nation (Zaney, 2015). The growth of mobile financial services in Africa has exceeded expectations, and recently, Ghana has emerged as the fastest-growing mobile money market in Africa (Ozyurt, 2019).

In 2017, Ghana had about 58 percent of adults having access to financial services as compared to 41 percent in 2014 (Ozyurt, 2019). This access was as a result of over 20 percent of mobile wallet users not having bank accounts, but now have mobile accounts (Ozyurt, 2019). The introduction of mobile money services has helped to reduce the time customers spend in completing transactions and the costs involved in opening an account. Mobile money services over time have extended financial services to low-income communities, improved productivity, and security (Zaney, 2015).

Mobile money transactions have improved over the years and, as a result, made access to financial activities easy. Mobile money provides services such as cash deposit, which serves as a means of savings for some people, cash withdrawals, and cash transfers through receipts and payments (ACP Observatory on Migration, 2014). Mobile money services in developing countries are used by people who do or do not have personal bank accounts (ACP Observatory on Migration, 2014).

Users of mobile money services often use two major forms of this service, which are mobile payment and mobile transfer. This is because they are available on mobile phones without a need

## IMPACT OF MOBILE MONEY

for a bank account (ACP Observatory on Migration, 2014). These services are made accessible from a mobile wallet, which is linked to the Subscriber Identity Module [SIM] card and protected by a Personal Identification Number [PIN]. Mobile payments have allowed users with no bank accounts to purchase or sell goods in shops using mobile phones (ACP Observatory on Migration, 2014). Mobile transfers have also allowed individuals without bank accounts to send or receive small amounts of money from their mobile phones (ACP Observatory on Migration, 2014).

In Ghana, the three mobile money service platforms are MTN Mobile Money, Airtel Tigo Money, and Vodafone Cash. These mobile money service platforms are regulated by the Bank of Ghana using the e-Money Issuer Guidelines of 2015 (Ozyurt, 2019). These services are vital in digitizing government collections, paying utilities, and broadening the tax base to increase inclusion efforts for the financial sector (Ozyurt, 2019).

Despite all these benefits associated with mobile money, one significant risk is the challenge of fraud to consumers and agents. This type of fraud can be through Subscriber Identity Module [SIM] swaps and common scams (Buku, 2017). Mobile money services have reached a more extensive range of customers, especially individuals in low-income communities, which have spread out to the unbanked and unserved populations (Buku, 2017).

### 1.3 The Research Problem

From 2017 to 2019, the Bank of Ghana [BoG] revoked licenses of some banks and microfinance institutions in Ghana as a result of irresponsible borrowing and lending, poor corporate governance, fraud, and corruption (Ibrahim, 2019b). Poor management of funds by financial institutions over the years in Ghana led to the closure of over 300 financial institutions (Ibrahim, 2019a), making it difficult for depositors to receive their money now (Obboh, 2019).

## IMPACT OF MOBILE MONEY

The revocation of licenses of these banks led to the unemployment of workers in the banking sector and the loss of money for individuals (Ibrahim, 2019b). Also, the revocation led to a bank run, which happened when large group of customers withdrew their money at the same time as a result of fear that the institution may become bankrupt (Pritchard, 2020). Individuals may deposit their cash in other institutions they believe are safer (Pritchard, 2020).

With the introduction of mobile money services in Ghana in 2009, it became a platform for financial inclusion, for the urban and rural areas. In 2015, there were over 16 million mobile money users in Ghana, with its annual transaction being GHS35.4 billion (Dugah, 2018). MTN mobile money service was the largest mobile money operator and recorded GHS4 billion in revenue in mobile money operations in 2018 (Bimpeh, 2019). Mobile money services have played a role in extending financial services to the unbanked population and people in the urban and rural areas.

The introduction of mobile money service in Ghana was to lower the cost of transactions, improve security, and to help create a platform for the growth of businesses and provide employment (Zaney, 2015). It has made financial transactions easy for its users and has improved the financial inclusion of people in rural areas (Zaney, 2015).

Users of mobile money services can make payments for services using mobile money, making it easier for them to send and receive cash (Dugah, 2018). Since its inception, mobile money services have helped to increase services amongst its users (Dugah, 2018). To promote savings, some mobile money operators pay an interest of 7% quarterly on mobile money account balances, which is achieved through partnerships with some selected banks (Dugah, 2018). For example, MTN has collaborated with Ecobank to allow mobile money users to invest in treasury bills through the use of mobile money (Ecobank, 2019), which has helped to include people in the financial system.

## IMPACT OF MOBILE MONEY

Studies undertaken focused on how mobile money services have affected the saving behaviors of individuals in developing countries, and how the service has affected financial development (Ky, Rugemintwari & Sauviat, 2018). Results showed that with the introduction of mobile money, there was a likelihood for people to save (Ky, Rugemintwari & Sauviat, 2018).

Another research also investigated how mobile money services have influenced the saving behavior of low earning households using a fishing household in Kenya (Osore, 2015). Results showed that the introduction of mobile money services had enhanced access to formal financial services in Mbita, a division in Kenya (Osore, 2015).

However, this study would test whether mobile money services influence the savings of fisherfolks in Anafo community and whether it is an alternative means of savings for individuals who have lost confidence in the banking sector. The study would also find out whether fisherfolks in the community save and the challenges they face while saving.

### 1.4 Research Question

The study addressed the question:

1. Is there a relationship between the usage of mobile money services and the savings of fisherfolks?

The study used the following null and alternate hypothesis:

*H<sub>0</sub>: There is no relationship between mobile money savings and an increase in the amount of savings by fisherfolks.*

*H<sub>1</sub>: There is a relationship between mobile money savings and an increase in the amount of savings by fisherfolks.*

## IMPACT OF MOBILE MONEY

### 1.5 Research Objectives

The objectives of this study are as follows:

1. To investigate whether mobile money services have impacted the savings of fisherfolks in Anafo community.
2. To describe the preferred saving method(s) and what their motives are for choosing a saving method.
3. To investigate whether the fisherfolks have adequate income to save after paying for their expenses.
4. To determine the major challenges faced by fisherfolks in saving.

### 1.6 Significance of the Study

This study would help the government, financial institutions and telecommunication providers to educate individuals in fishing communities of financial products that are available for their use.

The findings of this study are beneficial to people in academia because it adds up to existing literature on the impact of mobile money services on saving behavior in various communities. It also helps other researchers in Ghana or other parts of the world, to conduct a similar study by using this research as a guide.

Mobile money services would benefit from the conclusions of this research since it will bring to light the major reasons why people are not saving with mobile money and the major challenges they are facing while saving. This study can be used to assess the impact of mobile money services on fisherfolks and how it has alleviated poverty and influenced savings. Fisherfolks who do not save or know what saving is, as a result of their lack of awareness on the area of savings, could improve their savings to secure financial comfort.



## IMPACT OF MOBILE MONEY

### 1.7 Methodology

In answering the research question, the mixed method approach, which combined both quantitative and qualitative methods, was used. This approach allowed a combination of numerical figures and an in-depth exploration of the study, using both primary and secondary data. The instruments that were used in the data collection were questionnaires and interviews, and the interviews were conducted for the chief fishermen.

### 1.8 Organization of Study

This research report was arranged into five main chapters. The first chapter was the introduction of the study, consisting of the background, research problem, research questions and objectives, and the significance of the study. The second chapter was the review of literature on the area of research for mobile money services and how they have impacted saving habits in developing communities. It also discussed the theoretical framework which underpinned the study.

The third chapter of this research was the methodology. This chapter focused on the methods and steps involved in reaching the set objectives and the steps used to collect and analyze the data collected. The fourth chapter focused on analyzing the results and findings of the research. The final chapter gave conclusions, recommendations, and other plausible study areas based on the results and findings of the study.

# IMPACT OF MOBILE MONEY

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction

This chapter focused on existing literature on how mobile money services encouraged savings in low-income communities and is divided into three main sections. The first section focused on the theoretical framework and discussed the leading theory that was employed in the research. The second section reviewed existing literature on mobile money services and its impact on savings in fishing communities in Ghana. The third section focused on empirical data available on the research topic and the methods used by previous researchers on the topic. To conclude, the chapter summarized the entire review of the first three sections.

### 2.2 Theoretical Framework

This study was guided mainly by the concept of financial literacy.

#### 2.2.1 Definition of Financial Literacy

Remund (2010) stated that “financial literacy is a measure of the degree to which a person understands the key financial concepts, possesses the ability and has the needed confidence to manage personal finance through the right short-term and long-term decision making, putting into consideration life events and changing economic conditions.” Remund drew his definition from conceptual definitions into one primary definition.

Financial literacy, as defined by Huston (2010), is the ability and confidence of an individual to apply and use his or her financial knowledge to make financial decisions. Servon and Kaestner (2008) further simplified the definition of financial literacy as a person’s ability to understand and make use of financial concepts.

## IMPACT OF MOBILE MONEY

Finally, Johnson and Sherraden (2007) defined financial literacy as the ability of one to read, analyze, manage, and communicate about his or her financial conditions that affected their well-being. Financial literacy can be summed up by its relations to how a person understands financial concepts and how that same person can apply these concepts to day-to-day life activities.

### 2.2.2 Factors Affecting Financial Literacy

According to Lusardi and Mitchell (2009), factors affecting financial literacy include the following:

- Age

Lusardi and Mitchell (2005) stated from their research on financial planning that persons aged 51 years to 56 years have the lowest financial literacy rate. These people find it difficult to understand basic financial knowledge around simple interest calculations. However, Worthington (2004) found out that financial literacy was highest with people aged 50 to 60 years, which was different from Lusardi and Mitchell's (2005) research. According to Almenberg and Säve-Söderbergh (2011), studies on financial literacy in Sweden show that people aged 35 to 50 years had the highest levels of financial literacy, which was similar to Worthington (2004); however, ages above 65 years had the lowest levels of financial literacy.

- Gender

Gender as a factor showed that women were graded worse than men in their assessment test, and this was mostly as a result of women not being very much interested in personal financial issues (Goldsmith, Goldsmith & Heaney, 1997). Worthington (2004), in his research on people in Australia, emphasized that males with a higher educational level had a greater likelihood of a high financial literacy as compared to that of females. Ford and Kent (2009)

## IMPACT OF MOBILE MONEY

concluded that female college students were more intimidated and less interested in financial markets as compared to men. Also, women had lower levels of financial market awareness as compared to men (Ford & Kent, 2009).

- Education

Worthington (2004) stated that financial literacy was high in persons who were university or college graduates, while persons with a low level of education had the lowest financial literacy. According to Johnson and Sherraden (2007), the average student who had finished high school lacks basic knowledge in finance, which made it hard for that high schooler to be ready to discuss financial issues. Almenberg and Säve-Söderbergh (2011) stated that persons who had completed university are more financially informed than persons who had a low level of education.

- Employment Status

In Worthington's (2004) research about the role of financial literacy in Australia, he revealed that professionals, business and farm owners, and university graduates were the highest people found to be financially literate while the lowest were the unemployed, females and those with a low level of education. Monticone (2010), in examining the determinants of financial literacy in Italy, stated that most financial literate groups were those doing the white-collar jobs, managers, and self-employed persons.

## 2.3 Existing Literature

### 2.3.1 The Role of Mobile Phones in Financial Inclusion

Mobile telephony in Africa has helped connect individuals to others and markets to services. Mobile phones have given room for people to gain information quickly, an example being farmers in the Northern part of Ghana who can simply send a text and gain information

## IMPACT OF MOBILE MONEY

about corn and tomato prices in Accra (Aker & Mbiti, 2010). The mobile phone revolution in Africa has transformed the lives of many, through access to basic financial services, which are in the form of phone-based money transfer (Donner & Tellez, 2008).

The use of mobile phones to make transactions has helped the user to store value in an account that can be easily accessed on a phone, and cash, which can easily be converted by using a mobile phone (Donner & Tellez, 2008). On some occasions, when the mobile money account is connected to a bank account, one can cash in or out at a bank, making the access to these financial services easier (Donner & Tellez, 2008).

Mobile phone usage in the financial space has given access for the transfer of cash from one phone to another once the mobile phones have mobile money accounts (Donner & Tellez, 2008). The use of mobile phones has provided services that offer ways by which money can be moved from place to place while providing an alternative to banks and other financial services (Asongu, 2013). Mobile phones have served as a virtual bank card for customers and financial institutions, avoiding the cost involved in issuing and distributing cards to customers by these financial institutions (Asongu, 2013).

The Subscriber Identity Module [SIM] card is used to store the PIN and account number of the customer and serves the same purpose as the card shared by the bank (Ondiege, 2010). Also, mobile phones can be used to transact and communicate with financial institutions to authorize transactions (Ondiege, 2010).

Mobile phones have improved financial services by being a tool where cash and savings are accessed by making the collection and the distribution of money easy for customers (Ondiege, 2010). In making financial services more accessible, mobile phones can be used as an

## IMPACT OF MOBILE MONEY

internet banking terminal, which allows customers to make payments, transfers and to access their account, which helps both the unbanked and banked population (Ondiege, 2010).

In 2018, these mobile technologies generated 8.7 percent of Gross Domestic Product in West Africa and had contributed to \$52 billion economic value being added (GSMA, 2019). It is forecasted that by 2023, contributions made by mobile technologies would account for 9.5% of the Gross Domestic Product since countries are benefitting from improvements in efficiency and productivity (GSMA, 2019).

Mobile technologies have not only benefitted economies positively, but they have also created social impacts by providing solutions (GSMA, 2019). This is by improving the livelihood of the vulnerable in society, creating a socioeconomic inclusion and enhancing inclusion both digitally and financially (GSMA, 2019).

### 2.3.2 The Role of Mobile Money Services in Financial Inclusion

#### *2.3.2.1 What is mobile money?*

Mobile money can be defined as a financial tool that uses mobile phones to send and receive money (Gosavi, 2018). With mobile money, both senders and receivers must open mobile money accounts through a mobile money agent with their mobile phones (Gosavi, 2018). The low costs associated with transferring money through mobile money services have become a useful tool for financial transactions in Africa (Gosavi, 2018). Mobile money has also become a means for people and businesses to make financial transactions such as payments to suppliers and customers, and customers to suppliers, paying utility bills and salaries (Gosavi, 2018).

## IMPACT OF MOBILE MONEY

### *2.3.2.2 What is financial inclusion?*

Financial inclusion is the process involved in ensuring access to financial services and adequate credit when needed by vulnerable groups at an affordable cost (Varghese & Viswanathan, 2018). Mobile money services have played a significant role in making the access to financial services easier by providing an affordable, safe, accessible, adaptable and usable service that the poor can use (Kikulwe, Fischer & Qaim, 2014). Financial inclusion varies on the African continent, between countries and regions in Africa (Ouma, Odongo & Were, 2017).

The benefits of financial inclusion include it being an avenue to rope the poor into the financial system (World Bank, 2013). It also helps to reduce the growth of exploitative money lenders and helps to protect the poor from unlawful money lenders (World Bank, 2013). Financial inclusion helps financial institutions to reach out to the unbanked population through low-cost deposits and helps to provide less risky liquidity management (World Bank, 2013).

Financial inclusion faces challenges such as limited access to credit, low skill, and productivity (Varghese & Viswanathan, 2018). The poor in the society lack the proper documentation, such as proof of address, to be able to open a bank account (Varghese & Viswanathan, 2018). Financial institutions also face higher transactional costs in providing financial services to people who hold low-value accounts (Varghese & Viswanathan, 2018). Poor infrastructure is a challenge that leads to financial exclusion. The lack of infrastructure in these rural spaces has become a problem for these financial institutions (Varghese & Viswanathan, 2018).

### 2.3.3 Mobile Money Services and Financial Inclusion

In reaching the unbanked population, mobile money services play a significant role in enhancing financial inclusion. In 2018, thirty-one markets had an increase of more than five

## IMPACT OF MOBILE MONEY

percentage points in ownership accounts at financial institutions, and this was attributed to the same growth of mobile money users (Pasti, 2019). In these same markets, active mobile money use exceeded eight percentage points, and this helped to increase financial inclusion (Pasti, 2019).

In enhancing financial inclusion, mobile money services have provided transformative services in sectors such as healthcare, education, financial services, and even employment (Pasti, 2019). Mobile money services have helped improve rural market penetration and have given room for the digitization of the value chains in the agricultural sector (Pasti, 2019). Also, mobile money services have helped to reduce the gender gap in 17 African countries; however, there is still much work to be done (Pasti, 2019).

### 2.3.4 Who Are the Unbanked Population?

In the global context, about 1.7 billion adults remain unbanked, that is, without an account at a financial institution or a mobile money provider. In high-income economies, accounts are owned by almost everyone, but the unbanked population are mostly found in developing countries (Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2017). About fifty-six percent of the unbanked population are women (Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2017).

In global terms, half of the unbanked population are from the poorest forty percent of households in the economy while the other half are from the wealthiest sixty percent in that economy (Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2017).

However, in developing countries, about half of the population that are adults have had primary education or less, and more than a third of the unbanked population have either



## IMPACT OF MOBILE MONEY

completed high school or post-secondary education (Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2017). From a Global Findex survey conducted in 2017, it revealed that people who do not have bank accounts have little money to save (Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2017). Also, the lack of documentation and trust in these financial systems came up as a reason for not having an account with any of the financial institutions (Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2017).

### 2.3.5 Savings and Mobile Savings

Savings is the portion of income that is not spent on consumer goods (Wray, 1992). People usually save for their future expenses, and this could be for a large purchase, an investment in education, or for possible emergencies. People with immediate expenses find ways to borrow to meet these expenses instead. In 2017, about 48 percent of adults were reported to have saved or set aside money in the past twelve months (Demirguc-Kunt, Klapper, Singer, Ansar & Hess, 2018). Also, high-income economies had 71 percent of adults saving money, while in developing countries, the value decreased to 43 percent for adults who are saving (Demirguc-Kunt *et al.*, 2018).

An alternative for saving in a financial institution in developing countries is to save by semi-formal or informal means (Demirguc-Kunt *et al.*, 2018). This form of saving can be saving with a savings club or even saving with a family member (Demirguc-Kunt *et al.*, 2018). In 2017, 11 percent of adults in developing economies saved using the informal means of saving, while 7 percent of adults saved using the semi-formal means but not with banks (Demirguc-Kunt *et al.*, 2018).

Also, in both the high-income and developing economies, there was about 16 percent of adults who saved in other ways such as saving at home, or through the accumulation of assets

## IMPACT OF MOBILE MONEY

such as buying livestock, jewelry, and real estate (Demirguc-Kunt *et al.*, 2018). Others may save using investment products through equity or trading in government securities (Demirguc-Kunt *et al.*, 2018).

A prerequisite for formal saving is by having a bank account, and this amounted to 51 percent of adults in 2011 but increased to 69 percent in 2017 (Demirguc-Kunt *et al.*, 2018). Looking at the number of adults who own accounts in the world in the year 2011, the accounts held were 23 percent; then, it increased in 2014 to 27 percent, but this remained the same in the year 2017 (Demirguc-Kunt *et al.*, 2018). Having an account does not mean that people save. In a global look, 42 percent of account holders have not saved in the past year (Demirguc-Kunt *et al.*, 2018).

Looking at the saving behavior of adults who have an account and those who do not have an account, it can be said that the unbanked population have lower income which leads to a lower capacity to save as well as having a less access to a convenient and affordable formal financial services (Demirguc-Kunt *et al.*, 2018).

There are two types of mobile savings; basic mobile savings and bank-integrated mobile savings (Demombynes & Thegeya, 2012). Basic mobile savings is the use of standard mobile money systems to keep funds that do not earn interest (Demombynes & Thegeya, 2012). Bank-integrated mobile savings is access to a bank account through a mobile phone, which can help to offer financial services that go beyond money storage and money transfer (Demombynes & Thegeya, 2012). This form of mobile savings gives room for one to either gain interest or even access loans (Demombynes & Thegeya, 2012).

## IMPACT OF MOBILE MONEY

### 2.3.6 Developing a Successful Mobile Money Service

In developing a successful mobile money system, there should be an effective relationship with regulators. The relationship is an essential part of mobile money services because it helps to ensure that mobile money services can operate fully without breaking any laws guiding the operations of this service (Lal & Sachdev, 2015).

Building trust is a critical part in developing a successful mobile money service. In building trust, mobile money services should help to ensure that customers are comfortable in entrusting their funds, so there should also be trust that mobile money agents will do what they are tasked to do with funds from customers (Lal & Sachdev, 2015). Building trust in this service is crucial because mobile money service requires the handling of funds of customers by agents (Lal & Sachdev, 2015). Any fault in handling these funds can lead to mistrust between mobile money agents and customers, and the loss of trust between mobile money agents and customers is difficult to restore (Lal & Sachdev, 2015).

The safekeeping of the funds of customers is important in maintaining a successful mobile money operation. Safekeeping of customer funds involves ensuring that funds of customers are well-kept in a storage system, which reduces the vulnerability to theft cases since these same funds may serve as a means of funding for the mobile money operator or agent (Lal & Sachdev, 2015).

Facilitating cash-in and cash-out is when customers can put funds into or withdraw funds from their mobile money account (Lal & Sachdev, 2015). This allows for easy conversion of cash into electronic funds and electronic funds into cash at a favorable time (Lal & Sachdev, 2015). Mitigation of fraud is also very critical in developing a successful mobile money service. Fraud can be perpetrated by the agents or merchants, and this is through taking cash-in or

## IMPACT OF MOBILE MONEY

transactional money and putting it in their account (Lal & Sachdev, 2015). Another form of fraud can be the situation where the agents overcharge for transactions (Lal & Sachdev, 2015).

Mitigating fraud is very important because it helps reduce the loss that customers face as well as build and maintain trust amongst customers (Lal & Sachdev, 2015). A successful mobile money service looks at making sure that agents receive profits from their mobile money business (Lal & Sachdev, 2015). Ensuring that agents have adequate profit is necessary because it helps to motivate them to continue the day-to-day operations involved in the mobile money service (Lal & Sachdev, 2015).

Finally, customer support is an essential part of promoting a successful mobile money service. Customer support is the available options that help customers with questions about the service and other important concerns (Lal & Sachdev, 2015). With customer support, customers must get their answers to problems in a very short time (Lal & Sachdev, 2015).

### 2.4 Empirical Research

This section looks at studies done by scholars and researchers on mobile money services and their impact on savings. The empirical research would take into consideration the methodology used, data used, the summary of the findings, and the conclusion of their research.

A study by Osore (2015) was carried out to examine mobile money services and the saving behavior of fishing communities and its impact and how it determines patterns of saving in fishing communities in Kenya. This study was conducted in Mbita Division in Kenya and adopted a qualitative and quantitative research design. Data collection was done through two methods, which are questionnaires and key informant interviews. These forms of data collection helped to provide rich data while checking biases in the study. For the qualitative approach, it

## IMPACT OF MOBILE MONEY

involved the gathering of in-depth information from questionnaires and key informants that were interviewed. For the sampling procedures, the study used probability and non-probability sampling methods. The sampling procedure was done in three stages with the first stage focusing on the sampling of locations and sub-locations; the second stage was the sampling of the fishing households which was done through a simple random sampling, and the third stage was the selection of the key informants, and this was based on their expertise and the understanding of the project.

In terms of the data sources, Osore's study used both primary and secondary sources. With primary data, information was gathered on people's attitudes, opinions, and their general behavior surrounding saving methods. The quantitative data were also gathered through a survey for the sampled fishing communities. Secondary data were obtained from written sources that included mobile money service reports, government records, and journals. Data collection was done through constructed questionnaires and pre-testing of ten fishing households and two key informants.

Regarding data analysis, the study targeted 80 respondents, and the data were analyzed through qualitative and simple descriptive data analysis techniques. The quantitative data gathered were cross-checked to clear any form of inconsistencies. The analysis was done using simple descriptive statistics in the form of frequency tables and cross-tabulation to show the existing relationships. The qualitative data gathered were organized into sub-themes, then categorized and arranged in patterns. Findings from this study indicated that the saving methods used by fishing communities showed that these communities save a significant proportion of their weekly income, and most of them have adopted a mixed-savings method; that is, using both

## IMPACT OF MOBILE MONEY

traditional and modern saving methods. This study also concluded that mobile money services had enhanced access to formal financial services in fishing communities in Kenya.

Mbiti and Weil (2011) investigated the impact of M-Pesa, one of the mobile platforms, on the Kenyan economy. This study combined data from different sources, which included micro-level surveys, transaction data from M-Pesa agents, and data from the Central Bank of Kenya. Data from the 2009 FinAccess survey was used to examine the patterns and characteristics of users of M-Pesa and their usage patterns. Results from this research showed that M-Pesa was mainly used for transferring money as compared to saving money, and the service had set itself as complementary to banks.

A study by Ky, Rugemintwari, and Sauviat (2017) also looked into how mobile money services affect saving behavior in developing countries. In this study, individual-level data on the usage of mobile money as well as socio-demographic information were collected through a survey which was designed in Burkina Faso in the year 2014. The data set used was 50 percent of mobile money users and 50 percent, non-mobile money users. Results from this research revealed that the use of mobile money services increases the likelihood for people to save for health emergencies. This study further showed that the introduction of mobile money services helped to increase the propensity of the rural, female, and less educated individuals with irregular incomes to save for health emergencies.

The effect of mobile money on savings and money transfer practices for low-income earners was also explored by Waweru and Kamau (2017). In this study, a survey was used since the focus was mapping the alternative value storage and saving methods and their interaction with mobile money shifts. This study was done in 2016, and the target population was adults in Kenya above the ages of 18. A statistical approach involving a Chi-square test was used to

## IMPACT OF MOBILE MONEY

analyze the data. Results from this study showed that mobile money service in Kenya had influenced various saving practices among low-income earners, and this has helped to shift from the practice of saving money by hiding it in houses.

Empirical studies have shown certain factors impact the relationship between mobile money and savings in low-income communities, and these factors include people's attitudes, opinions, and general behavior. Also, results from these empirical studies showed that mobile money services have positively impacted the savings of low-income earners and individuals in these communities. Although they save irregularly, there has been an improvement in their savings.

### 2.5 Summary

Mobile money has become a tool to be able to reach out to the unbanked population. Studies have shown that there are several determinants of financial inclusion, and this ranged from gender and religion to the level of education and financial status. Financial inclusion helps to reach out to the unbanked population and reduce the number of exploitative money lenders in these rural areas. The theoretical framework spoke about financial literacy and the factors affecting financial literacy. Financial literacy, as defined in the literature available, is a person's ability to understand and make use of financial concepts that were learnt in real-life situations. Also, the factors that affect financial literacy include a person's age, gender, marital status, education, and employment status. Males, well-educated persons, and people within the ages of 50 to 60 years have the highest level of financial literacy as compared to females and persons who have had a low-level of education. From the results of the empirical research, it can be concluded that individuals have seen an improvement in their savings since the introduction of mobile money services in low-income communities and developing countries.

## IMPACT OF MOBILE MONEY

### CHAPTER THREE: METHODOLOGY

#### 3.1 Introduction

This study aimed to investigate the impact mobile money services have on the saving habits of fisherfolks, using the Anafo community in Cape Coast. This chapter looks at the research design, the methods, and the tools that were used to gather data, analyze these data, and interpret the findings to help achieve the aim of the research. This chapter is arranged in the following sections: scope of the study, research design, hypotheses, data sources, sampling size and technique, data analysis, and ethical consideration.

#### 3.2 Scope of the Study

The target population of this research were fishermen and other individuals involved in fishing activities in Anafo Community, a suburb in Cape Coast. The needed data from these fisherfolks were obtained from the heads of fishermen (known as the chief fisherman), which were three in number from Anafo Community. The data covered the total fishermen in the community as well as the issues fisherfolks in the community face with savings.

#### 3.3 Research Design

This study employed quantitative and qualitative research designs. A quantitative research design emphasizes on measurements and numerical analysis to explain and describe a phenomenon (Babbie, 2010). In making inquiries, the quantitative research design uses hypotheses and questions to understand participants (Vanderstoep & Johnston, 2009).

This study is a descriptive and correlational research. Descriptive research describes the current status of the identified variable (Shirish, 2013). Under the descriptive research, the preferred technique used was the naturalistic observation, which involved the collection of data at places where participants were ordinarily found (Vanderstoep & Johnston, 2009). Therefore,



## IMPACT OF MOBILE MONEY

the collection of data for this research was conducted in the fishing community where these fisherfolks live. Correlational research determines the relationship between two or more variables in order to bring out trends and patterns in the data collected (Shirish, 2013). For this research, it allowed the easy identification of the relationships in the variables, and this gave room for data to be displayed graphically (McLeod, 2018).

Data collection for the quantitative research design mainly used questionnaires that gave room for fisherfolks to give answers. The questionnaires used a combination of both the checklist and a Likert scale, which were useful in evaluating on a range (Leedy & Ormrod, 2001). All questionnaires were in English but were translated to the local dialect for fisherfolks who found it difficult to understand.

The questions were closed-ended; that is, the fisherfolks were provided with a fixed number of responses to choose from (Lavrakas, 2008). The reason for using questionnaires was as a result of its ability to be used for a large group of people and its cost-effectiveness (Leedy & Ormrod, 2001). The questionnaires promised anonymity, and this gave room for honesty from the fisherfolks (Leedy & Ormrod, 2001).

The qualitative research design looked to explain the why and the how of the phenomena of the study (Kabir, 2016). This helped to capture the feelings and perceptions of the phenomena (Kabir, 2016). The qualitative research design was important to this study because it gave room for participants to share their feelings as well as give impact evaluations of the topic under study while expanding and clarifying answers from the quantitative research design (Kabir, 2016).

The qualitative design used the phenomenological approach, which focused on how participants experience the phenomenon in question (Vanderstoep & Johnston, 2009). The

## IMPACT OF MOBILE MONEY

phenomenological approach explained the phenomenon from the perspective of the fishermen. Its goal was to describe the experience the participants got (Teherani, Martimianakis, Stenfors-Hayes, Wadhwa & Varpio, 2015). In collecting data for the qualitative research design, this study interviewed chief fishermen who were the key informants.

Three chief fishermen were interviewed using the unstructured interview format. The unstructured interview format involved the use of open-ended questions to discover the chief fishermen's insights about mobile money savings. This helped to understand their thoughts about the topic in question (Given, 2008).

The unstructured interview gave room for more details on the phenomenon being studied (Given, 2008). Face-to-face interviews were the best for collecting data for this study because they allowed the researcher to understand the situation and probe deeper into answers given by the chief fishermen (Leedy & Ormrod, 2001). The qualitative method provided insight into mobile money services and the saving behavior of fisherfolks. It also helped to develop ideas that helped to support the quantitative data collected.

### 3.4 Hypothesis

This study assessed the relationship between mobile money savings and an increase in the amount of savings by fisherfolks. The hypotheses tested in this study were:

*H<sub>0</sub>: There is no relationship between mobile money savings and an increase in the amount of savings by fisherfolks.*

*H<sub>1</sub>: There is a relationship between mobile money savings and an increase in the amount of savings by fisherfolks.*

## IMPACT OF MOBILE MONEY

### 3.5 Data Sources

Primary data in the form of questionnaires and in-depth interviews were used in this research study. These sources of data were necessary because they provided data from first-hand experiences. Also, primary data were more authentic, reliable, and objective, as well as being free from human alterations (Kabir, 2016). Secondary data in the form of journal articles and statistical reports from the Ministry of Fisheries and Aquaculture were used to support the data collected using primary research instruments.

To get accurate and quick primary data, the researcher engaged the services of three enumerators to help in collecting data from the fisherfolks. Before being sent to the seaside to collect data, the three enumerators selected by the researcher were orientated about the objectives of the research and how to administer the questionnaires. Enumerators were taught not to draw their conclusions during the data collection; they were to record the exact response of the fisherfolks in order to control and avoid individual biases.

### 3.6 Sampling Size and Technique

The population of Anafo Community consisted of about 400 fishermen per information from our key informants. Using a confidence level of 95% with a margin of error of +/-5%, the sample representative of the population was approximately 199 fishermen.

Following Vanderstoep and Johnston's (2009) advice on selecting an appropriate sample, a convenient sample of 1 chief fisherman per day was selected according to their availability. Additionally, 199 fisherfolks were selected among those present at sea during visits of the enumerators for seven days. This sampling strategy was used because it was easy to pick participants who wanted to be a part of the research (Vanderstoep & Johnston, 2009).

## IMPACT OF MOBILE MONEY

### 3.7 Data Analysis

Quantitative data gathered were analyzed using descriptive statistics and inferential statistics. Descriptive statistics described features of the data collected for this study by providing summaries of the measures (Trochim, 2020). Tables and graphs were used as visual representations to show patterns as well as relationships between variables (Joyce, Neill, Watson & Fisher, 2008).

Inferential statistics helped to conclude the significant relationships between the variables (Vanderstoep & Johnston, 2009). The inferential statistics data gathered was analyzed using the Chi-Square test, and this determined whether or not there was a relationship between the variables stated (Vanderstoep & Johnston, 2009). This test used a significance level of 0.05, and if the p-value is less than 0.05, then it can be concluded that there is a relationship between the two variables (Vanderstoep & Johnston, 2009). The tool that was used in this data analysis was the statistical program R Studio.

The qualitative data was analyzed by identifying themes in the data collected from the interviews with the three chief fishermen. The data was organized and put into categories then put into themes to be able to bring out common trends in the data collected qualitatively (Vanderstoep & Johnston, 2009). After this, the processed data was summarized in narratives to bring out people's experiences through the answers given (Bhatia, 2018)

### 3.8 Ethical Consideration

All documents needed to conduct the study and collect data for this research were submitted to and approved by the Institutional Review Board of Ashesi University. The study was devoid of any form of deception of participants. Also, the fisherfolks who participated in the study were made aware that they had the right to accept or refuse to take part or terminate their

## IMPACT OF MOBILE MONEY

participation at any point without any penalties. They were duly informed about what this research entailed, its purpose, and its significance.

### 3.9 Limitations of the Research

The language barrier was a major limitation in the data collection process. Questionnaires had to be translated from English to Fante so that the fisherfolks could easily understand, which caused a delay in the research. Also, fisherfolks refused to fill the questionnaires at the beginning of the research because they considered this research as research for the government since most government researchers pretend to be students. Available and accurate data surrounding fisherfolks in the community were very difficult to come by, also prolonging data collection.

## IMPACT OF MOBILE MONEY

### CHAPTER FOUR: DATA ANALYSIS AND RESULTS

#### 4.1 Introduction

This chapter analyzed the findings from the research, using descriptive analysis for quantitative data and narrative analysis for qualitative data. The purpose of this chapter was to study the relationship between the use of mobile money services for savings, and its impact on the savings of fisherfolks in Anafo community. It encompassed the background of the respondents, the use of mobile money services, their saving behavior, the relationship between mobile money savings and saving behavior, and the challenges of saving via mobile money.

The study targeted 199 responses from fisherfolks in Anafo community. From the data, 199 sampled individuals filled the questionnaire appropriately. The response rate of the study was 100%, which was an adequate measure and met the expectation of above 60 % for a response rate (Fincham, 2008). Also, views from key informants, which consisted of all three chief fishermen of the community, were collected.

#### 4.2 Characteristics of Respondents

This section looked at the demographic characteristics of the respondents, which included their gender, age, education, marital status, source of income, and income status.

##### Gender Distribution of the Respondents

In the questionnaires administered, *Gender* was represented by male or female in Table 4.1. Majority of the respondents were males, and this represented 76.38% of the sample interviewed, while females represented 23.62%. One of the main reasons accounting for majority of males in this sector was the nature of the work; that is, males could go the sea while females bought the fish caught to sell or supported the males with the mending of their nets.

## IMPACT OF MOBILE MONEY

In fishing communities, women were banned from going fishing with the men. According to the Chief fishermen, this was because whenever women were taken along to fish, they wanted to catch a lot of fish, which made the boat sink. So, as a result of their *greed*, they were not allowed to go fishing. Women rather helped their husbands by collecting loans from microfinance organizations to support their husbands during fishing seasons. These loans were later paid back at the end of the month from the proceeds their husbands made from fishing. After a catch by the men, the women bought and sold the fish caught. Some married women also helped their husbands to mend nets before they go to sea. They are also in charge of the money their husbands made and advocated for savings since they were mostly at home or selling fish.

Table 4.1: *Respondents Gender*

Gender	Frequency	Percent (%)
Male	152	76.38
Female	47	23.62
Total	199	100.0

*Source:* Field Data, 2020.

The study found out the age distribution of the respondents, and it was observed that the age group 40-49 had the highest percentage: 29.6% of respondents. The remaining respondents were represented in the following age groups: 50-59 was the second largest with 21.1%; 30-39 had 20.6%; 18-29 also had 19.09%; above 60 years had 8.5%, and below 18 had the lowest percentage of 1%, because people around this age group are not allowed to go fishing.

## IMPACT OF MOBILE MONEY

Table 4.2: *Age Distribution of Respondents*

Age Group	Frequency	Percent (%)
18-29	38	19.095
30-39	41	20.603
40-49	59	29.643
50-59	42	21.106
Above 60	17	8.543
Below 18	2	1.005
Total	199	100

*Source: Field Data, 2020.*

On the educational level of the respondents, the tertiary level had no respondents, making it the least represented. Primary education had the highest percentage of respondents of 34.171%. Respondents with no formal education had the second-largest representation of 31.156%. The remaining respondents represented Junior High School (20.101%), Senior High School (6.03%), and Kindergarten (8.543%). The reason why most fisherfolks had high participation in basic education and could not further their education was a result of a lack of funding to support them.

Table 4.3: *Level of Education of Respondents*

Level of Education	Frequency	Percent (%)
None	62	31.156
Kindergarten	17	8.543
Primary	68	34.171
Junior High School	40	20.101
Senior High School	12	6.03
Tertiary	0	0
Total	199	100

*Source: Field Data, 2020.*

The study also found out that for the marital status of the respondents, most respondents were married, which represented 39.698% of the sampled interviews. The remaining respondents represented single (32.663%), divorced (20.1%), widowed (5.025), and cohabitation, having the



## IMPACT OF MOBILE MONEY

lowest representation with 2.513%. This shows that majority of people living in the community are married.

On the sources of income of respondents, the study found out that the highest percentage for the source of income of respondents was Fisherman with 48.744%. The second largest was Fish Trader with 25.628%, and the remaining respondents were Net Menders (16.583%) and Boat Owners (9.045%).

Furthermore, the study found the income status of respondents. Most (30.15%) of the respondents had a monthly income of GHS 0 – GHS 49. 26.63% of the respondents had a monthly income of GHS 100 – GHS 149, 24.62% of the respondents had an income of GHS 50 – GHS 99, and 18.59% had Above GHS 150, which was the least for respondents' monthly income.

GHS 0 – GHS 49 had the highest percentage of respondents due to how *seasonal* the fishing trade is, as said by one of the interviewees. The best season for fishing is mostly between June to September, which comes with a bumper harvest as compared to that of January to May. Even with this, due to *sea trawlers*, it becomes difficult to get a good catch, and this affects the income gained from each catch. The *ban on fishing* by the government also affects their income, making it difficult for fisherfolks to earn money from their fishing activities

## IMPACT OF MOBILE MONEY

### 4.3 The Use of Mobile Money Services

Under this section, respondents rate themselves on the use of mobile phones and mobile money services.

#### 4.3.1 The Use of Mobile Phones

Table 4.4 below shows whether fisherfolks own a mobile phone or not, and this is coded by *Yes* or *No*. A large percentage of respondents do not own a phone (54.77%), and 45.23% of the respondents own a phone. The reason why fisherfolks do not own a mobile phone is that they are mostly stolen or misplaced. Some fisherfolks also give their phones out to family members (wives, children, or siblings) that need the phone immediately.

Table 4.4: *Mobile Phone Usage*

Do you own a phone?	Frequency	Percent (%)
No	109	54.77
Yes	90	45.23
Total	199	100.0

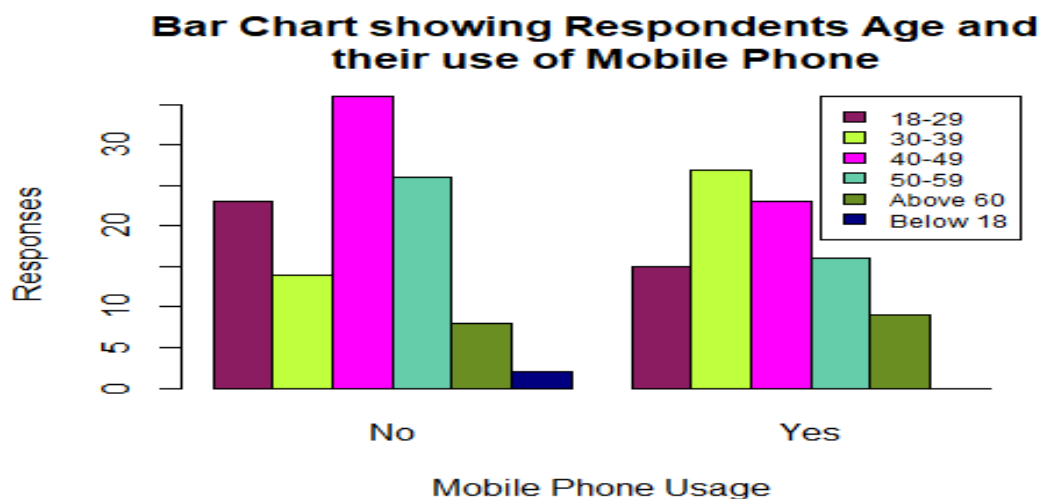
*Source:* Field Data, 2020.

#### 4.3.1.1 Age Group of Respondents who Use or do not Use Mobile Phones

The findings showed that 33.03% of respondents not using a mobile phone were under the age group of 40 – 49. The second-highest percentage of respondents not using a phone were in the age group of 50 – 59 with 23.85%. The remaining respondents who did not own a phone were represented by 18 – 29 (21.11%), 30 – 39 (12.84%), Above 60 (7.33%), and the least being below 18 with 1.83%. Under the age groups of respondents who use mobile phones, majority of respondents under the age group 30 – 39 used mobile phones, and this represents 30% of the sampled interviews. The remaining respondents represented 40 – 49 (25.56%), 50 – 59 (17.78%), 18 – 29 (16.67%), Above 60 (10%) and the least being below 18. Figure 4.1 below shows the bar

## IMPACT OF MOBILE MONEY

chart of the age group of respondents who use or do not use mobile phones.



*Figure 4.1.* This figure demonstrates a bar chart of Age to Mobile Phone Use

*Source:* Field Data, 2020.

### 4.3.1.2 Respondents' Gender and Mobile Phone Use

*Figure 4.2* below shows the respondents' gender and their use of mobile phones or not. Under the statement *I do not use a mobile phone*, males had the largest representation of 66.1%, while for females, 33.9% of them do not own a mobile phone. Under those who use mobile phones, males had the largest percentage of 89%, while the remaining 11% were females who used phones. From this, more females do not own phones as compared to females who own phones while more males were using mobile phones as compared to the males who do not own phones.

## IMPACT OF MOBILE MONEY

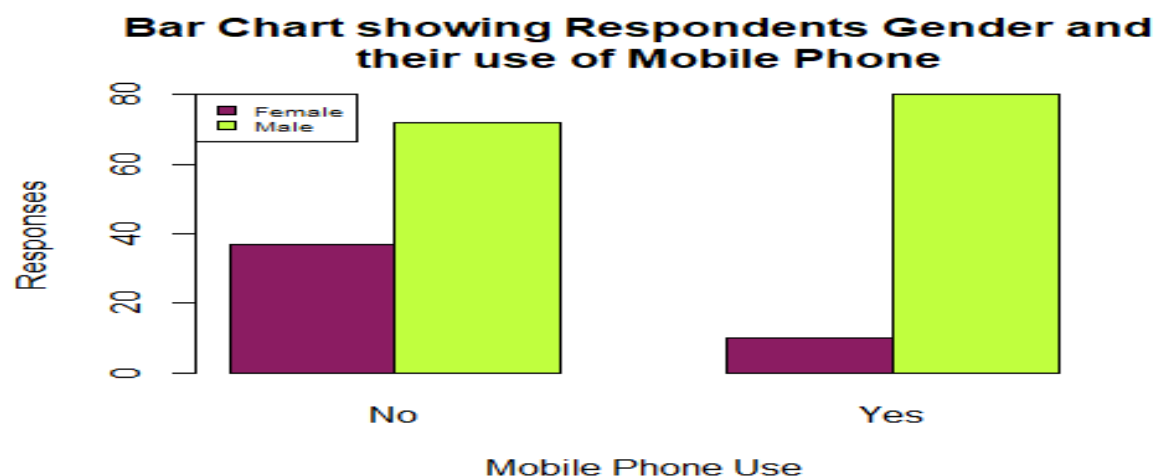


Figure 4.2. This figure demonstrates a bar chart of Gender to Mobile Phone Use

Source: Field Data, 2020.

#### 4.3.2 Use of Mobile Money Services

##### 4.3.2.1 Mobile Money Usage

Respondents were asked whether they used mobile money services or not, and their response was coded as *Yes* or *No*. Most respondents had not used mobile money before, and this represented 67.34% of the sampled interviews, while 32.66% of the sampled interviews have used mobile money services before. Table 4.5 below shows the responses to whether they have used mobile money services.

Table 4.5: *Mobile Money Usage*

Do you use mobile money?	Frequency	Percent (%)
No	134	67.34
Yes	65	32.66
Total	199	100.0

Source: Field Data, 2020.

## IMPACT OF MOBILE MONEY

### 4.3.2.2 Frequent Use of Mobile Money Services

Respondents were asked how frequently they use Mobile Money services, and responses were represented by *None, Daily, Weekly, and Monthly*. From the responses, majority of respondents did not use mobile money services, and this represented 60.80% of the sampled interviews. The second highest percentage were respondents who used mobile money services daily, and this represented 19.10% of the sampled interviews. The remaining respondents were represented in Monthly (12.06%) and weekly (8.04%), respectively.

### 4.3.2.3 Type of Mobile Money Service

Respondents were asked what type of mobile money service they used. The study showed that 67.337% of respondents did not use any of the mobile money service operators. 30.151% of respondents used MTN Mobile Money, which was the largest amongst all the telecommunication networks, 1.508% of respondents used AirtelTigo Money, and 1.005% of respondents used Vodafone Cash. MTN mobile money had the largest responses due to its affordability and convenience, and because they are the largest network in Ghana (*Ghana Telecoms Chamber, 2019*). Table 4.6 below shows the response to the preferred type of mobile money service.

Table 4.6: *Type of Mobile Money Service*

Type of Mobile Money	Frequency	Percent (%)
None	134	67.337
AirtelTigo Money	3	1.508
MTN Mobile Money	60	30.151
Vodafone Cash	2	1.005
Total	199	100.0

*Source:* Field Data, 2020.

## IMPACT OF MOBILE MONEY

### *4.3.2.4 Use of Mobile Money*

The respondents' use of mobile money services was 62.312%, which was majority of respondents, who did not use mobile money services for anything, be it personal use or on behalf of someone. 16.080% of respondents used mobile money services specifically to send and receive money only. 6.533% used mobile money services specifically to save money, send and receive money, and pay bills. 4.020% of the respondents used mobile money purposely to pay their bills, while 2.010% used mobile money services to send, receive money, and save money. From the responses, 1.508% of respondents used mobile money to send and receive money or pay bills. The least use of mobile money services to pay bills and save money and this was 1.005% of the sampled interview

#### *4.3.2.4.1 Mobile Phone Use and Mobile Money Services*

*Figure 4.3* below shows whether a respondent can either use or not use a phone and be able to use or not use mobile money services. 87.2% of respondents did not own a mobile phone and did not use mobile money services. 12.8% of respondents did not use a mobile phone but used mobile money services by using mobile money agents or borrowing a phone from a family member or friend. 43.33% of respondents had a phone but did not use any mobile money service. This was because they either had their money locked up on their mobile money account before or they did not want to use it. 56.67% of respondents had and owned mobile phones and used the services that were provided by mobile money services.

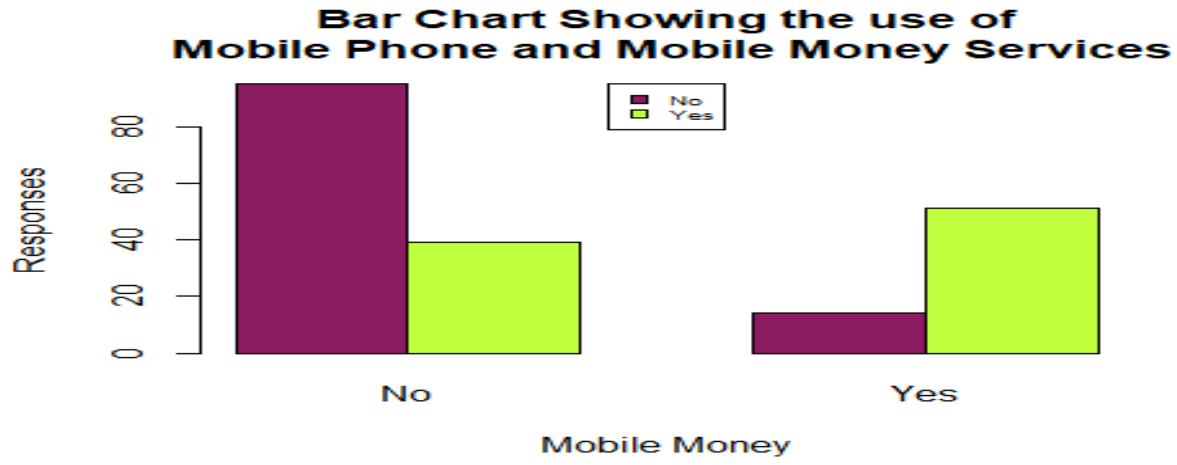


Figure 4.3. This figure demonstrates a bar chart of Mobile Phone Use to Mobile Money Services

Source: Field Data, 2020.

4.3.2.4.2 Respondents' Gender and Mobile Money Use

Figure 4.4 below shows the gender of respondents to their use of mobile money services. 80.1% of respondents were females who did not use mobile money services, and the remaining 19.9% were females who used mobile money services. 63.2% of respondents were males who did not use mobile money services, and the remaining 36.8% were males who used mobile money services. More males used or did not use mobile money services as compared to females.

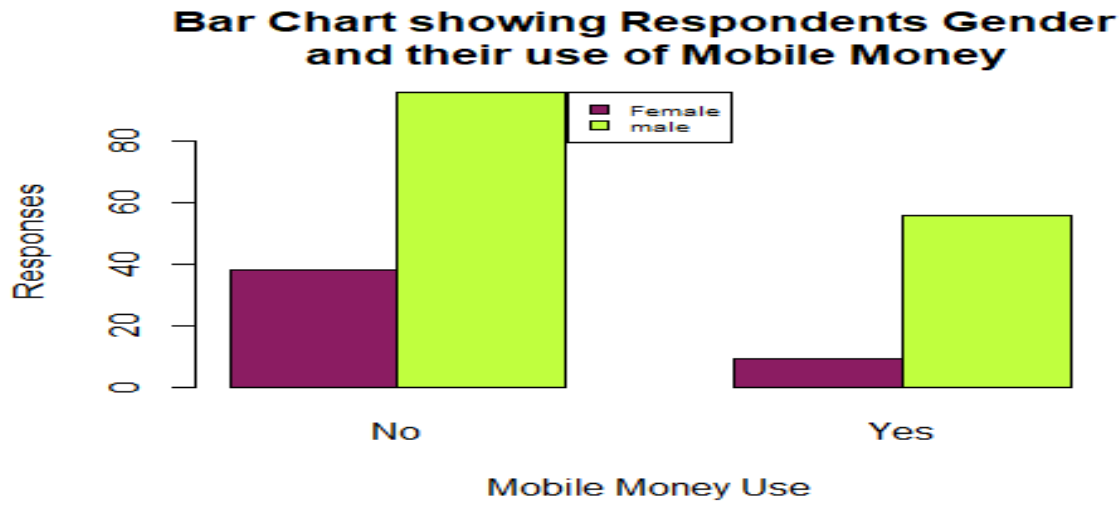


Figure 4.4. This figure demonstrates a bar chart of Gender to Mobile Money Use

Source: Field Data, 2020.

4.3.2.4.3 Respondents' Source of Income and Mobile Money Use

Figure 4.5 below shows respondents' source of income and their use of mobile money services. It was observed that 44.78% of respondents were fishermen who did not use mobile money services. 31.34% of the respondents were fish traders who did not use mobile money services. The remaining respondents who did not use mobile money services were represented by Net Menders (17.91%) and Boat Owners (5.97%). Respondents who used mobile money services; 56.92%, which was the largest source of income, were Fishermen. The remaining respondents were represented by Boat Owners (15.38%), and both Net Menders and Fish Traders had 13.84%.



## IMPACT OF MOBILE MONEY

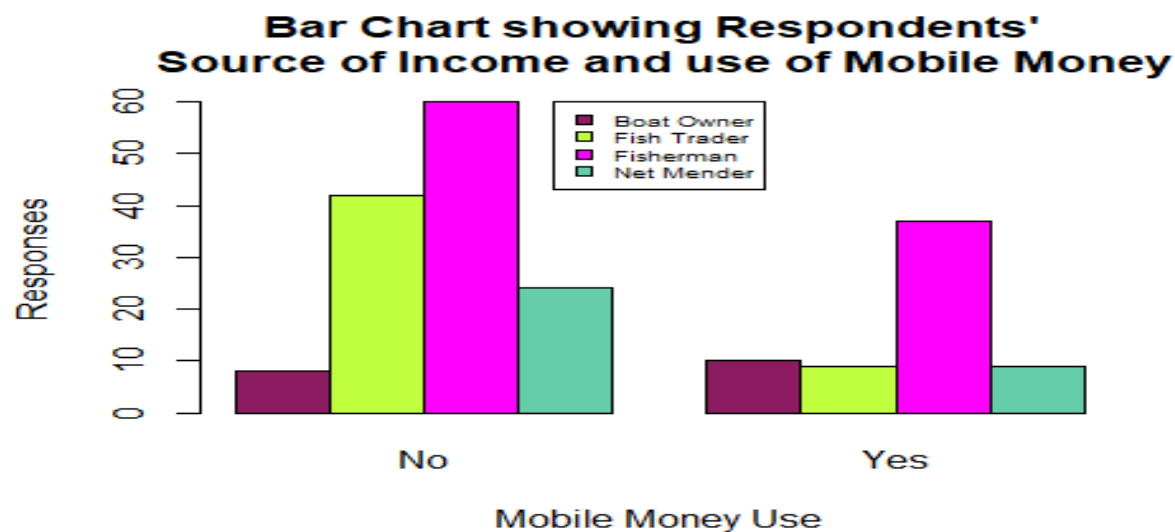


Figure 4.5. This figure demonstrates a bar chart of Source of Income to Mobile Money Use

Source: Field Data, 2020.

#### 4.3.3 Reasons for not Using Mobile Money Services

The study sought to find out reasons why respondents did not use mobile money services. The findings showed that 32.663% of respondents had no reason, and these were from respondents who used mobile money services. 29.648% of respondents preferred keeping their own money, and 23.618% of respondents did not own a phone, so they could not use mobile money services. 6.030% of respondents did not find their needed offers with mobile money services. 5.025% of respondents found the use of mobile money difficult, while the least responses were 3.015% of respondents who had not heard of mobile money services. The reason why majority of respondents preferred keeping their own money was due to them either been defrauded or having their money locked up on mobile money services, making it difficult to use mobile money.

## IMPACT OF MOBILE MONEY

### 4.4 Respondents' Monthly Income and Expenses

This section discussed the monthly income of respondents to that of their source of income and gender. It also showed how many respondents budget their income. Under this section, the expenses of respondents and which expense they spend much on were highlighted.

#### *4.4.1 Monthly Income and Source of Income*

In knowing which source of income earned more, respondents were asked how much they earned from fishing activities in the past month. Under boat owners, 38.89% of respondents earned between GHS 100 – 149 while the remaining respondents earned between GHS 50 – GHS99 (33.83%), Above GHS 150 (16.67%), and the least responses between GHS 0 – GHS 49 with 11.11%. Boat owners had fewer responses between GHS 0 – GHS 49 because they made more money from giving out their boats for fishermen to use.

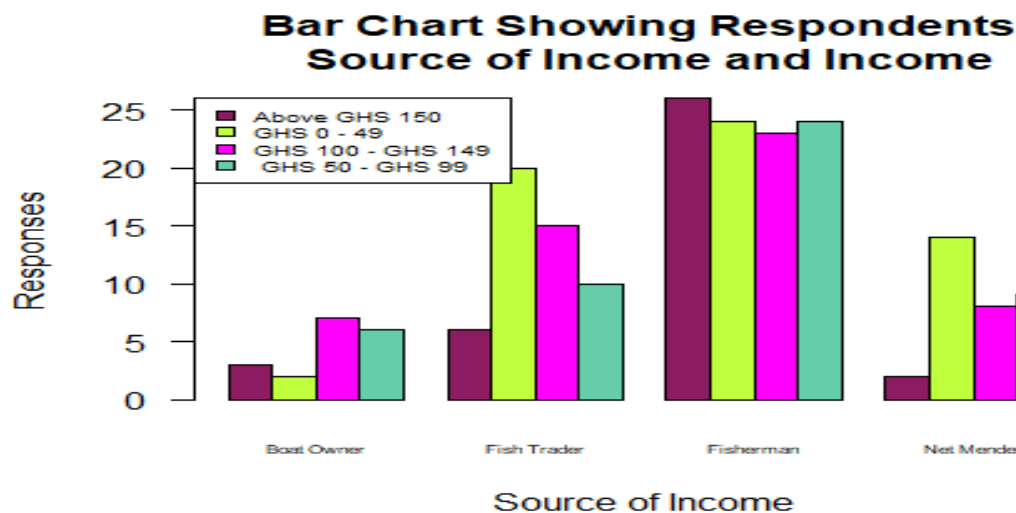
Fish traders who had 39.22% of the respondents received an income between GHS 0 – GHS 49, while for the remaining respondents of fish traders, were GHS 100 – GHS 149 (29.41%), GHS 50 – GHS 99 (19.61%) and Above GHS 150 had the least responses with (11.76%).

Majority of respondents who were fishermen had a monthly income of Above GHS 150, and this represented 26.80% of sampled interviews. 24.74% of respondents had a monthly income of between GHS 50 – GHS 99, and this was the same with GHS 0 – GHS 49. The least response were fishermen who earned between GHS 100 – GHS 149 with 23.711%.

Net menders had majority of its respondents earning GHS 0 – GHS 49, and this represented 42.42% of responses. The remaining responses were GHS 50 – GHS 99 (27.28%),

## IMPACT OF MOBILE MONEY

GHS 100 – GHS 149 (24.24%) and Above GHS 150 (6.06%). *Figure 4.6* below shows the bar chart of the source of income to monthly income.



*Figure 4.6.* This figure demonstrates a bar chart of Source of Income to Monthly Income

*Source:* Field Data, 2020.

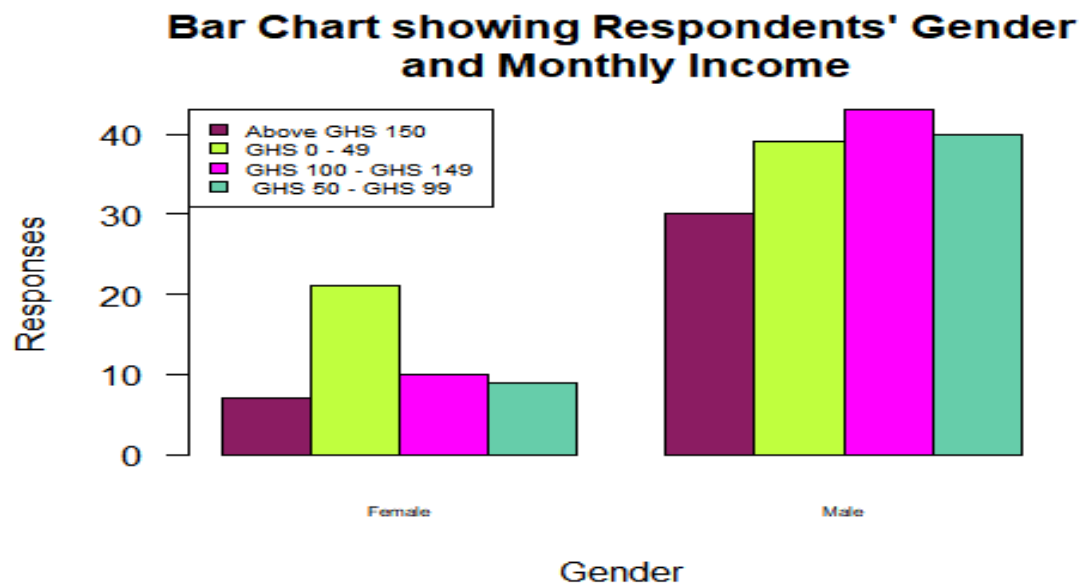
### 4.4.2 Gender and Monthly Income

*Figure 4.7* below shows respondents' gender and how much income they earned in the previous month. For females, majority of the respondents earned an income of between GHS 0 – GHS 49, which represented 44.7% of the sampled interview. The remaining respondents had between GHS 100 – GHS 149 (21.3%), GHS 50 – GHS 99 (19.1%) and Above GHS 150 (14.9%). It was observed that females earned between GHS 0 – GHS 49 from the previous month's fishing activities.

Males had 28.3% of its respondents earning between GHS 100 – GHS 149 from the previous month's fishing activities. Other respondents earned between GHS 50 – GHS 99 (26.3%), GHS 0 – GHS 49 (25.7%) and Above GHS 150 (19.7%). Males generally earned more

## IMPACT OF MOBILE MONEY

from the previous month's fishing activities than women did since majority of males go fishing or own boats as compared to women who were not allowed to go fishing but trade fish.



*Figure 4.7.* This figure demonstrates a bar chart of Gender to Monthly Income

*Source:* Field Data, 2020.

### 4.4.3 Budgeting

To find out whether fisherfolks budget their money for future activities, they were asked whether they budget the money received or not, and responses were coded in *Yes or No*. Table 4.7 shows responses of whether a respondent budgets money received or not. 65.33% of respondents do not budget money received, while 34.67% of respondents budget the money they earn. The reason the majority of fisherfolks do not budget is due to the low amount of money they make from fishing activities.

## IMPACT OF MOBILE MONEY

Table 4.7: *Budgeting*

Do you budget?	Frequency	Percent (%)
No	130	65.33
Yes	69	34.67
Total	199	100.0

*Source:* Field Data, 2020.

#### 4.4.4 Respondents' Expenses

This section looks at respondents' expenses over the last month. The expenses include food and beverages, housing, education, utilities, medicals, and other services.

The study found out how much of respondents' income over the last month was spent on food and beverages. From the findings, 54.271% of respondents spent GHS 0 – GHS 49 on food and beverages, and this represented majority of the respondents. 21.106% of respondents spent GHS 50 – GHS 99 on food and beverages, 16.080% of respondents spent GHS 100 – GHS 149, 6.533% of respondents spent above GHS 150 over the last month and 2.01% of respondents spent nothing on food and beverages

The respondents were asked how much they spent on housing in the past month. Majority of respondents spent between GHS 0 – GHS 49, and this represents 45.729% of sampled interviews. The second highest amount spent on expenses was between GHS 50 – GHS 99, with 25.628% of respondents. The remaining respondents spent nothing on housing, and these were people who already owned houses, and these were 21.608% of the respondents. 4.020% of respondents spent above GHS 150, and 3.015% of respondents spent between GHS 100 – GHS 149 on housing over the past month.

In knowing how much respondents spent on Utilities, they were asked how much they spent in the last month on utilities. 56.78% of respondents spent between GHS 0 – GHS 49 on

## IMPACT OF MOBILE MONEY

utilities, and this represents most respondents. 20.60% of respondents spent nothing on utilities, 12.56% of respondents spent between GHS 50 – GHS 99 on utilities in the last month, 6.03% spent between GHS 100 – GHS 149 on their utilities and 4.02% of respondents spent above GHS 150 on utilities.

The findings also showed how much respondents spent on medicals. 41.206% of respondents spent GHS 0 – GHS 49 on medicals. 28.643% of respondents spent nothing on medicals, 16.583% of respondents spent GHS 50 – GHS 99 on medicals, and 10.533% of respondents spent GHS 100 – GHS 149 on medicals. The least responses were 3.015%, who spent above GHS150 on medicals.

Furthermore, the study found out how much respondents spent on education. Most (42.714%) respondents spent between GHS 0 – GHS 49 on education. The remaining respondents were represented in people who spent between GHS 50 – GHS 99 (21.608%), None (17.085%), GHS 100 – GHS 149 (11.055%), and above GHS 150 (7.538%) on education. The reason why many more people are spending less on education is because of the availability of free education on the basic and high school level.

Other services included the cost of premix fuel, cost of an outboard motor, and cost of fixing or replacing a net. Most respondents spent GHS 0 – GHS 49 on other services, which represented 61.809% of sampled interviews. 15.075% of respondents spent nothing on other services, that is, respondents who did not spend any money on other services with, 13.065% of respondents spent GHS 50 – GHS 99 on other services, 5.528% of respondents spent above GHS 150 on other services, and 4.523% of respondents spent GHS 100 – GHS 149 on other services.

## IMPACT OF MOBILE MONEY

### 4.4.5 Managing of Money

Interviewing the chief fishermen, the fisherfolk's major expense was the cost of premix fuel, since this was needed for every trip they went on. Other expenses included the fixing of spare parts, which became cost to these fisherfolks, especially fishermen, when it broke down. Inquiring whether they had extra income after paying their expenses, one chief fisherman said, "Yes, I have adequate income after paying expenses, and this is mainly because I am a boat owner, and this comes with extra profit from every catch." Another responder said, due to savings with Ghana Commercial Bank [GCB], he can plan adequately on how to use his money. However, from the responses of the chief fishermen, I realized that fishing seasons influence how much they received every month, and the impact sea trawlers had on their catch also affected their monthly income. Managing one's resources is important for one to have adequate income for day-to-day activities.

## 4.5 Saving Behavior

### 4.5.1 Savings of Respondents

In finding out whether respondents save, respondents were asked whether they save or not. Responses were coded in Yes or No, and most respondents answered, No, which represented 59.3% of the sampled interviews and the respondents who answered, Yes, represented 40.7% of the sampled interviews. Table 4.8 below shows respondents' savings.

Table 4.8: *Savings*

Do you save?	Frequency	Percent (%)
No	118	59.3
Yes	81	40.7
Total	199	100.0

Source: Field Data, 2020.

## IMPACT OF MOBILE MONEY

### 4.5.1.1 Source of Income and Savings

Figure 4.8 below shows respondents' source of income to their savings. Under respondents who do not save, most of the respondents were fishermen, and this represented 43.22%. The remaining respondents were represented in Fish traders (27.97%), Net menders (20.34%), and Boat owner (8.47%). Under respondents who save, majority of respondents were fishermen, and this represented 56.79%. The remaining respondents were Fish traders (22.22%), Net Menders (11.11%) and Boat owners (9.88%).

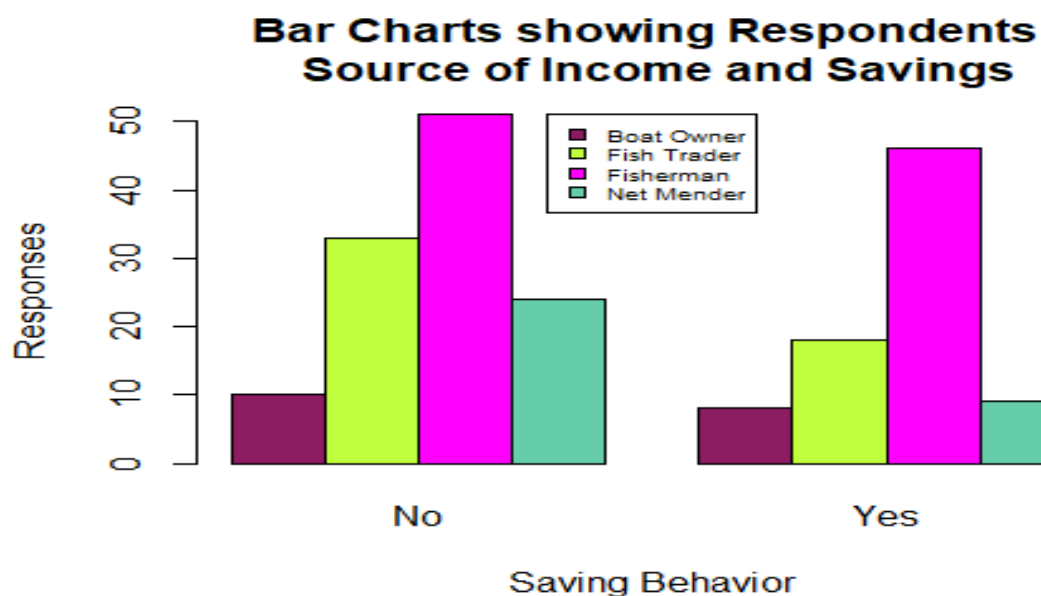


Figure 4.8. This figure demonstrates a bar chart of Source of Income to Savings

Source: Field Data, 2020.

### 4.5.2 The Preferred Saving Method of Respondents

Table 4.9 below shows respondents' preferred saving method, and in finding this out, respondents were asked where they prefer saving, and this was coded in Banks, Friends and Family, Microfinance, Susu, None, and Mobile Money. Most of the respondents preferred using



## IMPACT OF MOBILE MONEY

Susu, and this represented 32.161% of respondents. The remaining respondents were None (31.156%); these are people who did not prefer any of the saving methods, Banks (19.095%), Mobile Money (10.533%), Friends and Family (4.020%), Microfinance (3.015%). The reason why most respondents saved with *Susu* was the ease of saving money. With *Susu*, the personnel easily come around to collect money from the fisherfolks. People who do not prefer any of the saving methods have had bad experiences with these methods, such as theft and bank closure. Finally, with people who prefer banks, this is mainly because of how safe and secure these banks are, however, the closure of some banks has led to some of their resources being locked.

Table 4.9: *Preferred Saving Method*

Where do you save?	Frequency	Percent (%)
Banks	38	19.095
Friends and Family	8	4.020
Microfinance	6	3.015
Mobile Money	21	10.553
None	62	31.156
Susu	64	32.161
Total	199	100.0

*Source:* Field Data, 2020

### 4.5.3 Saving with Mobile Money

To know whether fisherfolks save with mobile money services, respondents were asked whether they saved with mobile money services, and the answers were coded as Yes or No. Majority of the respondents answered No, and this represented 63.32% of sampled interviews, while 36.68% of respondents answered Yes. Table 4.10 below represents respondents' choices on whether they used mobile money services specifically to save.

Table 4.10: *Mobile Money Savings*

## IMPACT OF MOBILE MONEY

Do you save with Mobile Money?	Frequency	Percent (%)
No	126	63.32
Yes	73	36.68
Total	199	100.0

*Source:* Field Data, 2020.

#### *4.5.4 Challenges with Saving with Mobile Money Services*

The findings showed the major challenges that respondents faced when saving with mobile money services. 43.72% of respondents preferred keeping their own money; 36.68% of sampled interviews had no problem saving with mobile money services; 11.06% of respondents had not heard about saving with mobile money; 6.53% of respondents did not use mobile money services to save because it was difficult to use; 1.51% of respondents did not find their needed services with mobile money services while 0.50% of respondents did not have enough money. The reason why most respondents preferred keeping their own money was that they faced some form of theft or fraud when it came to the use of mobile money services to save. According to Lal and Sachdev (2015), a successful mobile money service operation should be devoid of fraudulent acts and theft; and it should educate users on how to use these services to avoid theft and fraud successfully.

Also, in the interview with the chief fishermen, one response was that most fisherfolks do not know much about saving with mobile money services. So, if they were to be educated on how to save with mobile money as well as changing pins regularly, they would use mobile money often. Another challenge faced was the loss of mobile phones and sim cards, and this discouraged fisherfolks from saving on mobile money services, so they then prefer keeping their own money.

## IMPACT OF MOBILE MONEY

### 4.6 Relationship Between Mobile Money Savings and An Increase in Amount of Savings

In finding the relationship between mobile money savings and an increase in the amount of savings by fisherfolks, the Chi-Square test was used.

#### 4.6.1 Hypotheses Testing

The hypotheses to be tested in this research study using the Chi-Square Test is:

*H<sub>0</sub>: There is no relationship between mobile money savings and an increase in the amount of savings by fisherfolks.*

*H<sub>1</sub>: There is a relationship between mobile money savings and an increase in the amount of savings by fisherfolks.*

#### 4.6.1.1 Results

The Chi-Square Test results for whether there was a relationship between mobile money savings and an increase in the amount of savings by fisherfolks was  $\chi^2 (4, N = 199) = 83.32, p = 0.00$ . Since the p-value was less than the significance level of 0.05 using a 95% confidence level, it indicated that the evidence which the data provided was strong enough to reject H<sub>0</sub>, which says that there is no relationship between mobile money savings and an increase in the amount of savings by fisherfolks. It concluded that there is a relationship between mobile money savings and an increase in the amount of savings by fisherfolks. Table 4.11 below shows the results.

Table 4.11: *Chi-Square Results*

	Value	df (degree of freedom)	Asymptotic Significance (p-value)
Pearson Chi-Square	83.32	4	0.00

*Source:* Field Data, 2020.

## IMPACT OF MOBILE MONEY

### 4.7 Challenges of Saving

The study found out respondents' challenges with savings. 50.75% of respondents did not have enough money to save; 40.70% of respondents had no issue with saving; 5.53% of respondents did not find saving necessary, while 3.02% did not understand what saving was. The reason why most respondents did not have enough money to save was that fisherfolks were faced with a loss of money when their banks were closed. Also, because some susu and microfinance institutions ran away with their monies, they found it difficult saving. Finally, some fisherfolks had experiences where these microfinance institutions cheated them due to their lack of education, thus leading to loss of money, which deterred them from saving.

## IMPACT OF MOBILE MONEY

### CHAPTER FIVE: SUMMARY, RECOMMENDATION, AND CONCLUSION

#### 5.1 Introduction

This chapter is the concluding chapter, and it entails a summary of the findings and the conclusion of the study. Also, the chapter provides recommendations to telecommunication services and government as well as suggesting plausible topics or areas for further studies.

#### 5.2 Summary

The introduction of mobile money services has opened new frontiers for the access to financial services (Jack & Suri, 2011), making mobile money services a significant means of saving and payment for the unbanked in Ghana (Bank of Ghana, 2017). This study set out to investigate whether there was a relationship between mobile money savings and an increase in the amount of savings by fisherfolks in the Anafo Community.

The study on the demographic characteristics of the respondents showed that there were more male respondents than female respondents because women were banned from fishing but could only trade in fish. A great percentage of the respondents fell within the age bracket of 40 – 49. Most of the respondents had some form of education, which ranged from primary to Senior High School, and most were married with children. With the source of income of respondents, most of them were fishermen earning a monthly income of between GHS 0 to GHS 49.

Under the use of mobile money services, majority of respondents did not use mobile phones and mobile money services. Also, a great number of respondents preferred keeping their money while some did not own mobile phones, making it a challenge to use mobile money services. Those who used mobile money services mostly preferred using MTN mobile money to the other telecommunication services. Most respondents used mobile money services on a day-to-day basis to send, receive money, pay bills, and save money. In knowing how respondents

## IMPACT OF MOBILE MONEY

managed their income and expenses, it was observed that most respondents did not budget their income. Also, most respondents spent their income on items such as premix fuel, education, housing, utilities, food, and beverages.

On the saving behavior of respondents, most respondents did not save part of their income, and in relation to respondents' preferred mode of savings, the respondents preferred using *Susu*. They also preferred saving part of their income on a day-to-day basis. Most respondents also did not use mobile money services specifically for saving because they preferred keeping their money due to theft, fraud, or a lockup of their resources while using mobile money services.

The relationship between mobile money savings and an increase in the amount of savings by fisherfolks was found using the Chi-Square test. The Chi-Square test established that since the p-value was less than 0.05, then there is a relationship between mobile money savings and an increase in the amount of savings by fisherfolks. Thus, those who used mobile money services to save saw an increase in their savings.

Respondents had challenges with savings, and most of them did not find formal savings necessary since they kept the money personally. Also, respondents over the years faced some form of fraud or theft by microfinance institutions, which absconded with their savings, leading to the respondents' loss of confidence in saving with financial institutions. The closure of the banks also led to some form of constraints for respondents when it comes to saving.

### 5.3 Recommendation

Findings from this study also showed that fisherfolks who used mobile money services for saving had seen an increase in their savings. However, majority were discouraged from

## IMPACT OF MOBILE MONEY

saving with mobile money services due to theft and fraud-related issues that surrounded the use of mobile money services. Telecommunications need to find secure ways for fisherfolks to be able to save. Also, the government should strengthen all measures already in place for telecommunications to ensure that users of mobile money services have their monies safe. It is also important for there to be some form of education in fishing communities on the importance of saving with mobile money services, what it entails to save, and the risks involved when it comes to saving with mobile money services. It is also important to educate these fisherfolks on the importance of being financially literate and how this can improve their well-being.

Finally, financial institutions need to create financial products that are linked to the needs of people living in fishing communities. To add to creating financial products, it is important to have many saving outlets in these fishing communities. The government needs to deal with sea trawlers, which affect the catch and income of fishermen, which will go a long way to affect their income, savings, and well-being positively.

### 5.4 Conclusion

One of the objectives of this study was to determine whether mobile money services have had a positive impact on the savings of fisherfolks. The findings showed that mobile money services have positively impacted the savings of respondents who use it for savings, and the results are like other research studies around this topic. However, most respondents are not using mobile money services to save, and this is as a result of the lack of education of these fisherfolks by the telecommunication services on how to use mobile money services. Also, mobile money fraud and theft have discouraged some respondents from using the service solely for saving but have rather sought to find other safer options.

## IMPACT OF MOBILE MONEY

This study also concluded that fisherfolks have adequate income to save after paying major expenses. Also, saving methods preferred by respondents were saving with a susu group, mobile money, and banks. However, they faced challenges like not understanding what savings entailed or finding the habit of saving necessary. Respondents' income over time was dependent on their source of income and fishing seasons; a good fishing season brings more while a bad fishing season affects their income and savings; thus, one's income status had a significant influence on their savings.

### 5.5 Areas for Further Research

The study recommends that similar studies on the use of mobile money services and its impact on saving behavior be conducted around other fishing communities and agricultural areas in the country. Additional studies on the impact of taxes on mobile money services can be conducted to see its impact on the savings of fisherfolks and other agricultural sectors.

Also, further studies can be done on the impact other financial institutions such as microfinance and susu groups have on the savings of people in fishing communities. This research can also be replicated in other spheres of economic activities to find out if there is consistency in the use of mobile money services and its impact on the saving behavior of respondents in other sectors.



## IMPACT OF MOBILE MONEY

## References

- Aker, J. C., & Mbiti, I. M. (2010). Mobile Phones and Economic Development in Africa. *Journal of Economic Perspectives*, 24(3), 207–232.
- Almenberg, J., & Säve-Söderbergh, J. (2011). *Financial Literacy and Retirement Planning in Sweden*. <https://ideas.repec.org/p/crp/wpaper/112.html>
- Asongu, S. A. (2013). How has Mobile Phone Penetration Stimulated Financial Development in Africa? *Journal of African Business*, 14(1), 7–18.  
<https://doi.org/10.1080/15228916.2013.765309>
- Babbie, E. (2010). *Quantitative Methods - Organizing Your Social Sciences Research Paper - Research Guides at University of Southern California*.  
<https://libguides.usc.edu/writingguide/quantitative>
- Bank of Ghana. (2017, August). *Impact-of-Mobile-Money-on-the-Payment-Systems-in-Ghana.pdf*. <https://www.bog.gov.gh/wp-content/uploads/2019/08/Impact-of-Mobile-Money-on-the-Payment-Systems-in-Ghana.pdf>
- Bhatia, M. (2018, 5th September). *Your Guide to Qualitative and Quantitative Data Analysis Methods*. Atlan | Humans of Data. <https://humansofdata.atlan.com/2018/09/qualitative-quantitative-data-analysis-methods/>
- Bimpeh, J. (2019). *Mobile Money : MTN records GHS710m revenue in 2018 in Ghana*. Mobile Money Africa. <https://mobilemoneyafrica.com/blog/mobile-money-mtn-records-ghs710m-revenue-in-2018-in-ghana>
- Buku, M. (2017, May). *Innovation in Mobile Money: What Are the Risks?* CGAP.  
<https://www.cgap.org/blog/innovation-mobile-money-what-are-risks>
- Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2017). *Home | Global Findex*. <https://globalfindex.worldbank.org/>
- Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). Saving, Credit, and Financial Resilience. *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution* (Vol. 1–0, pp. 69–84). The World Bank.  
[https://elibrary.worldbank.org/doi/abs/10.1596/978-1-4648-1259-0\\_ch5](https://elibrary.worldbank.org/doi/abs/10.1596/978-1-4648-1259-0_ch5)
- Demombynes, G., & Thegeya, A. (2012). *Kenya's mobile revolution and the promise of mobile savings*. The World Bank.

## IMPACT OF MOBILE MONEY

- Dugah, S. (2018, January). *How Mobile Money is Changing the Financial Landscape in Africa*. Ye! <http://yecomunity.com/en/blog/mobile-money-is-changing-the-financial-landscape-Africa>
- Ecobank. (2019). *Ecobank - Ecobank TBILL4ALL*. <https://ecobank.com/gh/personal-banking/products-services/investment-solutions/tbill4all>
- Fincham, J. E. (2008). Response Rates and Responsiveness for Surveys, Standards, and the Journal. *American Journal of Pharmaceutical Education*, 72(2). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2384218/>
- Ford, M. W., & Kent, D. W. (2009). Gender Differences in Student Financial Market Attitudes and Awareness: An Exploratory Study. *Journal of Education for Business*, 85(1), 7–12. <https://doi.org/10.1080/08832320903217366>
- Ghana Telecoms Chamber*. (2019, 6th January). <https://telecomschamber.com/members/mtn-ghana>
- Gilman, L., & Joyce, M. (2012). Managing the risk of fraud in mobile money. *GSMA: Mobile Money for Unbanked (MMU)*.
- Given, L. (2008). *The SAGE Encyclopedia of Qualitative Research Methods*. SAGE Publications, Inc. <http://methods.sagepub.com/reference/sage-encyc-qualitative-research-methods>
- Goldsmith, R. E., Goldsmith, E. B., & Heaney, J.-G. (1997). Sex differences in financial knowledge: A replication and extension. *Psychological Reports*, 81(3\_suppl), 1169–1170.
- Gosavi, A. (2018). Can Mobile Money Help Firms Mitigate the Problem of Access to Finance in Eastern sub-Saharan Africa? *Journal of African Business*, 19(3), 343–360. <https://doi.org/10.1080/15228916.2017.1396791>
- GSMA. (2019). The Mobile Economy West Africa 2019. *The Mobile Economy*. <https://www.gsma.com/r/mobileeconomy/west-africa/>
- Huston, S. (2010, June). *Measuring Financial Literacy*. <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1745-6606.2010.01170.x>
- Ibrahim, R. (2019a). *BoG collapses 400 microfinance, microcredit companies* / *Business & Financial Times Online*. <https://thebftonline.com/2019/business/banking-finance/bog-collapses-400-microfinance-microcredit-companies/>

## IMPACT OF MOBILE MONEY

- Ibrahim, R. (2019b, 4th November). *Fundamentals of banking crises – understanding the Ghana situation* / *Business Financial Times Online* / *Economy, World, Finances, IT, ICT, Business*. <https://thebftonline.com/2019/features/fundamentals-of-banking-crises-understanding-the-ghana-situation/>
- Jack, W., & Suri, T. (2011). *Mobile Money: The Economics of M-PESA* (Working Paper No. 16721). National Bureau of Economic Research. <http://www.nber.org/papers/w16721>
- Johnson, E., & Sherraden, M. S. (2007). Financial literacy to financial capability among youth. *J. Soc. & Soc. Welfare*, *34*, 119.
- Joyce, C., Neill, A., Watson, V., & Fisher, J. (2008). *Tables and graphs* / *Assessment Resource Banks*. <https://arbs.nzcer.org.nz/tables-and-graphs>
- Kabir, S. M. (2016). *Methods of Data Collection*. [https://www.researchgate.net/publication/325846997\\_Methods\\_of\\_Data\\_Collection](https://www.researchgate.net/publication/325846997_Methods_of_Data_Collection)
- Karlan, D., Ratan, A. L., & Zinman, J. (2014). Savings by and for the Poor: A Research Review and Agenda. *The Review of Income and Wealth*, *60*(1), 36–78. <https://doi.org/10.1111/roiw.12101>
- Kikulwe, E. M., Fischer, E., & Qaim, M. (2014). Mobile Money, Smallholder Farmers, and Household Welfare in Kenya. *PLOS ONE*, *9*(10), e109804. <https://doi.org/10.1371/journal.pone.0109804>
- Ky, S., Rugemintwari, C., & Sauviat, A. (2017). Does mobile money affect saving behaviour? Evidence from a developing country. *Journal of African Economies*, *27*(3), 285–320.
- Ky, S., Rugemintwari, C., & Sauviat, A. (2018). Does Mobile Money Affect Saving Behaviour? Evidence from a Developing Country. *Journal of African Economies*, *27*(3), 285–320.
- Lal, R., & Sachdev, I. (2015). *Mobile money services: Design and development for financial inclusion*. Citeseer.
- Lavrakas, P. (2008). *Closed-Ended Question - SAGE Research Methods*. <https://methods.sagepub.com/reference/encyclopedia-of-survey-research-methods/n65.xml>
- Leedy, P. D., & Ormrod, J. E. (2001). *Practical research: Planning and design*. Merrill Prentice Hall.

## IMPACT OF MOBILE MONEY

- Lusardi, A., & Mitchell, O. (2009, September). *How Ordinary Consumers Make Complex Economic Decisions: Financial Literacy and Retirement Readiness*.  
<https://www.nber.org/papers/w15350>
- Lusardi, A., & Mitchell, O. S. (2005). Implications for retirement wellbeing. *Michigan Retirement Research Center, WP 108*.
- Mbiti, I., & Weil, D. (2011). *Mobile Banking: The Impact of M-Pesa in Kenya*.  
<https://doi.org/10.3386/w17129>
- McLeod, S. (2018). *Correlation / Simply Psychology*.  
<https://www.simplypsychology.org/correlation.html>
- Mobile World Live. (2010, 17th March). Zain “Zap” launches in Ghana. *Mobile World Live*.  
<https://www.mobileworldlive.com/latest-stories/zain-zap-launches-in-ghana/>
- Monticone, C. (2010). *How Much Does Wealth Matter in the Acquisition of Financial Literacy?*  
<https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1745-6606.2010.01175.x>
- Obboh, A. (2019, 24th May). *Finance Ministry releases about ₵1bn for microfinance, rural bank cleanup – JCS Investments*. <https://jcs.com.gh/newsletter/2019/05/24/finance-ministry-releases-about-%c2%a21bn-for-microfinance-rural-bank-cleanup/>
- Ondiege, P. (2010, December). *Africa Economic Brief - Mobile Banking in Africa: Taking the Bank to the People* [Text]. African Development Bank - Building Today, a Better Africa Tomorrow. <https://www.afdb.org/en/documents/document/africa-economic-brief-mobile-banking-in-africa-taking-the-bank-to-the-people-22891>
- Osore, J. O. (2015). *Mobile money services and the saving behaviour of fishing communities: a study of small scale fisheries in Mbita division of Homabay county, Kenya*.
- Ouma, S. A., Odongo, T. M., & Were, M. (2017). Mobile financial services and financial inclusion: Is it a boon for savings mobilization? *Review of Development Finance*, 7(1), 29–35. <https://doi.org/10.1016/j.rdf.2017.01.001>
- Ozyurt, S. (2019, July). *Ghana is now the fastest-growing mobile money market in Africa*. Quartz Africa. <https://qz.com/africa/1662059/ghana-is-africas-fastest-growing-mobile-money-market/>
- Pasti, F. (2019, February). 2018 State of the Industry Report on Mobile Money. *Mobile for Development*. <https://www.gsma.com/mobilefordevelopment/resources/2018-state-of-the-industry-report-on-mobile-money/>

## IMPACT OF MOBILE MONEY

- Pritchard, J. (2020, 10th March). *The Impact of a Bank Run on Banking Institutions*. The Balance. <https://www.thebalance.com/understanding-bank-runs-315793>
- Remund, D. (2010, 1st June). *Financial Literacy Explicated: The Case for a Clearer Definition in an Increasingly Complex Economy*.  
<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1745-6606.2010.01169.x>
- Servon, L., & Kaestner, R. (2008, June). *Consumer Financial Literacy and the Impact of Online Banking on the Financial Behavior of Lower-Income Bank Customers*.  
<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1745-6606.2008.00108.x>
- Shirish, T. S. (2013). *Research methodology in education*. Lulu. com.
- Teherani, A., Martimianakis, T., Stenfors-Hayes, T., Wadhwa, A., & Varpio, L. (2015). Choosing a Qualitative Research Approach. *Journal of Graduate Medical Education*, 7(4), 669–670. <https://doi.org/10.4300/JGME-D-15-00414.1>
- Trochim, W. M. K. (2020). *Descriptive Statistics*.  
<https://socialresearchmethods.net/kb/descriptive-statistics/>
- Vanderstoep, S., & Johnston, D. (2009, January). *Research Methods in Everyday Life: Blending Qualitative and Quantitative Approaches*.  
[https://www.researchgate.net/publication/254607059\\_Research\\_Methods\\_in\\_Everyday\\_Life\\_Blending\\_Qualitative\\_and\\_Quantitative\\_Approaches](https://www.researchgate.net/publication/254607059_Research_Methods_in_Everyday_Life_Blending_Qualitative_and_Quantitative_Approaches)
- Varghese, G., & Viswanathan, L. (2018). Financial Inclusion: Opportunities, Issues and Challenges. *Theoretical Economics Letters*, 8(11), 1935–1942.  
<https://doi.org/10.4236/tel.2018.811126>
- Waweru, K., & Kamau, J. (2017). The Effect of Mobile Money on Saving and Money Transfer Practices for Low-Income Earners in Kenya. *Journal of Business Studies Quarterly*, 8, 52–64.
- World Bank. (2013). *Financial Inclusion: Helping Countries Meet the Needs of the Under-Banked and Under-Served* [Text/HTML]. World Bank.  
<https://projects.worldbank.org/en/results/2013/04/02/financial-inclusion-helping-countries-meet-the-needs-of-the-underbanked-and-underserved>
- Worthington, A. C. (2004). *The distribution of financial literacy in Australia*. School of Economics and Finance, Queensland University of Technology.

## IMPACT OF MOBILE MONEY

Wray, L. R. (1992). What Is Saving, and Who Gets the Credit (Blame)? *Journal of Economic Issues*, 26(1), 256–262. JSTOR.

Zaney, G. D. (2015, August). *BoG Issues Guidelines to Regulate Mobile Financial Services - Government of Ghana*. <http://www.ghana.gov.gh/index.php/media-center/news/1791-bog-issues-guidelines-to-regulate-mobile-financial-services>

## IMPACT OF MOBILE MONEY

## APPENDIX I

Questionnaire

Participant Code: \_\_\_\_\_

Date of Interview: \_\_\_\_\_

**GENERAL INFORMATION**

## Q1. Gender

1. \_\_\_ Male
2. \_\_\_ Female

## Q2. Age

1. \_\_\_ 18-29
2. \_\_\_ 30-39
3. \_\_\_ 40-49
4. \_\_\_ 50-59
5. \_\_\_ Above 60

## Q3. Marital Status

1. \_\_\_ Single
2. \_\_\_ Divorced
3. \_\_\_ Married
4. \_\_\_ Widowed
5. Other (Please Specify) \_\_\_\_\_

## Q4. What is your religious status?

1. \_\_\_ Christian
2. \_\_\_ Islam
3. \_\_\_ Traditionalist
4. \_\_\_ Other

## Q5. What is your level of education?

1. \_\_\_ None
2. \_\_\_ Kindergarten
3. \_\_\_ Primary
4. \_\_\_ Junior High School
5. \_\_\_ Senior High School
6. \_\_\_ Tertiary

## IMPACT OF MOBILE MONEY

7. \_\_\_ Other

Q6. Do you have any children?

1. \_\_\_ Yes
2. \_\_\_ No

Q7. Do you own a mobile phone?

1. \_\_\_ Yes
2. \_\_\_ No

If “Yes” answer Question 8, if no skip to Question 11

Q8. Do you use Mobile Money Services?

1. \_\_\_ No
2. \_\_\_ Yes

Q9. If “Yes” in Question 8, which one?

1. \_\_\_ AirtelTigo Money
2. \_\_\_ MTN Mobile Money
3. \_\_\_ Vodafone Cash

Q10. If “No” in Question 8, are there any specific reasons for not using Mobile Money Services?

1. \_\_\_ Not heard about it
2. \_\_\_ Using mobile money is difficult
3. \_\_\_ Prefer keeping my own money
4. \_\_\_ Mobile money services do not offer the needed services
5. Other (Please Specify) \_\_\_\_\_

Q11. What is your main source of income?

1. \_\_\_ Net mender
2. \_\_\_ Boat Owner
3. \_\_\_ Fisherman
4. \_\_\_ Fish Trader
5. Other (Please Specify) \_\_\_\_\_

Q12. Do you save regularly?

1. \_\_\_ Yes
2. \_\_\_ No

Q13. If “No,” why don’t you save?

1. \_\_\_ Do not have enough money



## IMPACT OF MOBILE MONEY

2. \_\_\_ Do not find saving necessary
3. \_\_\_ Do not understand what saving is
4. Other (Please Specify) \_\_\_\_\_

Q14. Where do you save? (Please tick all that apply)

1. \_\_\_ Mobile Money
2. \_\_\_ Banks
3. \_\_\_ Friends and Family
4. \_\_\_ Susu
5. \_\_\_ Pension Funds
6. \_\_\_ Microfinance

Q15. How often do you save?

1. \_\_\_ Daily
2. \_\_\_ Weekly
3. \_\_\_ Monthly
4. Other (Please Specify) \_\_\_\_\_

Q16. How much did you earn from fishing activities last month?

1. \_\_\_ GHS 0 – GHS 49
2. \_\_\_ GHS 50 – GHS 99
3. \_\_\_ GHS 100 – GHS 149
4. \_\_\_ Above GHS 150

Q17. Do you have a budget or plan your spending and saving?

1. \_\_\_ Yes
2. \_\_\_ No

Q18. People budget in different ways but which do you prefer? (Please tick all that apply)

1. \_\_\_ Keep your spending within a certain limit
2. \_\_\_ Focus more on trying to save regular amounts of money
3. \_\_\_ Pay off regular amounts of debt
4. \_\_\_ None of the above

Q19. How much of your income do you spend on the following?

1. GHS 0 – GHS 49
2. GHS 50 – GHS 99
3. GHS 100 – GHS 149
4. Above GHS 150
5. None

## IMPACT OF MOBILE MONEY

	On yourself/household
Food and beverages	
Housing	
Utilities	
Medical care	
Education and childcare	
Shopping	
Transportation	
Other services	

## MOBILE MONEY SERVICES OR OTHER FINANCIAL INSTITUTIONS

Q20. How often do you use mobile money services?

1. \_\_\_ Daily
2. \_\_\_ Weekly
3. \_\_\_ Monthly
4. Other (Please Specify) \_\_\_\_\_

Q21. For what do you use mobile money services? (Please tick all that apply)

1. \_\_\_ Send and Receive Money
2. \_\_\_ Pay Bills
3. \_\_\_ Save Money
4. Other (Please Specify) \_\_\_\_\_

Q22. Do you use mobile money specifically to save?

- a. \_\_\_ Yes
- b. \_\_\_ No

Q23. How much more have you been able to save since the introduction of mobile money services?

1. \_\_\_ GHS 0 – GHS 49
2. \_\_\_ GHS 50 – GHS 99

## IMPACT OF MOBILE MONEY

3. \_\_\_ GHS 100 – GHS 149

4. \_\_\_ Above GHS 150

5. \_\_\_ I do not save at all

Q24. Why have you not used mobile money services to save? (Please tick all that apply)

1. \_\_\_ Not heard about it

2. \_\_\_ Using mobile money is difficult

3. \_\_\_ Prefer keeping my own money

4. \_\_\_ Mobile money services do not offer the needed services

5. Other (Please Specify) \_\_\_