

# Cashless Transactions: The State of Mobile Money Usage and Adoption among Tertiary Students in Kumasi Metropolis

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**Abstract:-** Mobile money service popularly called Momo is one of the fastest growing means of doing cashless transactions among the Ghanaian populace. The service is often highly patronized by both employed and unemployed. Whereas the service has been beneficial to some people, others have lost huge sums of money to fraudsters. Our research sought to investigate the extent to which the momo service has been adopted by tertiary students in Ghana and to determine their perceptions of the service in terms of convenience and security.

**Keywords:-** Mobile Money; Ghana,; Tertiary; Students; Usage.

## I. INTRODUCTION

Even though the use of cash continues to be popular among people of all economies, transacting business has often proven to be inconvenient and insecure. This has led to the recent surge in interest among people of different backgrounds for the use of cashless facilities in doing transactions [1]. Cashless transactions are a way of doing business without the use of physical cash. It represents how advanced technology is and its contribution to world economy [2], hence pushing for a world without physical cash which is dubbed as the cashless society. It exists in many forms such as the use of cheques, ATMs which accept cards, electronic cheques, credit and debit cards and mobile money.

The cashless transactions revolution spearheaded by technology has gained root in developed countries. In developing countries, this model of transacting digitally has not fully attained maximum acceptance due to multivariate reasons. For developing countries like Ghana, mobile money promises to bridge the gap sufficing from the difficulties in cash transfers between the banked and unbanked as well as those in urban and rural areas. Inhibiting factors of successful momo adoption include cost of transactions and fraudulent activities by scammers [3]. Notwithstanding, the subscribers of mobile money service in Ghana increased significantly over the years. The opportunities are there, but until proper security controls

enable people to completely trust this model, the full benefits may not be realized for this economy. In this paper, we survey the subscription rates, lengths of use, usage patterns, and security concerns associated with the momo service among a section of students in tertiary institutions in Kumasi, the capital town of Ashanti Region, which is the second largest region in Ghana.

### A. How Mobile Money Works

Mobile money is a system that allows people to store cash electronically on their mobile SIM in a mobile phone as an identifier. In Ghana, telecommunication operators offer mobile money services. Subscribers can use the service for activities such as:

- Sending to and receiving money from people
- Topping up mobile airtime
- Paying for goods and services, bills, airline tickets, employees' salaries

To register for mobile money service, a person has to go to a mobile money vendor with a valid SIM card and a valid photo ID card such as voter's ID. The mobile money vendor also requests for details of the person such as name, date of birth, address, and house number. The vendor then fills the person's details on the mobile money registration portal provided by the telecommunication operator. Each subscriber also gets a unique PIN which is used to authenticate every transaction made.

Typical mobile money transactions can be:

- From a mobile money vendor to a subscriber account
- From a subscriber account to another subscriber account on the same or another telecom network
- From a subscriber's bank account to his mobile money account.

Currently, most of the telecom operators have partnered with the various banks in the country and therefore it is possible to transfer money from a bank account to a mobile money account. Also, some Automated Teller Machines (ATM) in Ghana can now be used to withdraw mobile money. Subscribers on one telecom

network and transfer money to subscribers on different networks.

## II. LITERATURE REVIEW

### A. *The Global Concept of Mobile Money*

The concept of financial inclusion and higher rate of the unbanked has propelled massive innovation in the mobile payments services. With these opportunities and technologies available, companies are rapidly wading through the economic hurdles to find an easier and cheaper way of reaching the larger community of the unbanked. Luther [4] believes that banks had the opportunities to reach the unbanked for several years but failed to do so. He further asserted that 60 million people in the US are unbanked and these present a greater opportunity for companies and the banks to get behind the mobile money system [4]. Mobile money is most successful in the less developed countries due to the lack of proper road networks, banks and the inability to access funds from the financial sector. In fact, data from the World Bank shows that only a fourth of Africa's 1.4 billion people have access to a bank account [5]. However, over 40% have access to a mobile phone [5] and hence have a higher rate of mobile money success. Mobile money service offered by operators, enables customers to receive, store and send money using their mobile devices. According to Statista [6], rapid increase in mobile consumption and a need for P2P payments are fueling the global growth of mobile money payment services especially across underbanked markets in Africa, Latin America and Asia. Despite these increments, mobile payments still lag behind other forms of money payment.

### B. *History of Mobile Money in Africa*

Safaricom (part of Vodafone) is credited with launching the first mobile based payment and money transfer in Kenya in 2007 [7]. The service was called M-PESA (M for mobile and PESA for money in Swahili). The service grew in popularity and by 2010 had become very successful among developing countries [7]. The success of M-PESA in Kenya, propelled other companies across Africa and Asia to join the chase. South African telecom giant MTN also launched their service in 2008. MTN has rolled its mobile money across African countries like Uganda, Ivory Coast, Ghana, Benin and Rwanda. Mobile money accounts surpassed bank accounts in the developing countries and by 2013, there were more than 61 million active mobile money account, an increase from 37 million in 2012, reported by GSMA [8]. Several years after the launch of mobile money, the success of the service has been very remarkable in Africa. However, greater part of the populace is still excluded from the service and many challenges such as fraud and trust still remains a hurdle to be overcome.

### C. *Impact of Mobile Money on Financial Inclusion*

A study by Peruto [8] reveals that mobile money presents a cheaper and convenient way of providing financial services as compared to the conventional banks.

Thus, allowing mobile money to change the landscape of financial inclusion for the large unbanked and underserved markets in the developing worlds. Moreover, Gencer [9] attributed mobile money success to the ubiquitous infrastructure such as the mobile phones and a wide network of mobile money merchants, it offers a wider reach to large group of people, even in remote areas. This allow the underserved markets to be reach in areas not penetrable by the formal financial sector. Our research sought to assess the state of mobile money usage and adoption among tertiary students in Kumasi Metropolis, the capital town of Ashanti region in Ghana.

### ➤ *Research Questions*

In our research, we sought to address the following questions:

1. Are students aware of mobile money service?
2. What kind of transactions does students use mobile money for?
3. Do students think mobile money service is convenient and secure?
4. Has the service helped to reduce the spending habits of students?

## III. METHODOLOGY

The data for this study was collected using quantitative research methods. Data was collected from students in sixteen tertiary institutions i.e. public and private universities, nursing training colleges across the Kumasi metropolis through self-administered questionnaires. A total of 270 randomly selected students participated in the study.

## IV. FINDINGS, SUMMARY AND DISCUSSIONS

### A. *Population Sample*

Out of the 270 students who participated in the survey, 60.7% of respondents were males and 39.3% were females. With regards to age, 62.2% were between the ages of 15 to 25 years, 30.4% were between 26 to 35 years and the remaining 7.4% reported to being above 35 years.

### B. *Mobile Money Awareness*

With regard to awareness, out of the 270 respondents, 267 representing 98.9% indicated that they have heard of mobile money and how it operates and 1.1% said they have not heard of the service. However, we observed that the respondents who indicated they had not heard about mobile money were international students, who were not using similar service in their home countries. The results indicated that mobile money service is well known among tertiary students. Moreover, 79.6% of participants were registered to the service whilst the remaining 20.4% were not registered. 69.7% of unregistered respondents cited that they have other means of accessing funds and therefore did not see the need to register for the mobile money service, 17% said they do not trust the service and the remaining 13.3% of the respondents thought the service is not necessary.

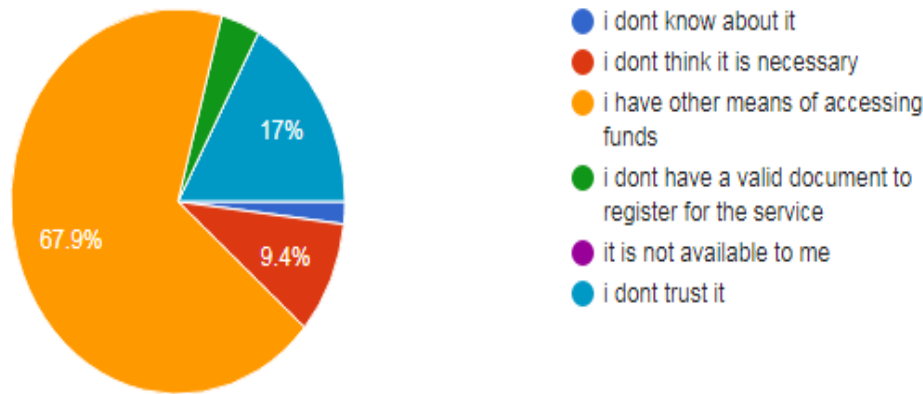


Fig 1

#### C. Years of Using the Mobile Money Service

With respect to user experience, 14.4% had used the service for less than a year, 46% reported using the service for over 1 to 3 years, 50 respondents representing 23.3% have used the service between 3 to 5 years and the remaining 16.3% have used the service for 5 years and above. With regards to the service usage, 90.2% (n=194) of the respondents reported using the service to receive money, buying airtime accounted for 72.1% (n=155), 70.7% (n=152) for sending money using the service. Other uses such as paying of bills and paying off bets were also recorded.

#### D. Proximity

With respect to how close the service was in terms of accessibility, 51.2% of respondents cited that the service was very close to them and 39.1% said the service was somehow close and the remaining 9.4% said the service was far from them. The data from the study proves that the service is quite close to people and that partly accounts for the high patronage.

#### E. Transactions Using Mobile Money Service

There was a response of 34.4% to 65.6% for yes and no respectively with regards to whether the respondents have ever received payment for an item using this service. With regards to whether they had paid for a commodity using this service, 54% responded in the negative and 46% in the affirmative. Furthermore, the findings revealed that the 67.9% of respondents mostly send and/or receive money from their family members especially those in the 15 to 25 age group as many of them are dependent on their family. The remaining 16.3% and 15.8% indicated they mostly use the service for transactions to their business partners and friends respectively.

A similar response was recorded as to whether their institution accepts payment of fees through this service: 78.5% of responses were no and the remaining was yes. Lack of trust, transfer and withdrawal charges were cited as the reasons in both cases hence, physical cash is still the preferred way of payment.

On the notion of whether they have ever sent money to someone unintended, 181 of the 215 responses representing 84.2% were negative and 15.8% said yes. Out

of the number of subscribers who had wrongly transferred money into other people's account, 51.2% indicated that they were able to recover their money successfully.

#### F. Users' General Experience

In the case of convenience, 44.7% said the service was very good, 27.4% said it was good, 17.7% and 9.3% were chosen for excellent and fair respectively, with only 0.9% saying the service was poor. This is a strong indication of how convenient the service is as compared to the formal financial sector. In terms of security 40.5% gave it a rating of good, 32.6% said it was very good, 12.6% thought it was fair, 9.6% said it was excellent and only 4.7 percent gave it a poor rating. This further highlighted the fact that the service has improved over the years as more people are trusting the service as compared to previous years.

#### G. Mobile Money Fraud

The study revealed that 95.3% have heard of mobile money fraud and is mostly due to how service providers and the media are constantly alerting the public about the existence of the fraud in relation to the service. For this reason, 89.2% reported that they have never been a victim of this scheme while 10.8% reported otherwise. 53.8% indicated that the fraudulent scheme has not reduced their trust in the service, 25.9% indicated a maybe and 20.3% saying it has reduced their trust in the service: in all cases whether they have been a victim or not.

#### H. Savings and Recommendations

With regards to saving, 36.7% reported that the service has not helped them to save as they have total control of their respective accounts and can transact anytime and from anywhere and buying airtime frequently were cited as the reasons. However, 36.3% thought the service has helped them to save more: while the remaining felt it was easier to spend with mobile money. Upon further analysis, a majority of respondents agreed that they will recommend the service to other people, with only 2.1% saying otherwise.

#### I. Formal Financial Sector

14.8% of respondents revealed that they do not have a bank account; with reasons such as "I have other means of accessing funds, it is not available to me and it is not

necessary". However, 85.2% reported having a bank account but most admitted that their accounts were inactive. Mobile money has greatly provided the alternative to those who might find it difficult mobilizing funds in the formal financial sector.

## V. DISCUSSIONS

The study found that tertiary students in the Kumasi metropolis are well established in the mobile money ecosystem. Majority of the student sampled in this study, were subscribed to one or more of the mobile money platform. Interestingly, the study revealed that those who were not registered to the service were mostly foreign students and they stated that the mobile money service was not common in their home country. The success of mobile money in the Kumasi metropolis can be credited to the large ubiquitous network of mobile money agents and the ease in accessing accounts on the platform. These according to them, makes it easy to perform transactions at any time and from anywhere with fewer restrictions. However, agreeing to the significance of mobile money with respect to savings, majority felt it was easier to spend with mobile money than the formal financial sector, as a result, it had less impact on their savings. Additional studies can be performed to determine how much mobile money has affected the operation of the formal financial sector.

## VI. CONCLUSION

From the results obtained from the study, it can be seen that mobile money has been phenomenal in changing the landscape of financial inclusion for the large underserved markets especially among tertiary students in the metropolis. Moreover, the continual use of the mobile money is changing the way transactions are carried out in these areas in the form of cashless transactions. Overall, the study provides a strong evidence that mobile money has been greatly adopted among tertiary students in the Kumasi metropolis. From the study, it is recommended that the mobile money operators (MMOs) takes the initiatives to beef up security and to take measures to counter all the fraudulent schemes to promote trust and confidence in the mobile money system.

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