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Keywords: telecommunication technology, service providers, money market, financial inclusion, savings mobilization, income redistribution, investment, consumption.

I. Introduction

Although the financial sector is an important dimension in every economy, the investment in the sector is limited in many developing countries thereby making branch banking, for example, a small portion of the banking industry. Consequently, large proportion of the population in Ghana, for example, is unbanked and financially excluded. It is estimated that only about 30 per cent of Ghana's population has access to financial facilities of any kind. Therefore, expanding the financial sector is an important policy in emerging economies. This implies that the financial system ought to be handled effectively for purpose of financial inclusion.

The development of mobile telecommunication technology (MMT) and the introduction of mobile money market (MMM) in recent years, in Ghana, have been received as an appropriate development intervention. The planned expansion of telecommunication facilities has been captured in the 2019 budget estimates of Ghana. In the said budget, the government intends "to provide 400 telephony sites to provide voice signal to 2000 unserved communities, to bridge the digital divide and ensure a nationwide coverage by 2020" (National budget, 2019). However, the gains the citizenry obtain from telecommunication services have to be examined in relation to social and economic benefits for enhanced livelihood and welfare.

Therefore, the research focuses on the importance of mobile money market sub sector in the local economy. The market is operated by telecommunication providers which are companies that do not belong to the financial sector. Among the questions one may raise are the following: Who controls the activities of mobile money providers in the money market? Do the regulators in the country have expertise and resources to control the new sector of the financial system? What rewards do the subscribers/depositors receive from the providers in order to make the market sustainable? among others.

Within the context of financial analysis, a financial system is considered as a framework that allows the exchange of funds between lenders/investors and borrowers. Again, a financial system is regarded as a network of markets and institutions that brings suppliers and demanders of money together for business transactions.

In terms of its structure, the financial system is made up four main pillars namely, financial institutions, financial market, financial instruments and financial

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services. With these dimensions the financial system facilitates the allocation and development of economic resources in time and space in an economy. Therefore, the main goal of the financial system is channeling funds from savers/depositors to borrowers/investors in an economy for investment.

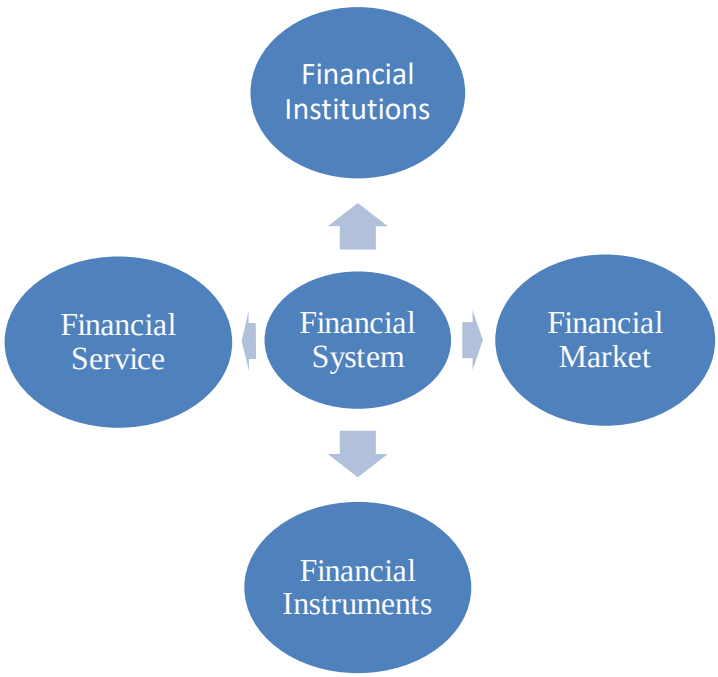
Again, the importance of the activities in the financial system is mobilising small valued savings into profitable large scale investments. Therefore, some economists argue that without effective operations of the financial system, these small savings would not be available for investment in an economy. Therefore, the activities in the mobile money market ought to benefit the economy in terms of facilitation of trading on the local market, diversifying and pooling of risk, mobilize savings and allocate resources to different sectors of the economy.

Also, the mobile money market facilitates the exchange of goods and services as well as promotion of technological innovation. This is a positive way of promoting local economy.

II. The Challenge

An effective money market is an advantage in every economy as that enables the citizenry to take advantage of all the functions that money performs in an economy. Among others, they are capable of using money as medium of exchange for transaction purpose instead of going back to barter system. Again, money in the economy offers a standard unit of accounts and above all, it gives the people the opportunity to store the wealth they create in the economy in the form of cash instead of illiquid assets such as marketable agricultural surpluses whose storage goes with challenges. This submission implies that if many people are excluded from the money market that constitutes a huge disadvantage to people as well as the local economy.

For purpose of economic growth, a financial system is established to develop financial institutions, financial markets, financial instruments and above all, provide relevant services in the economy (Figure 1). If an economy requires these financial dimensions for growth, then the performance of some of these functions by Telecommunication firms, with modern technology, instead of traditional financial institutions performing those roles is an issue that calls for critical examination. More so as technology has pushed telecommunication companies into the financial sector to perform some functions and activities traditionally reserved for financial institutions. Do these companies have the expertise and experience to grow the financial sector or they are in there to take advantage of technology under their control to make profit from the financial sector? Again, how do the activities of those companies influence the operations of the traditional financial institutions?



Author's Construct. *Figure 1:* Dimensions of thr Financial System

Therefore, an exploratory research was undertaken with the view to, among others, identifying focus of Telecommunication firms in the financial sector. To analyse the benefits this innovation from Telecommunication companies have brought to subscribers or customers. Again, to examine the challenges the innovation has brought into financial

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sector. Also, to analyse the influence the firm's activities have on the local economy.

In terms of methodology, the research was exploratory as indicated, therefore, the researcher sought to investigate into the advantages and challenges associated with the mobile telecommunication technology in the financial sector of Ghana. Moreover, its effect on the local economy was of importance in the research as an economy is expected to benefit from any technology introduced into it. The recent introduction of mobile money technology in Ghana has not promoted extensive research in the area hence, knowledge, information and secondary data in the area is limited in Ghana. That necessitated the extensive use of primary data collected from the field. Consequently, basic simple statistical methods were adopted to analyse the relevant data collected from the field.

III. Theoretical Overview

Based on disaggregated consistency model, the economy of Ghana has been developed into three main sectors namely agriculture, industry and service. The model emphasises that in economic planning, apart from increasing the overall growth rate, it also aims at transforming the sectoral balance of the macro economy. The argument is that a planner should know that since resources flow from one sector to another in the process of economic growth he/she has to ensure that target growth rates satisfy the conditions of "balanced" growth. The main sector models enable planners to break down the aggregate growth target and investment requirements into sectoral targets and requirements, as well as, specify the condition of "balanced" growth so that one sector of the economy might not grow at the expense of another. For example, statistical records in Ghana indicate that economic growth, in relation to, Gross Domestic Product increased from 3 to 7 per cent in 2016 to 8.5 per cent in 2017.

However, with respect to the three main sectors, growth rates were different:

Table 1: Growth Rates of Main Sectors of Ghana's Economy. (2012-2017)

Main Sector	2012	2013	2014	2015	2016	2017	Mean
Agriculture	2.3	5.7	4.6	00.0	3.0	8.4	4.0
Industry	11.0	6.6	0.8	9.1	(-1.4)	16.7	7.1
Service	12.1	10.0	5.6	4.7	5.7	4.3	7.1

Author's construct Data Base- Government Statistical Sources

According to the disaggregated consistency model, finance has a role to play in terms of balance in distribution of investment resources. Otherwise, there will be serious disequilibrium in the economy, such as, the negative growth in industry in Ghana in the year 2016. Although, agriculture is an important sector in terms of production of food to feed the populace and being the major source of employment and income in rural Ghana, its growth rate is low compared to the other two main sectors due to low investment in that sector.

Generally, one may argue that every economy has two main sectors namely; Investment Goods Sector (IGS) and Consumption Goods Sector (CGS), if we assume that there is no intermediate transaction between IGS and CGS and that they only purchase or consume final goods from each sector, then outputs of the two sectors will add up to provide the GDP of the economy.

Quantitatively, given the two sectors X1 and X2 the sum of their total output value could be captured as:

$$XI + X2 = GDP$$

Where

XI- Total output from investment goods sector

X2 –Total output from consumption goods sector

Given marginal propensity to consume (MPC) of 'c' one could argue that the supply of consumption goods should be sufficient to meet demand for consumption goods.

Thus total aggregate supply of consumption goods (X2) given the marginal propensity to consume 'c' is:

$$X2 = c(GDP)$$

$$X2 = c(X1+X2)$$

$$X2 - cX2 = cX1$$

$$X2(1-c) = cX1$$

$$X2(1-c)/X1 = cX1/X1$$

$$X2/X1(1-c) = c$$

From the equations one could submit that, given "c", the total outputs or productive capacity of the two sectors must bear a constant relationship to each other such that

$$X2/X1 = c/1-c$$

$$X2/X1 = MPC/MPS$$

There would be disequilibrium in an economy if the two ratios are not equal.

A typical planning problem is to determine the distribution of investment resources between the two sectors that will ensure a "balanced" growth of the sectors as determined by the expression X2/X1. Given the target (planned) rate of growth of GDP the prevailing MPC determines the demand for consumption goods.

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But often the demand for consumption goods tends to exceed the supply from the consumption goods sector in developing countries. If inflation, as a result of shortage in supply of goods, is to be avoided then the productive capacity of the consumption goods sector has to be increased through new investment in that sector.

a) Savings and Financial Market

The above submission brings to the fore the importance of savings (MPS) and investment in an economy. In other words, marginal propensity to save is a critical variable in economic analysis as well as the distribution of resources for investment. That supports the importance of both banking and non banking institutions in relation to savings mobilization and investment in an economy. Again, this calls for analysis of the roles telecommunication companies are playing in the financial market

b) Mobile Money Market Technology and Financial sector

The Mobile Telecommunication technology Service Providers introduced mobile money market in Ghana in recent past. Since the introduction of Mobile Money Technology (MMT) service in Ghana, its consumption has increased in leaps and bounds. The National Communications Authority (NCA) has estimated that in 2011 the MMT service penetration increased to about a rate of 70 percent, implying that 70 out of 100 Ghanaians owned mobile telephone handsets which are the basis of owning mobile money account. Again, the NCA estimated that in 2010, mobile Telecommunication Services output accounted for 2 percent of the Gross Domestic Product (GDP).

Furthermore, the introduction of low denominated prepaid cards and the steady decline in prices of mobile handsets have tremendously led to a rapid increase in the spread of mobile phones in developing countries. The technology has opened several opportunities in the mobile industry apart from the voice and interpersonal communications. Aside the invaluable mobile communication services offered to users, the technology has brought to the fore innovation with the introduction of mobile money transfer services. At the basic level, mobile money system is the provision of financial services through a mobile device (Donovan, 2012).This broad innovation covers wide range of services such as payments, finance, and banking services The Mobile Money System is a relatively new addition to the essential communication services provided by mobile telecommunication networks in Africa in general and Ghana in particular.

IV. Mobile Money Market System

This is an agent-assisted, mobile phone-based, person-to-person payment and money transfer system. In Africa, it was launched in Kenya on March 6, 2007. The popular name in the East African country for the system is M-Pesa (Mobile Pesa). The term 'Pesa' is the Swahili word for Money (Oliver et al., 2012).

It allows users to store money on their mobile phones in an e-account (electronic account) and deposit or withdraw money in the form of hard currency at one of Mobile Money outlets known ==as _Agency. According to Mobile Financial Services (MFS), millions of Africans utilize their cell phones to manage their finances. The service is currently in use in 93 countries across the globe. According to the World Bank, only about 30 percent of Ghana's population, has access to one form of banking services or another. This leaves a gaping figure of 70 percent of the total population are unbanked. How could one promote the importance of saving in an economy without high presence of financial institutions, financial instruments, and financial services in the economy?

A number of reasons have accounted for this unfortunate situation of large unbanked population. Others include ineffective functioning of the financial sector resulting to delays in accessing money; the complex nature of the banking system and excessive bureaucracy in financial transactions (World Bank Report, 2014). There is the failure of Universal banks investing in branch banking as a way of expanding their services.

These handicaps have promoted non formal system of financial operations such as traders or individuals carrying monies on themselves or sending intermediaries with the associated challenges. However, the situation appears to be changing over the last few years in Ghana with the introduction of the mobile money transfer (MMT) services. As a way of attracting customers, some financial institutions have now turned their attention to maximizing their market share by offering Mobile Money Service to their clients. The perceptions of customers on the relevance of the innovation were assessed in the light of the incentives provided to motivate and attract potential unbanked populace.

a) Mobile Money Market: Service Providers and Customers

The main service providers in the mobile money market are telecommunication firms which operate mobile phones. According to Bhavnani, et al (2008) mobile phones have become the main form of telecommunication in the developed as well as the developing world. The industry has since the 20th century, witnessed massive growth in a relatively short time span. History has it that, the first billion mobile phones took around 20 years to sell worldwide. The second billion were sold in four years while the third billion were sold in two years.

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Mobile Money Service providers in Ghana include firms such as Mobile Telecommunication Network (MTN), Vodafone, Airtel/Tigo and Glo among others. The total number of mobile voice subscribers had increased from 35.8 million at the end of February 2016 to 36.1 million as at the end of March 2016. This represents a percentage increase of 0.84 per cent in a month (NCA, 2016). The average market shares among the companies are distributed as follows:

Table 2: Mobile Money Market Shares by Providers

Companies/Providers	Subscribers/Customers	Percentage Market Shares	Cumulative Percentage
Mobile Telecommunication Network (MTN)	17,004,445,	46.9.	46.9
Vodafone	7,900,534	22	68.9
Airtel/Tigo	10,074,543	28	96.9
Glo	1,048,635	3	99.9
Others	110,549	0.1	100
Total	36,136,708		-

Author's Construct. 2018, Data Base NCA.2016

It is estimated that in 2016, the MTN company controlled about 47per cent of mobile telecommunication market while the other five companies shared the remaining subscribers, constituting 53 percent among themselves. This implies that mobile money market operations are dominated by MTN subscribers, in Ghana. The activities of those subscribers are the basis for mobilization of surplus household income for savings. However, the rate at which the subscribers/depositors redeem their money from the companies is a critical issue to be considered in financial analysis.

b) Mobile Phone Subscribers/Customers/Depositors

Many activities and services take place in the Mobile Money Market with the view to broadening the cash base of the economy as well as making it more cashless. One has to register with one of the Mobile Money Market service providers to have access to the services in the market. Perhaps for the purpose of knowing their customers (KYC) one is required to provide personal identification cards such as Voter identification card, Drivers identification card, Ghana National identification card, and passport. Subscribers who register with the service provider are key players in mobile money market as a result they are given personal phone numbers with identification numbers (PIN). After registration, subscribers are provided services including; Transfer of money to Mobile phone users and non mobile Users. The latter receive Mobile Money services from vendors who have been engaged by the Mobile money service providers. The market could be used to up Air time. A subscriber could take advantage and open an account also known as Wallet with the Mobile Service Provider. The subscriber uses the account to save money or to load the Wallet. Having opened the Wallet and loaded it the subscriber uses it to allow cash out or receive cash on the Wallet. Periodically, a subscriber could check balance in the Wallet, ask for mini statement and change the mobile money PIN for security reasons. Also, the Wallet could be used to pay for utilities and services with digitized accounts.

The expansion of mobile money telecommunication technology has made money market available in several places thereby bringing mobile money market to the doorstep of the citizenry. However, many people don't have money to register although the technology is available in the country. This implies that it is not only the availability of the technology per se which is relevant in the creation of money market, the ability of the populace to raise money to subscribe to the service is equally critical in terms of the expanding mobile money market.

Furthermore, the extent to which citizenry could diversify the use of the telecommunication technology and create accounts in the mobile money market is important for economic purposes. That is, if subscribers limit the usage of handsets to voice communication without subscribing to accounts then their operation in the money market has been limited. Among others, such a situation might be the result of several factors in the community such as low household income which does not call for any special account, from household point of view, limited knowledge on importance of mobile money market among the populace and above all the very low interest rate paid to depositors in the mobile money market. For example, the study revealed that a subscriber who had 10.78GHs in his wallet in September, 2018 received the message from mobile money service provider in December, 2018.

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Dear customer, you have received 0.09GHS from… Mobile Money as interest earned on your mobile money wallet for the period October 2018 to December 2018. Your new balance: 10.88 GHS

Source; Correspondence on Respondent's Wallet, 2019

The quotation implies that the quarterly interest rate on the said deposit in the wallet is 0.83per cent bringing the yearly interest rate on deposit to 3.33per. Such a low interest rate would compel a potential depositor to search through the money market for an offer which is higher than the one the service provider is offering in the Mobile Money Market.

These factors combine to make mobile money market unattractive mechanism for household savings. By extension, the mobile money market is not considered an effective mechanism for mobilizing small household savings in developing countries. The other side of the coin is that if the subscribers in the market are not keen on depositing surplus household incomes in the mobile money market thereby raising loanable funds from the mobile money market, by small scale entrepreneurs for investment, is almost impossible in the local economy. That is by virtue of the fact that loans are generated from savings which translate to investment in the economy.

One could therefore argue that if subscribers in mobile money market are not enthusiastic about deposits in Wallets within the market then MMM system cannot be used as an effective machinery for savings mobilization neither can it be used as source of credit for small scale entrepreneurs who need support to grow their mini businesses.

If the principles of low savings, low credit funds, low interest on deposits are allowed to dominate the mobile money market, then the economic importance of the technology would not be felt even by small scale entrepreneurs. In other words, failure of subscribers to load their wallets consistently has negative effect on the economy.

It is therefore relevant to examine the backgrounds of the subscribers in mobile money market to enable one to understand their behavior. Using one of the cardinal principles of banking and the financial industry as Know Your Customers (KYC), a field study covering about 162 mobile money subscribers were randomly selected for interview. About 51.9 per cent of the respondents were males and 48.1 females. By implication mobile money services are patronized more by males. If one has to own a mobile handset phones to enable one to register then it implies that more males own mobile phones than females. This might be a reflection of the male dominance in terms of economic power in the household.

As Mobile Money Market is an innovation in the country it became important to assess the sources of information about the Mobile Money Market (MMM). From the respondents, about 58.0per cent [1] indicated that they received information through media advertisement, 24.1 per cent [2] were introduced to the MMM by friends and relatives who are subscribers while 17.9 percentage [3] got the information from offices of the service providers either in the form of text messages or phone calls (Figure 1). The results show that media advertisements play a key role in diffusing the MMM innovation. Therefore if Service Providers wish to increase their subscription coverage in Ghana, media advertisements, could be the best option particularly by radio technology with wider coverage.

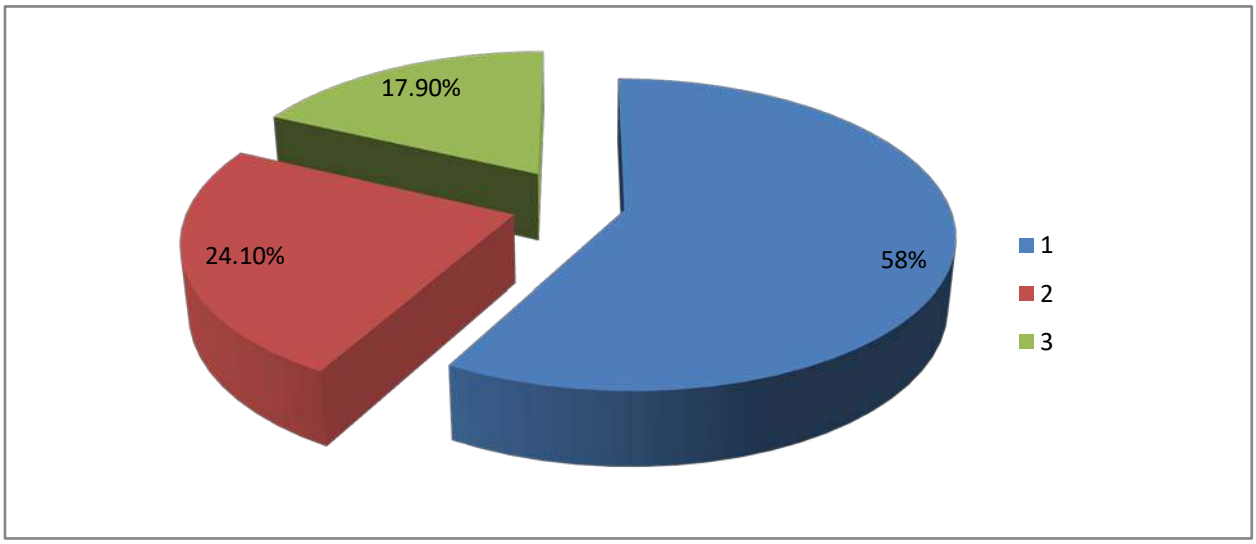


Figure Author's Construct: *Figure 2:* Sources of MMM Information

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c) *Relevance of Mobile Money Market from Customers' Perspective*

As a system within the financial sector, respondents were required to rank the factors which make the mobile money market an important innovation in the financial sector. The rating was based on selected indicators, Likert scale, Very Low [1], Low[2], Can't tell[3],High [4] Very high[5] and the Rank Importance Index(RII).

The indicators include:

i. *Accessibility:* The ability to locate and arrive at the MMM service point without walking more than one kilometer

ii. *Convenience:* To access the service without going through any complicated processes.

iii. *Reliability:* The dependability of the service in terms of time spent on consuming the service.

iv. *Safety:* The issue about security of deposits.

v. *Quality:* Nature of service provision with few technical hitches.

vi. *Cost: How much do* Customers pay for accessing the service?

As well as MMM activities' influence on livelihood, that is the positive effects of the innovation on improvements in livelihoods.

Since rural economies are based on small scale farming and petty trading economic activities as means of livelihood, many communities do not have formal institutions for saving money such as Banks, Savings and Loans and Micro Finance companies to enable them engage in official financial transactions. The Mobile Money Service therefore remains the formal visible form of engaging in financial transaction in many communities.

Given the indicators outlined above, the respondents' rankings of the indicators are summarized in Table 2 below

Table 2: Relative Importance Index of MMM Services in by Subscribers.

Likert Scale Scale Indicators	Very Low [1]	Low [2]	Don't Know [3]	High [4]	Very High [5]	Frequency	Weighted Rank	Weighted Mean	Relative Importance Index(RII)
Convenience	4	20	34	41	63	162	625	3.86	0.77
Reliability	5	24	37	44	52	162	601	3.71	0.74
Accessibility	9	20	41	43	49	162	581	3.59	0.72
Quality	1	31	32	53	45	162	596	3.68	0.74
Safety	4	18	34	39	67	162	633	3.91	0.78
Cost	5	52	42	35	28	162	515	3.18	0.64

Author's Construct. Field Data

The qualitative analysis shows the Relative Importance Index (RII) of the selected indicators (Table 2) in relation to the operations in Mobile Money Market from subscribers' perspective. The subscribers indicated that "Safety" of their money and "Convenience" for doing business as the two major factors which make the Mobile Money Market System relevant and attractive to them. This is unlike other options of handling money such as hand delivery or traditional banking system, customers are exposed to several risks such as missing cash in the case of person to person delivery also one has to pass through cumbersome processes in the case of doing business in the formal banking sector.

Again, the RII shows in subscribers' opinions Reliability and .Quality of service also attract them to Mobile Money Market. Accessibility and cost are the less important factors that would attract them to the MMM.

Another major objective of this study was to assess the main activities respondents perform in the MMM. About 78 per cent indicated that they use the system for money transfer. Also, about 4.3 per cent use their accounts to pay for goods and services. As a telecommunication device about 9.5 per cent use it to top up Airtime and data and 8.5per cent for other activities. The purpose for which transferred money is used was investigated and it became evident that about 31per cent of the respondents use the money to buy food and other items for the household, 28 per cent used it to purchase farm inputs and labour for farming. Also, about 22 per cent indicated that the money is used for educating their kids, whilst 11per cent use the money to pay for utility bills with 8 percent using it to finance health expenses. This indicates that the transfer system mainly supports consumption as against short term investment. Again, the system facilitates transaction activities more than savings mobilisation.

Again, transactions in the MMM are related mainly to social relations such as families, friends and partners and employers. It was realized that many of the respondents do not receive transfers from employers because they are self employed (Table 3).

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Table 3: Sources of Mobile Money Transfers

Sources of Transfer	Frequency	Percentage	Cumulative Percentage
Relatives	105	64.7	64.7
Friends	33	20.4	85.1
Business Partner	21	13	98.1
Employer	3	1.9	100
Total	162	100	

Author's Construct: Field Data

The results in Table 3 show that the basis of many transfers, that is about 85.1 per cent is socially motivated while only 14.9 per cent is economic. In this context, one could argue that MMM is used mainly for income redistribution but not income generation.

d) Mobile Money Market and Service Providers

Mobile Money Market service providers, in Ghana, operate as registered limited companies under the company Code, 1963 (Act 179) to obtain business registration certificates to operate. The Law compels them to set up management structures and board of directors to supervise the operations. In addition, some of the companies have regional offices to manage the regional markets.

Basically, the service providers are telecommunication firms therefore, they operate under the Ministry of Communications, licensed and regulated by National Communication Authority. This raises the issue of the specific role of Bank of Ghana in the operation of the Mobile Money Market. Given the failure of the Bank of Ghana to effectively regulate the banking sector of Ghana, in recent past, one could argue that Bank of Ghana does not have adequate logistics and human capital to manage the entire financial sector. Therefore to bring the mobile money market activities under the control and regulation of the Bank of Ghana would leave much to desire. On the other hand, the National Communication Authority might not have the expertise to control and monitor activities taking place in the financial market. The peculiar nature of this mobile money market creates a grey area which calls for immediate attention if the system is not to be abused.

The mobile money market service operators indicated that the decision to introduce Mobile Money Service was basically to create more value added service for their valued customers. The companies are of the opinion that the communication industry was moving to an era where technology is used to develop more innovative services to serve as another revenue stream for telecommunication businesses in order for them not to depend solely on revenue from voice services. They stressed that telecommunication business was evolving daily and for a company to remain competitive, there was the need to also innovate in order to remain competitive and be ahead of other competitors in the industry. This implies that the companies make profit maximization a major focus as they regard the new innovations an additional revenue stream to improve cash flow.

V. Business Organisation

The companies operating in Ghana, in terms of organizational structure, have Strategic Business Units (SBU) in South East, South West and Northern parts of Ghana and each SBU has its own distribution infrastructure which is managed by a key distributor. The companies have their own staff in all the SBUs who supervise the operations of the distributors. All customers and agents, who are selected based on possession of valid national photo identification card including Voter's ID, National ID, National Health Insurance Service ID, Driver's License and Passport among others, are managed through this system. The companies also have good working relationship with their agents. This is evidenced in the frequent periodic meetings with the cluster merchants or the general merchants. At those meetings, opportunities are given to all stakeholders to share ideas and discuss developments with respect to the service.

Again, the companies meet their agents periodically to discuss introduction of new services or new promotions. The periodic reports the companies receive include complaints on fraud issues, lost SIM cards, incorrect commission payments and wrong transactions among others. The companies do handle complaints directly from customers, especially, in matters that cannot be handled by agents such as SIM blocking and replacements in case a subscriber loses his/her hand set. Some of the issues are reported through a toll free line which has been set up to handle customer complaints or the customers go directly to the company's office to complain.

For the safety of customers' accounts, it was indicated that the services provided are based on Banking Industry Security. Furthermore, one's account is password protected, data is encrypted requiring user authorization which comes in the form of profile specificity whilst confidentiality of the account holder's password is also assured. Although these measures have been put in place, the rate at which cyber crime is spreading in the market is alarming in Ghana.

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VI. Key Findings

The introduction of Mobile Money Market has drawn many people into the money arena through subscription thereby drawing individuals and mini business units into the financial sector without paying any fees. However, one has to be a subscriber of one of the telecommunication service providers in order to benefit from the services on the market.

It is important to observe that both males and females have been brought to the financial arena without discrimination. That is both males and females have benefited from the system. The service is largely relevant to low income earners because they see it as safer, convenient and reliable means of transferring and receiving cash amongst the populace.

Many depend on the system to transfer cash from relatives and friends. The cash received are used for purchasing food, household items as well as farm inputs. The system has helped to improve financial inclusion, towards the redistribution of income in some low income households, thus helping in the reduction of poverty in communities.

The subscribers consider the system as convenient and safe compared to formal and semi-formal systems of cash transfer which are associated with challenges such as delays in processing, potential danger of money being stolen or not reaching its destination among others.

Although, the technology has made transfer and handling of money easier and reliable, however, the unreliability of the telecommunication network system in many parts of Ghana is a big challenge in the introduction of mobile money market with the view to enhancing financial inclusion in the country.

With the introduction of the innovation in predominantly underdeveloped regions media advertisement, especially radio, was identified as the best means of spreading information on the money market in Ghana. Although friends and relatives also do share the information only few subscribers could receive direct information from the providers.

In terms of the economy, few subscribers use their wallet as means of savings. Many subscribers regard MMM mainly as conduit for rapid money transfer. In other words, Mobile Money Market system is a failure in terms of savings mobilization as many subscribers do not save in their accounts. They use the system to transfer money to improve upon redistribution of household income to supports citizenry to enhance their socio-economic lives. One critical reason for low savings mobilization in the Mobile Money Market is the low interest rates, estimated as 3.33per cent per annum paid on deposits by the service providers.

Also, it has been identified that greater proportion of the money transferred through the MMM system is spent on consumable goods including food, household items as well as expenditure on other social services such as health and education. In other words, the system promotes marginal propensity to consume at the expense of propensity to save which would lead to investment and growth.

There is a grey area as to which institutions are controlling, regulating and monitoring the mobile money market in Ghana. Presently, it is in the hands of telecommunication service providers which work under Ministry of Communications and regulated by the National Communication Authority. The point is, which is more important to take care of in the money market, is it the technology operating the market or the money that is flowing through the market?

The firms have emphasized that the goal for introducing mobile money market System, was to ensure value added services to their customers and widen their revenue base. They argue that tele-communication industry is moving to an era where technology is used to develop more innovative services for profit.

In terms of policy to guide the Mobile Money Market in Ghana, the major stakeholders, such as, Bank of Ghana, the Legislature and the Service Providers, unanimously agree on the need for some effective policy guidelines to ensure that the system is free from any form of manipulation or fraud. Whilst the Service Providers on their part, believe they have enough security measures in place to check fraud and other forms of financial crime. What is happening in the sector implies that there is a long way to go in operating an effective mobile money market. The caution is that any policy framework to be developed should ensure that the innovation is not stifled. In other words, policies should aim at improving innovation and promoting growth in the economy.

VII. Recommendations

It cannot be overemphasized that mobile money market is an important sector of the money market. Among others, it facilitates redistribution of household income and thereby promoting financial inclusion. The utilization of the resources that flow through the market helps some households to obtain their daily bread and enhance their livelihood.

Practically, the service providers have to operate the two services separately. It would be useful for the service providers to be asked to establish subsidiary companies that will take care of their operation in the Mobile Money Market. Those subsidiary companies should have separate Management Systems and staff who are experts in banking and Information Communication Technology. Also the subsidiaries must be financially independent from the mother companies. Again, subscribers could be made share holders of the subsidiary companies instead of the mother companies.

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The point is to allow subscribers to own shares in the subsidiary companies would enhance savings in the companies for reason of being partner in ownership and earn dividend. This implies that the establishment of Money Market companies would also promote savings mobilization in the economy and thereby increase household marginal propensity to save.

Since the Bank of Ghana has a lot of responsibilities of controlling the entire financial sector it would be proper to establish an Authority or Commission to be responsible for developing Mobile Money Market like the Security and Exchange Commission.

With huge investment the government is making in telecommunication sector (Budget, 2019), it is necessary that the networks are used to enhance the economy instead of using it for voice and social services. In other words, the network should be utilized to reduce poverty through savings mobilization, investment with the view to improving the general condition in the macro economy for growth.

Whilst the decision to pay interest to subscribers of mobile money is a laudable idea, the Bank of Ghana must develop effective mechanisms to check all forms of irregularities in interest rates structure and systems of payments. The incentive packages to agents must be reviewed to keep them at work.

Above all, the Bank of Ghana, the Legislature (The Parliament of Ghana) and the Service Providers must collaborate effectively in ensuring that appropriate legal and operational measures are introduced to safeguard the security and sustainability of the MMM system in Ghana.

VIII. Conclusion

One might conclude that the MMM innovation has come to stay, for that matter it has to be managed in such a way that all the major stakeholders, namely, subscribers, agents service providers, government and citizenry benefit proportionately from the innovation. The innovation should go beyond voice communication and promote activities that would enable the subscribers to reduce poverty and promote welfare of the citizenry. Once subscribers are depending on the system to obtain fast track transfers for consumption purposes only, the innovation would not promote growth. In this respect, the innovation is being used for income redistribution and financial inclusion in areas where mainstream banking or orthodox means of transferring cash do not reach. In a positive sense, MMM innovation should be managed to create wealth to improve livelihood. Therefore, one could conclude that increased financial inclusion in an economy without growth and enhanced welfare is a failure.

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