

1 Mobile Money Market Operations in the Financial Sector: Issues  
2 of Financial Inclusion, Savings Mobilization and Investment in  
3 Local Economy of Ghana

4 Kwaku D. Kessey<sup>1</sup>

5 <sup>1</sup> Kwame Nkrumah University of Science and Technology

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8 **Abstract**

9 The importance of the financial sector in an economy cannot be overemphasized. Among  
10 others, it provides financial resources to support businesses, household consumption as well as  
11 public sector investment. However, there is limited access to the facilities provided by the  
12 sector in Ghana, hence many people are excluded from benefits that could be obtained from  
13 the financial sector. In other words financial exclusiveness is a major challenge in the country.

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15 **Index terms**— telecommunication technology, service providers, money market, financial inclusion, savings.

16 **1 Introduction**

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

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

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

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

39 In terms of its structure, the financial system is made up four main pillars namely, financial institutions,  
40 financial market, financial instruments and financial services. With these dimensions the financial system  
41 facilitates the allocation and development of economic resources in time and space in an economy. Therefore,  
42 the main goal of the financial system is channeling funds from savers/depositors to borrowers/investors in an  
43 economy for investment.

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

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

## 51 2 II.

### 52 3 The Challenge

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

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

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

### 73 4 Financial System

### 74 5 Financial Institutions

### 75 6 Financial Market

### 76 7 Financial Instruments

### 77 8 Financial Service

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

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

## 87 9 III.

### 88 10 Theoretical Overview

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

97 economic growth, in relation to, Gross Domestic Product increased from 3 to 7 per cent in 2016 to 8.5 per cent  
98 in 2017.

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

## 100 **11 Author's construct Data Base-Government Statistical 101 Sources**

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

103 A typical planning problem is to determine the distribution of investment resources between the two sectors  
104 that will ensure a "balanced" growth of the sectors as determined by the expression  $X_2/X_1$ . Given the target  
105 (planned) rate of growth of GDP the prevailing MPC determines the demand for consumption goods.

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## 108 **13 C**

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

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

118 Quantitatively, given the two sectors  $X_1$  and  $X_2$  the sum of their total output value could be captured as:  
119  $X_1 + X_2 = \text{GDP}$  Where  $X_1$ -Total output from investment goods sector  $X_2$  -Total output from consumption goods  
120 sector Given marginal propensity to consume (MPC) of 'c' one could argue that the supply of consumption goods  
121 should be sufficient to meet demand for consumption goods.

122 Thus total aggregate supply of consumption goods ( $X_2$ ) given the marginal propensity to consume 'c' is:  $X_2 = c(\text{GDP})$   
123  $X_2 = c(X_1 + X_2)$   $X_2 - cX_2 = cX_1$   $X_2(1-c) = cX_1$   $X_2(1-c)/X_1 = cX_1/X_1$   $X_2/X_1(1-c) = c$

124 From the equations one could submit that, given "c", the total outputs or productive capacity of the two  
125 sectors must bear a constant relationship to each other such that  $X_2/X_1 = c$  /  $1-c$   $X_2/X_1 = \text{MPC}/\text{MPS}$  But often  
126 the demand for consumption goods tends to exceed the supply from the consumption goods sector in developing  
127 countries. If inflation, as a result of shortage in supply of goods, is to be avoided then the productive capacity of  
128 the consumption goods sector has to be increased through new investment in that sector.

## 129 **14 a) Savings and Financial Market**

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

## 135 **15 b) Mobile Money Market Technology and Financial sector**

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

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

152 **16 IV.**

153 **17 Mobile Money Market System**

154 This is an agent-assisted, mobile phone-based, person-to-person payment and money transfer system.

155 In Africa, it was launched in Kenya on March 6, 2007. The popular name in the East African country for the  
156 system is M-Pesa (Mobile Pesa). The term 'Pesa' is the Swahili word for Money (Oliver et al., 2012).

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

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

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

175 **18 a) Mobile Money Market: Service Providers and Customers**

176 The main service providers in the mobile money market are telecommunication firms which operate mobile  
177 phones. According to Bhavnani, et al (2008) mobile phones have become the main form of telecommunication  
178 in the developed as well as the developing world. The industry has since the 20th century, witnessed massive  
179 growth in a relatively short time span. History has it that, the first billion mobile phones took around 20 years  
180 to sell worldwide. The second billion were sold in four years while the third billion were sold in two years. It  
181 is estimated that in 2016, the MTN company controlled about 47per cent of mobile telecommunication market  
182 while the other five companies shared the remaining subscribers, constituting 53 percent among themselves. This  
183 implies that mobile money market operations are dominated by MTN subscribers, in Ghana. The activities of  
184 those subscribers are the basis for mobilization of surplus household income for savings. However, the rate at  
185 which the subscribers/depositors redeem their money from the companies is a critical issue to be considered in  
186 financial analysis.

187 **19 b) Mobile Phone Subscribers/Customers/Depositors**

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

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

207 Furthermore, the extent to which citizenry could diversify the use of the telecommunication technology and  
208 create accounts in the mobile money market is important for economic purposes. That is, if subscribers limit  
209 the usage of handsets to voice communication without subscribing to accounts then their operation in the money  
210 market has been limited. Among others, such a situation might be the result of several factors in the community

211 such as low household income which does not call for any special account, from household point of view, limited  
212 knowledge on importance of mobile money market among the populace and above all the very low interest  
213 rate paid to depositors in the mobile money market. For example, the study revealed that a subscriber who had  
214 10.78GHs in his wallet in September, 2018 received the message from mobile money service provider in December,  
215 2018.

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

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

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

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

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

241 As Mobile Money Market is an innovation in the country it became important to assess the sources of  
242 information about the Mobile Money Market (MMM). From the respondents, about 58.0per cent [1] indicated  
243 that they received information through media advertisement, 24.1 per cent [2] were introduced to the MMM  
244 by friends and relatives who are subscribers while 17.9 percentage [3] got the information from offices of the  
245 service providers either in the form of text messages or phone calls (Figure 1). The results show that media  
246 advertisements play a key role in diffusing the MMM innovation. Therefore if Service Providers wish to increase  
247 their subscription coverage in Ghana, media advertisements, could be the best option particularly by radio  
248 technology with wider coverage. As a system within the financial sector, respondents were required to rank the  
249 factors which make the mobile money market an important innovation in the financial sector. The rating was  
250 based on selected indicators, Likert scale, Very Low [1], Low [2], Can't tell [3],High [4] Very high [5] and the  
251 Rank Importance Index(RII). The indicators include:

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

254 ii. Convenience: To access the service without going through any complicated processes. iii. Reliability: The  
255 dependability of the service in terms of time spent on consuming the service.

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

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

258 vi. Cost: How much do Customers pay for accessing the service? As well as MMM activities' influence on  
259 livelihood, that is the positive effects of the innovation on improvements in livelihoods.

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

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

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

## 21 BUSINESS ORGANISATION

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

284 Again, transactions in the MMM are related mainly to social relations such as families, friends and partners  
285 and employers. It was realized that many of the respondents do not receive transfers from employers because  
286 they are self employed (Table 3). The results in Table 3 show that the basis of many transfers, that is about 85.1  
287 per cent is socially motivated while only 14.9 per cent is economic. In this context, one could argue that MMM  
288 is used mainly for income redistribution but not income generation.

### 289 **d) Mobile Money Market and Service Providers**

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

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

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

311 V.

## 312 **21 Business Organisation**

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

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

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

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## 333 22 Key Findings

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

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

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

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

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

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

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

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

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

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

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

## 381 23 VII.

## 382 24 Recommendations

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

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

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395 **26 C**

396 Since the subsidiary companies are financial firms they should be licensed by the Bank of Ghana.

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

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

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

408 Whilst the decision to pay interest to subscribers of mobile money is a laudable idea, the Bank of Ghana  
409 must develop effective mechanisms to check all forms of irregularities in interest rates structure and systems  
410 of payments. The incentive packages to agents must be reviewed to keep them at work. Above all, the Bank  
411 of Ghana, the Legislature (The Parliament of Ghana) and the Service Providers must collaborate effectively  
412 in ensuring that appropriate legal and operational measures are introduced to safeguard the security and  
413 sustainability of the MMM system in Ghana.

414 **27 VIII.**

415 **28 Conclusion**

416 One might conclude that the MMM innovation has come to stay, for that matter it has to be managed in  
417 such a way that all the major stakeholders, namely, subscribers, agents service providers, government and  
418 citizenry benefit proportionately from the innovation. The innovation should go beyond voice communication  
419 and promote activities that would enable the subscribers to reduce poverty and promote welfare of the citizenry.  
420 Once subscribers are depending on the system to obtain fast track transfers for consumption purposes only, the  
421 innovation would not promote growth. In this respect, the innovation is being used for income redistribution and  
422 financial inclusion in areas where mainstream banking or orthodox means of transferring cash do not reach. In a  
423 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. <sup>1</sup>

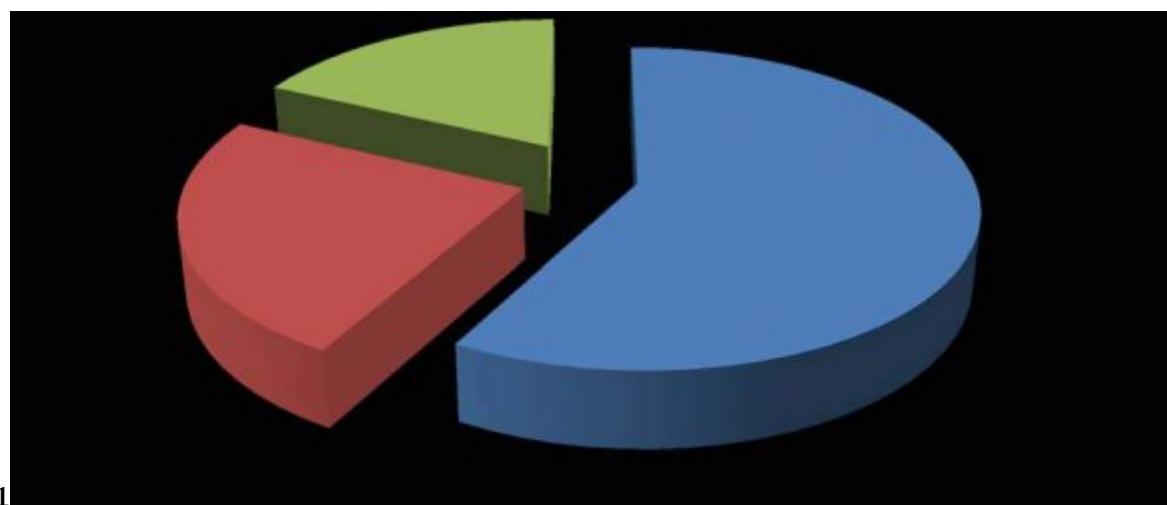


Figure 1: Figure 1 :

424  
425 2

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<sup>2</sup>© 2019 Global Journals 1

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**1**

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

Figure 2: Table 1 :

**2**

Companies/Providers	Subscribers/Customers	Percentage Market Shares	Cumulative Percentage
<b>Mobile</b>			
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	-	-

*[Note: Author's Construct. 2018, Data Base NCA.2016]*

Figure 3: Table 2 :

**2**

Likert Scale Scale Indicators	Very Low	Low	Don't Know	High	Frequency	Weighted Rank	Weighted Mean	Relative Importance		
	[2]	[1]	[3]	[4]	[5]					
								In- dex(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

Figure 4: Table 2 :

**3**

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			
Year 2019			
( )			

[Note: C]

Figure 5: Table 3 :

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