Mobile Money Services: An Enabler of Development Processes in Africa

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Abstract. Access to finance has been a major constraint in a lot of developing countries, especially in Africa. This research seeks to explore the role of mobile money in the development of the financial sector and its role in enforcing financial inclusiveness by making banking easily accessible and convenient. We look at data of countries which operate mobile money credit facilities. Looking closely at how these loan services are increasing financial accessibility and the intensity of entrepreneurship, we hypothesize that mobile money positively influences entrepreneurship and domestic saving by providing an avenue for financial inclusiveness. To explore our objectives, we use panel data consisting of developing countries. With repeated observations of enough cross-sections, panel data analysis permits us to study the dynamics of change with time series. Our data consists of 28 developing countries from the year 2010 to 2018. Our results indicated a positive effect of mobile money registered accounts on new business density and positive effect of transactional volume on domestic savings. We realized that the mobile money system has increased people's confidence in saving and investment since their money is easily accessible with just a click away. People now feel much safer, and this system is educating more people rapidly in developing the culture of saving. This improves how banks treat their clients in rural communities and it also creates employment for young graduates. Access to loans has become much easier by replacing the collateral system with the credit score system. We also realized that since there are no regulations regarding access to loans, mobile money operators seem to take advantage of the people by taking interest rates of more than 10 % per month.

Key words: Mobile Money; entrepreneurship; developing economies; development; financial inclusion; digital financial service.

1. Introduction

Empirical research shows that entrepreneurship has been the driving force behind every nation's economic development (Schumpeter [1]; Baumol [2]; Hause & Du Rietz [3]; Black & Strahan [4]). But access to financing has been the main constraint that a lot of entrepreneur's face, especially those in developing countries (Okrah et al. [5]). This hinders developing countries from benefiting from the enormous effect of entrepreneurship to economic growth and quality of life. Even

Though governments in developing countries have been working hard to support entrepreneurship, due to high corruption and bureaucracy, the people who are supposed to benefit do not benefit from such systems.

Access to loans by entrepreneurs in developing countries is difficult due to lack of collateral and high interest rates. The Micro Financing industry which is supposed to support small scale industries and entrepreneurs are also taking advantage of the situation to charge high

interest rate on loan due to lack of regulations on loans in the micro sector in developing countries (Rosenberg et al. [6]; Tchakoute-Tchuigoua [7]; D'Espallier et al. [8]). Microfinance providers seem to be out of touch with those who need help on the most immediate of basis. Hammil et al. [9] claim that these services more often than not are unable to benefit the poorest strata and instead aid those teetering on the edge to stay above the poverty line.

In this research, we *hypothesize* that Mobile money positively influences entrepreneurship and domestic saving.

Mobile Money has been identified to be playing a vital role in tackling the problem of financial exclusion of the lower income population. Global Findex data indicates that presently there are 1.7 billion unbanked people who do not either have a bank account or mobile money account, between 2011 and 2014 after the introduction of the mobile money service 700 million adults became account holders and the unbanked population fell by 20 % down from 2.5 billion. The narrative is changing since the introduction of the mobile money system, which is changing how businesses are conducted and how people are gradually changing from using physical cash to using mobile money for payment of goods and services in all areas of life in the developing countries.

This research seeks to explore the role of mobile money in the development of the financial sector and its role in enforcing financial inclusiveness by making banking easily accessible and convenient for its customers. We look at data of Countries which operate mobile money credit facilities. Looking closely at how these loan services are increasing financial accessibility and the intensity of entrepreneurship.

The rest of the research is structured as follows, literature, financing and entrepreneurship, methodology, discussion and finally conclusion.

2. Literature and theory of the question

2.1. Literature

Shankar [10] shows that financial inclusion became relevant in study after it was discovered that financial exclusion from financial goods such as payments, savings, credit, risk management, insurance, and pensions was a direct cause of poverty and income disparity.

Heltberg et al. [11] conclude in a 16-country analysis that households with greater financial inclusion are better able to utilize good tactics rather than harmful ones. The level of financial exclusion in Africa has an effect on HDI and savings.

Sakyi-Narko [12] shows that financial inclusion is as significant as per capita growth rates in explaining cross-country variability in HDI in a panel of African nations. Financial inclusion campaigns usually target the unbanked and underbanked, directing them to sustainable financial services.

Financial inclusion may be promoted through technological developments. Mobile money, online accounts, electronic payments, insurance, and credit, as well as their combinations and newer financial technology (fintech) apps, are examples of inclusive digital financial services. What has been a good product for financial inclusion specifically in Africa has been the mobile money service. World bank financial inclusion data indicates that only 19 % of Tanzanians are enrolled into a formal bank but even with this number, not all have access to financial services which leaves the majority of the people in a deplorable financial situation. In 2006, just 11 % of Tanzanians had access to a financial account. However, with the introduction of digital financial services (Mobile Money), that figure has risen to 60 %.

Andrianaaivo & Kpodar [13] used the dynamic panel systems GMM model to undertake a cross-country analysis on 44

African nations from 1988 to 2007. Their research found a link between financial inclusion and economic growth, as well as a link between financial inclusion and cost-effective financial services. The study also found that the rise in mobile phone usage strengthens the link between financial inclusion and economic development.

Orekoya [14] investigated the impact of mobile money on monetary policy in Nigeria from 2008M1 to 2016M12. The findings indicate that financial innovations such as mobile money technologies have an influence on the pricing level of the economy.

Mawejje & Lakuma [15] found that mobile money reduces demand for money in the long run, using both the vector error correction mechanism (VECM) (to examine the effect of mobile money on money demand) and the Structural Vector Autoregressive Model (SVAR) (to examine the effectiveness of monetary policy on mobile money).

The literature has shown the impact of mobile money on economic development but with no focus on business development. Our research explores financial accessibility created by the mobile money system and how it fosters entrepreneurship development.

2.2. Financing & Entrepreneurship

Entrepreneurs create jobs and expand the market's future possibilities.

Schumpeter's [15] determined the impact of entrepreneurship on the quality of life. He developed the theory of how entrepreneurship as innovation favorably impacts a nation's quality-of-life.

Banerjee & Duflo [17] shows that enabling start-ups increases regional well-being. As the quality-of-life increases, it also increases the trust of people in the government and vice versa, this further improves the trust of institutions in entrepreneurship and thereby influencing ease of access to

financing for entrepreneurial ventures. The real source of economic growth is fostered by the activities of the innovative entrepreneur not in the activities of the followers who are risk averse. This indicates the main role of entrepreneurship.

Schumpeter [1] and Baumol [2] indicated that entrepreneurship is the heart of the economy. Most of the developing countries do not have the full benefit of entrepreneurship, this is due to the absence of financing. The GEM 2018 report indicates that among various reasons cited for discontinuing a business, the most common was a lack of either profitability or capital, accounting for an average of 45% of exits, unweighted across the sample. This was mostly accounted for in developing countries. The report also indicated the high level in Total Entrepreneurship Activities (TEA) in developing countries is higher as compared to the developed countries. This trend in developing countries specifically, Sub-Saharan Africa is due to lack of alternative job opportunities for the youth, because of this most of the youth tend to entrepreneurial activities for livelihood. But this is also limited due to the absence of a source of Financing.

Aghion et al. [18] show that finance is at the heart of the development process. The authors back this up with convincing empirical evidence. According to the authors, development practitioners are becoming increasingly convinced that efficient, well-functioning financial systems are crucial in channeling funds to the most productive uses and in allocating risks to those who can best bear them, thus boosting economic growth, improving opportunities and income distribution, and reducing Poverty.

Jenkins [19] noted that mobile money facilitates financial inclusion as it is used for transfers of money, payments for utilities, government revenue and others. The paper found that mobile money

integrates the excluded into the formal financial system which is a critical prerequisite for effective market participation and development.

Porteous [20] and Ehrbeck [21] indicated that there is a positive relationship between mobile money adoption and financial inclusion.

Waverman et al. [22] established that the usage of mobile phones has been identified to have an effect on socio economic trends, such as GDP growth, foreign direct investment, agriculture, trade and improvement in livelihood.

From the points stated above we therefore formulate this hypothesis:

H0: Mobile Money services have a positive influence on entrepreneurship and savings.

2.3. Mobile Money

Mobile Money (MM) has formed a vital part of today's digital financial services ecosystem, which has seen and continues to experience exponential growth. Mobile money is one of the financial services leading this exponential growth in this ecosystem. Mobile Money (MM) is an electronic wallet service that allows users to store, send and receive money using their mobile phone. Mobile money stores funds in a secure electronic account linked to a mobile phone number.

Evidently, the GSMA 2018 State of the Industry Report on Mobile Money reports that «the mobile money industry added a record of 143 million registered customers in 2018 and is currently processing over 1.3 billion transactions a day»[1]. The report further states that «the scale of mobile money continues to grow, with over 866 million registered accounts in 90 countries. The Sub-Saharan African is not lagging this time.

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[1] https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/02/2018-State-of-the-Industry-Report-on-Mobile-Money.pdf

Ozyurt [23] notes that «the unprecedented growth of mobile financial services in sub-Saharan Africa has defied all expectations. While Kenya is often cited as a leading example of digital transformation, Ghana has recently become the fastest-growing mobile money market in Africa, with registered accounts increasing six-fold between 2012 and 2017. The country's experience provides a fresh perspective on its digital transformation and demonstrates that technology can help modernize the financial system as well as also support greater financial inclusion».

The table 1 shows the percentage of mobile money usage in relation to the human development index (HDI) in the Sub-Saharan Africa region.

The table 1 above shows the increase in the percentage of mobile money usage from 2014 to 2017 in the Sub-Saharan and the human development index (HDI) rankings. The table indicates a rise in the HDI due to the rise in the patronage of the mobile money system in the Sub-Saharan region.

Mobile Money service required no complex procedures, expensive smart devices and/or sophisticated network infrastructures to work. With the already existing widespread diffusion of mobile phones and readily available telecommunication networks are enough for its operations. The simple and efficient nature of mobile money operations makes it readily accessible and friendly to the vulnerable (women and children) and the financially underserved section of the populations of every economy globally, especially rural folks of Sub-Saharan Africa regions where most of the rural population, unfortunately, are underserved financially.

Glavee-Geo et al. [24] substantiate that until recently, Africa is considered as the unbanked continent due to its crumbling infrastructure, weak internet connectivity, low levels of financial literacy,

Table 1. **Mobile Money and Human Development Index**

Countries	2014		2017	
	Mobile Money account Age +15(%)	HDI Ranking	Mobile Money account Age +15(%)	HDI Ranking
Côte D'Ivoire	24	242	34	170
Ghana	13	214	39	140
Kenya	58	213	73	142
Nigeria	2	225	6	156
Rwanda	20	151	27	158
Senegal	6	238	25	167
Togo	8	239	24	165
Tanzania	14	159	21	154
Uganda	18	187	26	162
Zambia	9	210	21	144

Source: Author's Own formulation

and thin branch network, which have made it difficult for the realization of financial inclusion goals, such as providing financial services to unbanked and rural clients. But with the introduction of mobile money barely two decades ago, has changed this tag of the continent as «unbanked» and inspiring digital transformation, increased financial inclusion, opening employment avenues, and creating a profitable business proposition, among others for various sectors of the economy in Ghana and Africa as a whole.

Hughes & Lonie [25] show that one of the classic examples is the Kenya's M-Pesa (M for mobile, Pesa is Swahili for money) launched in 2007 by Vodafone for Safaricom and Vodacom, which has since expanded to Tanzania, Lesotho, Afghanistan, South Africa, India and in 2014 to Romania and in 2015 to Albania. M-Pesa allows users to deposit, withdraw, transfer money and pay for goods and services easily with a mobile device. This has opened the economy of these countries through boosting of various economic activities that mobile money services support.

Suarez [26] demonstrates that the use of mobile phones has become very common in the Sub-Saharan African region to the extent that it is resulting in significant changes, sustainable growth as well as economic opportunities for the large unbanked population with the introduction of mobile money. Countries like Kenya, Tanzania, Nigeria, Uganda, Ivory Coast, and others are really benefiting from the use of mobile money likewise Ghana is no exception.

Narteh et al. [27] show that mobile money businesses have begun to transform the traditional ways of transacting business and transmitting money. The reported 34.5 million subscribers representing 119 % mobile phone penetration in Ghana has positioned the country to harness the prospect of the mobile money services to boost its development agenda.

As a result, it can be said that Mobile Money holds a bright prospect for accelerating developmental processes in many developing economies through access to

financial services. Mobile money is also fast-tracking the realization of the digital financing of the United Nation Sustainable Development Goals.

3. Research Procedure
3.1. Data & Methodology

This study used a panel data analysis method. Panel data is used so unobserved time-invariant heterogeneity in cross-sectional models can be controlled. With repeated observations of enough cross-sections, panel data analysis permits the researcher to study the dynamics of change with time series. The combination of time series with cross-sections can enhance the quality and quantity of data in ways that would be otherwise impossible using only one of these two dimensions (Gujarati [28]; Baltagi [29]).

The method used makes it possible to detect and measure statistical effects and minimize estimation errors that may occur when combining groups into a single time series. We estimate using these techniques, the fixed effects estimation technique, random effects estimation technique and the Hausman specification test. The fixed effect estimation strategy accounts for the unobserved heterogeneity between countries. Fixed effect caters for the possible individual fixed effects that could occur from the nature of the panel data and bias the estimated result.

The random effect panel data analysis also exists on the other hand as a variation of the fixed effect. The Random effect assumes that there is no correlation between the error term and the independent variables (absence of fixed effects). The Hausman test (probability value of the chi-square test) is usually performed after the Fixed effect and Random effect to determine the most appropriate between the two. The estimated coefficients could be used to determine the degree of relationship and impact existing between the variables of interest.

We apply this generalized data model. Basic model:

$$y_{it} = \alpha_i + \beta x_{it} + \mu_{it} \qquad (1)$$

The dependent variable is Y_{it}, X_{it} is a $1 \times k$ vector of time-varying explanatory variables, and $i = 1,\ldots.\ n$ individual index (countries), $t = 1,\ldots,\ t$ is the time index and μ_{it} is the error term.

To explore our objectives, we use data consisting of developing countries which have people registered on the mobile money and actively using the system either for long term investment or just for savings. Our data consists of 28 developing countries from the year 2010 to 2018. The countries with insufficient data were taken off. We had an observation of 221. The missing data were replaced with the mean.

3.2. Dependent variable

«New Business Density» and «Gross domestic savings» are used as dependent variables. Thus, new business density is the number of business entries in the year in question. It is measured as the number per 1000 people aged 15–64. And gross domestic saving is GDP minus final consumption expenditure, which is measured as the percentage of the GDP.

The gross domestic savings consist of savings from the household's sector, private corporate sector, and public sector. These two variables will help us understand the effect of mobile money in the business sector and how it is influencing the quality of life.

3.3. Research variables

The variables of interest are mobile money registered accounts (MMRA) and the Volume of Mobile Money transactions (VMMT). MMRA is measured as the number of people registered on the mobile money platform and VMMT is the total volume of record transactions. To normalize the data, we used the log of VMMT and MMRA for the analysis.

Also, we have controlled for some variables that have already proven effect on domestic savings and entrepreneurship, so as control variables, we considered education, domestic trade, GDP per capita, unemployment, interest rate and inflation.

To analyze the data, we used the OLS estimates, fixed effect, and the random effect, to determine the most suitable, we used the Hausman Test. The table below shows the basic statistics.

The correlation shows the maximum correlation between unemployment and new business entry at 0.604. The rest shows not so much correlation. It shows that the MMRA has a −0.432 correlation

Table 2. **Descriptive Statistics**

Variables	Obs.	Mean	S D	Median	Minimum	Maximum	Range	SE
MMRA	221	10.63	6.15	13.29	0.00	16.09	16.09	0.41
VMMT	221	11.02	4.90	13.00	-0.06	18.38	18.44	0.33
NBD(1000)	221	1.33	3.03	0.13	0.00	18.37	18.37	0.20
Unemployment	221	6.35	6.00	4.28	0.60	27.33	26.73	0.40
GDP Per Capita	221	2783	2872	1426	400	12301	11901	193.23
Inflation	221	5.23	3.79	4.70	-2.40	17.50	19.90	0.25
Real Interest Rate	221	7.32	9.34	5.65	-6.15	51.29	57.44	0.63
Education	221	8.29	17.56	3.50	0.00	93.17	93.17	1.18
Trade Openness	221	16.00	28.34	60.64	-0.68	157.94	158.63	1.91
GDS	221	17.16	11.55	18.85	-24.00	39.30	63.30	0.78

Source: Author's Own analysis. The basic statistics shows the Total Observation, the Mean, Standard Deviation, Median, Minimum, Maximum, Range and the Standard Error.

Table 3. **Correlation Matrix**

	MMRA	VMMT	NBD (1000)	Unemploy-ment	GDP Per Capita	Inflation	Real Interest Rate	Education	Trade Openness	GDS
MMRA	1.000									
VMMT	0.154	1.000								
NBD (1000)	0.064	-0.432	1.000							
Unemploy-ment	-0.056	-0.398	0.604	1.000						
GDP Per Capita	-0.095	-0.638	0.611	0.356	1.000					
Inflation	-0.182	0.019	-0.087	0.023	-0.191	1.000				
Real Interest Rate	0.020	0.071	-0.124	-0.140	-0.154	0.089	1.000			
Education	0.054	-0.096	-0.143	0.197	-0.157	0.285	-0.063	1.000		
Trade Openness	0.166	-0.352	0.314	0.110	0.516	-0.252	-0.092	-0.137	1.000	
GDS	-0.255	-0.037	0.273	-0.144	0.479	-0.065	-0.211	-0.416	0.1952	1.000

Source: Author's Own Analysis

with new business entries and all other variables having a weak correlation.

4. Results

The analysis below shows the results of the model with New Business Density (NBD) as the dependent variable, three different estimates were considered, the OLS, Fixed Effect, and the Random Effect, after assessing with the Hausman Test, we understood that the Random Effect model is appropriate for interpretation.

We realized from all the models that VMMT did not have any significant effect on new businesses creation, it rather showed

a negative non-significant effect. logMMRA in all the estimates show a constant 0.077 positive significant effect on business creation, as in the case of Ghana, the number of people that are registered on the mobile money network have easy access to loan.

We also realized a negative effect of education on entrepreneurship. This effect of education can be attributed mostly to the system of education in developing countries, which does not influence entrepreneurship but prepares students for the job market. There is a significant positive effect of GDP per capita on business creation (Table 4).

Table 4. **Dependent Variable: New Business Density**

NBD(1000)	ols	within	walhus	amemiya	swar
log(VMMT)	-0.005	-0.008	-0.005	-0.005	-0.005
	(0.037)	(0.042)	(0.037)	(0.037)	(0.037)
log(MMRA)	0.077***	0.077***	0.077***	0.077***	0.077***
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Unemployment. Rate	0.250***	0.250***	0.250***	0.250***	0.250***
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Real.Interest. Rate	-0.004	-0.005	-0.004	-0.004	-0.004
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Education	-0.035***	-0.036***	-0.035***	-0.035***	-0.035***
	(0.008)	(0.009)	(0.008)	(0.008)	(0.008)
GDP.Per.Capita	0.000***	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Inflation	0.057	0.066	0.057	0.057	0.057
	(0.038)	(0.040)	(0.038)	(0.038)	(0.038)
R^2	0.597	0.603	0.597	0.597	0.597
Adj. R^2	0.583	0.574	0.583	0.583	0.583
Num. obs.	221	221	221	221	221

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Source: Author's Own analysis. Summary of fitted regression models: coefficient estimates (with wild standard errors in parentheses), the number of estimated parameters.

Table 5 shows estimates with dependent variable Gross domestic saving. With the help of the Hausman Test we identified the random effect estimates as the appropriate ones for our data, the results show a strong positive effect of the VMMT on gross domestic saving, while the effect of the MMRA is significantly negative. Education, Interest rate and Unemployment, all show a negative significant effect on domestic savings. The negative effect of MMRA can be associated with active accounts with little or no savings at all. This shows that just registered account holders do not improve the quality of life but rather actively using the account influences the domestic savings. When the registered customers actively use their mobile money account, it helps with flow of money in the economy.

5. Discussion

The results show a very interesting effect of Mobile Money usage on both economic growth and entrepreneurship. With respect to entrepreneurship, the results show that the number of registered accounts increases the density of new business. This confirms the works of Kirui & Onyuma [30] and Ngaruiya et al. [31].

Table 5. **Dependent Variable: Gross Domestic Savings**

GDS	ols	within	walhus	amemiya	swar
log(VMMT)	0.804***	0.786***	0.804***	0.804***	0.804***
	(0.148)	(0.168)	(0.148)	(0.148)	(0.148)
log(MMRA)	-0.401***	-0.411***	-0.401***	-0.401***	-0.401***
	(0.89)	(0.092)	(0.89)	(0.89)	(0.89)
Unemployment. Rate	-0.493***	-0.498***	-0.493***	-0.493***	-0.493***
	(0.099)	(0.100)	(0.099)	(0.099)	(0.099)
Real.Interest. Rate	-0.226***	-0.238***	-0.226***	-0.226***	-0.226***
	(0.058)	(0.059)	(0.058)	(0.058)	(0.058)
Education	-0.166***	-0.168**	-0.166***	-0.166***	-0.166***
	(0.033)	(0.034)	(0.033)	(0.033)	(0.033)
GDP.Per.Capita	0.003***	0.003***	0.003***	0.003***	0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Inflation	0.374	0.417	0.374*	0.374*	0.374*
	(0.151)	(0.157)	(0.151)	(0.151)	(0.151)
R^2	0.562	0.562	0.562	0.562	0.562
Adj. R^2	0.547	0.547	0.547	0.547	0.547
Num. obs.	221	221	221	221	221

*** p < 0.001, ** p < 0.01, * p < 0.05

Source: Author's Own analysis. Summary of fitted regression models: coefficient estimates (with wald standard errors in parentheses), the number of estimated parameters.

Saving and receiving money, as well as making payments using mobile money, help small enterprises increase their sales income. Mobile Money significantly reduces transaction costs and facilitates financial commerce (Simiyu & Oloko [32]), allowing small firms to avoid financial bottlenecks and boost business operation and growth.

Mobile money usage gives access to quick loans. With large patronage, strong rivalry among industry providers, and regulatory backing from the central bank, BoG, numerous new mobile money services have emerged, contributing significantly to Africa's economic growth and development. There are numerous economic benefits that are derived from mobile money usage, this can be seen in the diagram illustrated below (Fig. 1).

The Qwik Loan Service. Beck et al. [33] justify that the extent to which households and small enterprises have direct access to financial services varies sharply around countries of the world, with very limited access in many developing countries.

The World Bank from its Universal Financial Access by 2020 report[2] states that as of 2014, 59 % of the 16.3 million adults in Ghana did not have bank transaction accounts.

Lartey [34] shows that despite the numerous financial institutions in Ghana, there still remains a large number of individuals who cannot qualify or meet the requirements to participate in the mainstream banking system.

Kodan & Chhikara [35] noted in their study that 1 percent increase in financial inclusion led to an average of 0.142 percent increase in the value of the human

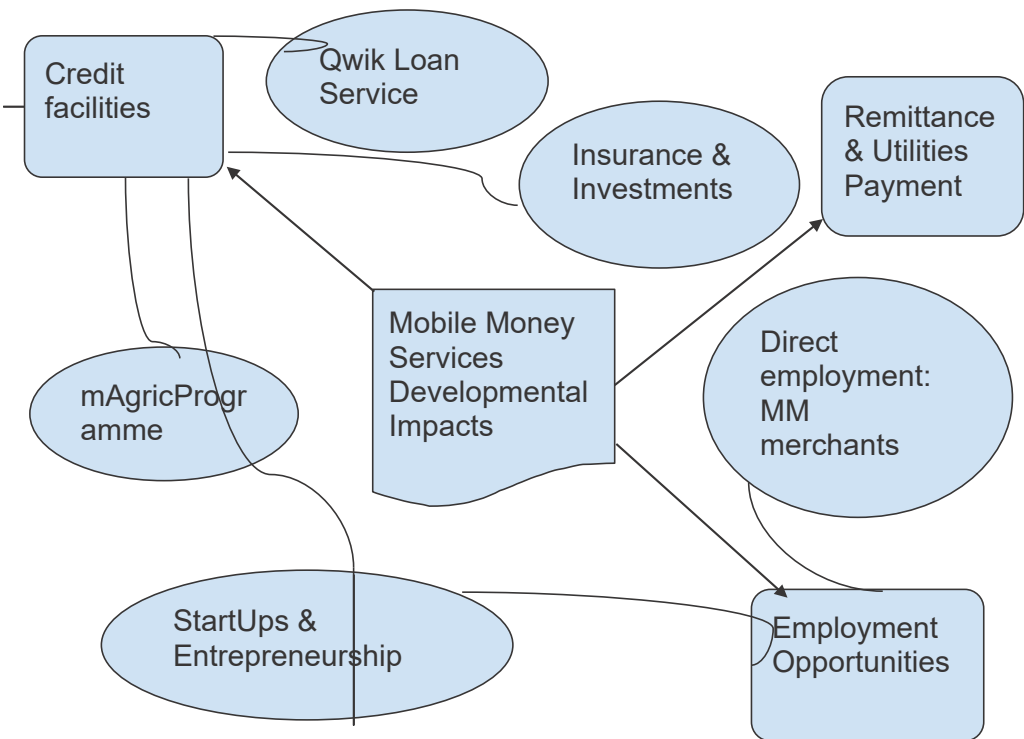2 https://www.worldbank.org/en/topic/financialinclusion/brief/achieving-universal-financial-access-by-2020

Fig. 1. Mobile Money Service Developmental schemes

Source: Author's Own.

development index. The Qwik Loan Service of Mobile Money is rapidly changing this trajectory of financial inclusion efforts.

Rahman & Islam [36] noted in Ghana, financial inclusion increased from 29 % in 2011 to 58 % in 2018, largely driven by the adoption of digital financial services delivery in the country, particularly mobile money.

Aker & Mbiti [37] and Evans & Pirchio [38] justify that in Africa most businesses are informal and the collateral for loans sometimes become a problem for these businesses but with the mobile money system all that is necessary is a registered sim card and a phone and small businesses and entrepreneurs can have access to the loan they want.

The mAgric Programme. Expanding financial services to low-income rural customers especially farmers has been challenging for traditional financial service providers in developing countries like Ghana. Payments that agribusiness makes to smallholder farmers who sell their crops like cocoa, coffee, cashew, etc. have not been efficient. These attempts have been hindered by some factors, for instance, lack of infrastructure, high default rate, an unwillingness by the smallholder farmers to embrace the kind of financial service being offered due to trust issues, high-interest rate, among others.

Agriculture is a key sector of Ghana's economy driven by cash crops (e. g. cocoa, coffee, cashew, etc.). The World Bank in 2017, reported the sector employed 40 percent of the population. Lack of proper financial support for the sector is posing challenges to the development and sustenance of the economic growth of Ghana.

Fortunately, the mobile money flagship service mAgric is a promising way to unlock the scale of digitization of agricultural payments, therefore fostering a broader rural digital financial ecosystem.

Insurance and Investment. Insurance and Investment industries have seen a significant surge in its customer base, resulting in more premium and capital available respectively. These significant positive boosts these industries are experiencing were because of the innovative use cases of Mobile Money. Considering the Sub-Saharan Africa growing economy, coupled with its favorable demographics offer a great potential for the insurance industry, especially health insurance.

Financially underserved population which forms the core of the rural population in Sub-Saharan Africa, have also been underserved in health insurance. With the widespread access to mobile money, the insurance industry collaborating with mobile money is making it possible for this less privileged segment of the population to also subscribe to the health insurance by paying monthly insurance premiums through mobile money and the payment can be done in pieces over the course of the months.

Employment Opportunity and Entrepreneurial Development. Apart from the financial inclusion that mobile money is championing in Africa's economy is the employment opportunities that it is creating as well. 13 billion (Ghanaian Cedi) is accrued from mobile money transactions in Ghana every month, making Ghana the leader in West Africa[3]. Furthermore, about 82 million transactions are realized daily from mobile money transfers while the number of registered and active mobile money agents currently stands at 151,000 representing 25 percent increase since 2012. Mobile Money has 2.7m businesses/agents in Africa and 5.1m globally.

This has a major positive impact on the unemployment figures of Africa and the world. Besides, this is only the direct form of the employment opportunity

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[3]https://microdata.worldbank.org/index.php/catalog/3238

realized from mobile money. Beyond the micro-credit that mobile money provides, that is helping grow many entrepreneurs that are resulting in many profitable ventures and startups. Most of these ventures create opportunities for employment as well as initiating growth for developing economies. Many financially underserved, rural folks and the number of high school and university graduates are getting a fair chance and opportunity through mobile money to engage in economic activities of the country, therefore, leading the growth and sustaining the development processes.

6. Conclusion

This research was a target at the influence of mobile money in Developing countries, to explore this we use panel data of countries that use money. We used a Random effect model to estimate the data. The research confirmed the hypothesis of the research. The analysis showed that Mobile money registered accounts have a positive influence on entrepreneurship and economic growth by providing an easily accessible medium for credit.

We realized that the Mobile Money system has increased people's confidence in saving and investment, since their money is easily accessible with just a click away. People now feel much safer, and this system is educating more people rapidly in developing the culture of saving. Getting financial assistance is now simple for the clients because they do not need any collateral to be able to access loans.

Upon all the goodness of the Mobile money system. We realized that some customers also take the system for granted. Most customers try to switch sim cards just to borrow money from the system, because access to sim cards is simple and vendors sometimes register the card before selling not in the name of the client but just uses a random name. This poses a great risk to the Mobile Money system.

What is now important is the government's activeness in ensuring that debtors are easily traceable through enforcing a centralized system. This will limit the risk faced by the telecommunication company from defaulters who intentionally destroy their sim cards just to evade paying their loans.

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ARTICLE INFO

Услуги мобильных денежных переводов как фактор, способствующий процессам развития в Африке

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Аннотация. Доступ к финансам был серьезным препятствием во многих развивающихся странах, особенно в Африке. Это исследование направлено на изучение роли мобильных денег в развитии финансового сектора и их роли в обеспечении финансовой инклюзивности за счет облегчения доступа к банковским услугам и повышения их удобства. Мы рассматриваем данные стран, в которых действуют кредитные линии мобильных денег. Исследуем, как эти кредитные услуги повышают финансовую доступность и интенсивность предпринимательства. Мы предполагаем, что мобильные деньги положительно влияют на предпринимательство и внутренние сбережения, предоставляя возможности для повышения финансовой инклюзивности. Для изучения наших целей мы используем панельные данные по развивающимся странам. При повторных наблюдениях достаточного количества поперечных сечений панельный анализ данных позволяет изучать динамику изменений с помощью временных рядов. Наши данные состоят из данных 28 развивающихся стран за период с 2010 по 2018 г. Результаты исследования показали положительное влияние зарегистрированных счетов мобильных денег на плотность нового бизнеса и положительное влияние объема транзакций на внутренние сбережения. Мы пришли к выводу, что система мобильных денег повысила уверенность людей в сбережениях и инвестициях, поскольку их деньги стали легко доступными благодаря одному щелчку мыши. Теперь люди чувствуют себя в гораздо большей безопасности, а данная система быстро обучает все больше людей развитию культуры сбережений. Это улучшает отношение банков к своим клиентам в сельских районах, а также создает рабочие места для молодых выпускников. Доступ к кредитам стал намного проще благодаря замене системы залога системой кредитного рейтинга. Мы также осознали, что в связи с отсутствием правил, касающихся доступа к кредитам, операторы мобильной связи, вероятно, используют людей в своих интересах, взимая процентные ставки более 10 % в месяц.

Ключевые слова: мобильные деньги; предпринимательство; развивающиеся экономики; развитие; финансовая доступность; цифровые финансовые услуги.

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ДЛЯ ЦИТИРОВАНИЯ

ИНФОРМАЦИЯ О СТАТЬЕ