

# THE DEVELOPMENT OF MOBILE MONEY AND THE POLITICS OF FINANCIAL INCLUSION

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#### KEY WORDS

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#### ABSTRACT

This paper analyses the development of mobile money in Tanzania and the politics of financial inclusion that enhanced it. Mobile money has played a significant part in reaching the financially unreached and excluded people overtaking banking and other financial services in Tanzania. There is no doubt that mobile money emerged at a time when financial exclusion was a major issue, and that the advent of mobile money was opposed by the banks who thought that it was entering the money business, and that the banks were in a better position to do money business better than any other institutions. For this reason, it is crucial to understand the development of mobile money and the politics of financial inclusion that allowed it to succeed. I have chosen the case study of Tanzania because not only that mobile money has thrived there, but also mobile money as we perceive it today was firstly invented by the e-Fulusi, a Tanzanian company, and failed before it was relaunched in Kenya by MPesa and succeeded. Moreover, the development of mobile money and the politics of financial inclusion have proven their importance in fighting financial exclusion and in increasing access to formal financial services for the poor, which is key to economic growth and poverty alleviation.



## 1. Background

n 2008, Tanzania allowed the advent of mobile money. According to UNCTAD (2012), mobile money is "money stored using a 'Subscriber Identity Model' (SIM) card in a mobile phone as an identifier as opposed to an account in conventional banking". The Alliance for Financial Inclusion (AFI) also defines mobile money as "a mobile-based transactional service that can be transferred electronically using mobile networks. A mobile money issuer may, depending on local law and the business model, be an MNO which is a Mobile Money Operator, or a third party such as a bank. Mobile money is often used synonymously with 'mobile financial services'" (AFI, 2012:3). Hence, mobile money should not be confused with 'mobile banking' which is the "use of a mobile phone to access banking services and execute financial Mobile banking covers transactions. both transactional and non-transactional services, such as viewing financial information on a bank customer's mobile phone" (AFI, 2012:3).

Mobile money is, therefore, a technology that links people to access formal financial services (Pope et al. 2011; Kizza, 2013; Chauhan, 2015; Gichuku and Mulu-Mutuku, 2018). It is also an innovation that has been used to transform the delivery of financial services not only in Tanzania, but also in the world in general. Graph 1 below tracks the history of active mobile money services across the world.

Graph 1: Number of Live Mobile Money Services for the Unbanked by Region (2001-2013 Year End)



Graph 1 illustrates that mobile money has proliferated rapidly from 1 service in 2001 to about 219 services in 2013 worldwide. There is a significant increase in every region as Graph 1 shows. Sub-Saharan Africa leads in terms of having more mobile money services. South Asia and Latin America follow. The Middle East and North Africa as a region lags behind, while Europe and Central Asia have stunted growth of mobile money services. In the case of Tanzania, the first mobile money service was MPesa in 2008. EzyPesa entered the market in 2009. Tigo Pesa followed in 2010. Airtel Money launched in 2011. TTCL and Halopesa inaugurated in 2017 and smartphone was inaugurated in 2018. In total there are currently seven Mobile Network Operators (MNOs) offering mobile money services in Tanzania.

Hence, Tanzania's mobile money industry has developed over time. In 2015 there were 4 mobile money service providers as shown in Diagram 1 below. Vodacom Mpesa had the most significant market share of 37%. Airtel Money and Tigo had almost the same market shares, with EzyPesa owning only 5% of the market share. As this is a changing, vibrant and competent industry, in 2018 the market shares changed significantly with Vodacom Mpesa owning 43% of the market share, TigoPesa approaching Vodacom Mpesa with 36% and Airtel Money falling to 17%. HaloPesa, a new entrant, overtaking EzyPesa, and the TTCL (also a new entrant) gaining shares in the market. This trend shows that this is a highly competitive market.

Diagram 1: Tanzania's Mobile Money Market Structure

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There are about three main mobile money models across the known as: 'bank-led', 'Telco-led' and 'Partnership' models (Toma, 2012; Bossuyt and Hove, 2016; and AFI, 2012:3-4). If it is a bank-led model, then mobile money is managed by banks and regulated by the central bank, and the MNOs are the pipes. If it is an MNO-led, the MNOs are in charge and they should open a trust account managed by a bank. Hence, the money stays with the bank and not with the MNOs. There is the third model which involves a partnership with a third-party mobile money operator who leads mobile money deployments. Both the banks and MNOs play a secondary role in this case. According to Bindo and Hasnian (2015:9), Tanzania adopted the MNO-, also known as, the 'Telco-led' model.

The development of mobile money in Tanzania has therefore gone through the following three phases known as: the services and money transfer, the commerce and payments, and mobile finance. Graph 2 shows these three phases.

Graph 2: The Journey to Fully Digital Financial Service



Source: Ho (2018).

The first stage of service provision and money transfer allowed the MNOs to provide telecom services such as 'cash-in', 'buy airtime', and 'pay bills'. They also provide money transfer services such as 'domestic P2P transfers', 'bulk payments', 'international remittances', and 'cash-in services.' The second stage of 'commerce and payments' was hard for the MNOs to arrive at as the banks objected the operations of the MNOs. The great MFS barrier was what they were referring to, in terms of the MNOs interfering with the money business which the banks thought they could do it alone. It was not only in Tanzania that this had occurred, but it also happened in other countries. Through the understanding of what mobile money could bring to the poor, the MNOs were allowed to cross the barrier by the central banks and governments. As they entered the 'commerce and payments stage', they started to provide the 'merchant payments' such as 'bill payments', remote payments, retail payments, etc. Today mobile money has entered the 'mobile finance stage' where it allows the customers to save or what I could refer to as 'micro savings'. It also provides microcredits. But what has allowed this to happen? In this paper, I argue that there were four things that enabled the development of mobile money through these three stages, namely: the Liberalization of the Tanzanian economy through reforms, the Converged Licensing Framework (CLF), The Test, Monitor and Regulate Approach, Interoperability, the National Financial Inclusion politics and the 2015 National Payment Systems Act (Please see section 4 for further details). Hence, by the end of the article, I will have answered the following research questions: How did mobile money develop in Tanzania? What has the politics of financial inclusion done to enhance it?

# 2. Literature Review and Theoretical Assumptions

## 2.1. Literature Review

In developing countries, poor infrastructure and low-income levels trigger expensive financial services which are unprofitable as well (Mothobi, and Gryzybowski, 2017; Rocha et al., 2011). The traditional financial services face these challenges. Mobile money, on the other hand, ignited a financial inclusion transformation for millions of the unbanked poor by using mobile networks (Jack and Suri, 2011; Demirguc-Kunt et al., 2015). Many rural poor households have been transformed by the mobile money revolution which not only allowed them to get access to basic financial services through mobile money transfers and savings, but also enjoyed the communication aspect of the mobile device (Bongomin et al., 2018:363). The main purpose of mobile money is fostering financial

inclusion for the financially excluded people (Peruta, 2018:155). These are the benefits that make developing nations to allow the development of mobile money services.

As far as financial inclusion is concerned, there is no universally agreed definition (TNCFI, 2014:13; Aduda and Kalunda, 2012:100; Tabaro, 2011:6). Countries define financial inclusion according to their realities, but all definitions focus on the provision of formal financial services to all at a reasonable price (AFI, 2017, World Bank, 2014). The Bank of Tanzania defines financial inclusion as the "regular use of financial services, through payment infrastructures to manage cash flows and mitigate shocks, which are delivered by formal providers through a range of appropriate services with dignity and fairness" (TNCFI, 2018). About 2.5 billion people worldwide do not have access to formal financial services (World Bank, 2014:1). In 2009, 56 percent of the Tanzanian population was financially excluded (FinScope, 2009). Thanks to Mobile Money and other innovations in 2017 the number of financially excluded people reduced to 26.8% (FinScope, 2018b). Mobile money has been highly regarded for its role in fighting banking exclusion (Maurer, 2011) and for its role in offering a solution to at least two main problems, namely: the price of banking (McKay and Pickens, 2010; Mbiti and Weil, 2016; Donavan, 2012 and Arestoff and Venet, 2013) and the proximity to banking infrastructures (Morawczynski and Pickens, 2009; Jack and Suri, 2011).

## 2.2. Theoretical Assumptions

The theoretical underpinnings of this study are founded on the three assumptions as illustrated in Diagram 1 below.

Diagram 1: Key Theoretical Assumptions for Mobile Money Growth in Tanzania



The first assumption is that the 'test, monitor and regulate' approach aided the development of mobile money (Haider, 2013; Di Castri and Gidvani, 2014). At the time of mobile money inception in 2008, the BOT did not know how to regulate mobile money innovation. It, therefore, allowed mobile money services without placing strict regulations on it. By doing so, it allowed regulations to follow innovations. And at all times, innovations move faster than regulations. The BOT was of the view that it would be a mistake to place regulations first and after that allow mobile money innovations. This way of regulating innovations could stifle the development of mobile money, which would also create undesired effects. According to Di Castri and Gidvani (2014) and Haider (2013), the BOT learned how mobile money operated. It tested mobile money operations and guidelines before it placed the strict regulations. The results were promising as mobile money services took off and succeeded in Tanzania. Elsewhere, where innovations followed regulations, meaning where regulations were first put in place before mobile money services were allowed, mobile money growth struggled in those countries. Hence, the 'test, monitor and regulate' approach was behind the successful growth of mobile money in Tanzania as it will be illustrated in Section 4.3.

The second assumption is that proper legal and regulatory frameworks facilitated the development of mobile money in Tanzania and elsewhere (USAID, 2013:12; Di Castri and Gidvani, 2014; Ondiege, 2015; Maina, 2018: 15-16). The different Acts as they will be described throughout this article provided the legal space and framework for mobile money operations in Tanzania. The Acts came with regulatory frameworks or provisions and provided all-encompassing laws and rules for licensing, compliance, enforcement, and matters of liability and breach of the law. The BOT and the TCRA could use the regulatory framework(s) which granted them the power to permit or refuse the prescribed licenses and approvals. They also had the mandate to regulate, supervise, investigate and oversee operations of mobile money services in Tanzania. A useful legal and regulatory framework was a necessity for the development of mobile money in Tanzania as it will be discussed later in the article.

The third assumption is that conducive environment and the politics of financial inclusion helped to create partnerships between the MNOs and other stakeholders in achieving the desired financial inclusion goals (TNCFI, 2014; Ondiege, 2015; TNCFI, 2017; TNCFI, 2018; Komba 2016). Tanzania's National Financial Inclusion Framework recognized the role of mobile money in transforming the landscape of financial services over the past 10 years. The BOT, for example, embraced financial inclusion as a public policy objective. Moreover, the National Financial Inclusion Framework also reckoned four enablers of financial inclusion through which policy priority areas could be set to enhance financial inclusion. The priority policy areas included: (i) increasing the proximity of financial access points to where people live and transact; (ii) enabling robust payment platforms; (iii) supporting robust electronic information infrastructure for individual and business profiles, credit history and collateral be established for effective know-Your-Customer (KYC) process; (iv) ensuring that customers are informed and protected. All these policy priority

areas not only supported financial inclusion, but also created a conducive environment for mobile money and for the politics of financial inclusion which were key to supporting mobile money operations as it will be discussed later in the article.

# 3. Methodology

## 3.1. Methods

The study uses qualitative research methods. I used the unstructured interviews for data collection. 80 respondents who knew about mobile money and banking services were interviewed. They ranged from senior government & MNOs officials to mobile users. Their involvement with mobile money and banking sector was the key criteria for their selection. The interviews were recorded and then transcribed. The Analysis of data was done through both Nvivo and on the table method, where the key thematic areas on the researched issue were identified and analysed. The identified thematic issues were analysed. Credible statistics were also sought from key publications to compare those findings and my findings. This way of conducting an analysis helped me to understand how my findings were different from or similar to their results. I discovered that there was a greater similarity in terms of the findings that explained the growth of mobile money services. Their statistics helped me to illustrate the growth through numbers, and the findings of my interviews enabled me to explain the causes of this growth which at times missed in their explanations.

## 3.2. Conceptualization of Mobile Money Development – Key Statistics and Findings

I will start by revisiting the various statistics from credible institutions and documents. This helps me to establish and explain the mobile money development trends in Tanzania over time.

Graph 3 Evolution of Mobile Money in Tanzania – Mobile Payment Growth 2008-2015



Source: BOT (2017).

Graph 3 shows how mobile payments grew over time. These statistics do not include mobile banking payments because mobile banking payments are not mobile money payments (also known as mobile money). Trillions of shillings or billions of US dollars pass through mobile money every year. According to GSMA (2017:6), about 52% of the GDP pass through mobile money services in Tanzania as quoted in the Bank of Tanzania sources.

#### **Table 1: Mobile Services Statistics**

#### Mobile Payment Services Statistics

-	288	200	200	2/11	2012	-SILLS	2014	215	254
Registered Accessiti	112,000	4,192,683	10,663,623	21,154,8	26,871,176	31,830,25	41,380,791	49,256,463	71,345,336
Registered Active Users					7,872,749	11,016,65	13,856,667	19,795,087	17,021,685
Registered Agents	2,757	14,469	29,095	\$1,795	97,613	153,368	238,461	267,047	371,132
Treat Accounts Balance (TZS William)	;	7.11	30.34	95.05	192.42	293.52	450.95	561.2	665.7 billion

Source: BOT (2017).

From Table 1, the number of registered accounts reached 71million in 2016. Active users were 17 million, and the registered mobile money agents reached 371,132. The trust account balance also grew, reaching 665.7 billion shillings. Again, this shows how mobile money services kept on expanding. From Graph 4 below, if the penetration of bank and mobile money accounts between 2008 and 2015 were compared, you would notice that the penetration of mobile money accounts was higher than that of the bank accounts.

Graph 4: Account Penetration, 2008-2015 (Millions of Accounts)



Note: Figures include retail and wholesale accounts. One individual/firm may have multiple accounts. Source: Bank of Tanzania.

To improve mobile money services the MNOs agreed to have interoperable systems through which customers of any MNOs could receive services from a different MNO. TIGO Pesa customers could obtain services from Vodacom MPesa and so forth (Gilman, 2016; IFC, 2015; Musa et al., 2014). Interoperability not only created non-exclusivity of services at the provider level, but also at the agent

level (Komba, 2016; Masamila, 2014:56). The benefits were clear that the volumes of transactions increased as depicted in Graph 5. The first mobile money interoperable services in Tanzania started in 2014.

#### Graph 5: Interoperable Trends of the MNOs



Source: BOT (2017).

It is unthinkable to analyze the development of mobile money services without mentioning the MNOs agents. The interoperability at the MNO agents' level facilitated the delivery of financial services through mobile money. Graph 6 below shows how the MNOs' agents increased significantly as compared to other channels of financial service delivery between 2013 and 2017.

Graph 6: Mobile Money Agents and Other Access Channels



Source: Bank of Tanzania and TNCFI (2017:27).

The Uptake Strand 1 below shows that the uptake of mobile money services between 2013 and 2017 was far higher than the uptake of any other financial services which consolidated the survival of mobile money in the financial sector.





The Uptake Strand 2 adds the share of the financial products in the market. It is fascinating that the banks have 64% of the financial products and ONLY 17% of the uptake of formal financial services. Mobile money has ONLY 1% of the financial products share in the market and 60% of the uptake of formal financial services. This trend means that the adult population uses more mobile than banking financial services in Tanzania.

#### Strand 2: Uptake of Formal Financial Services



Source: FinScope (2018).

Strand 3 shows the saving channels. About 22% of the Tanzanian adult population saved through mobile money services in 2015, and only about 8% did the same with banks.

Strand 3: Saving Channel (% of Adults)



Graph 7 below shows that mobile money trust accounts have grown continuously over time. Trust accounts are the accounts that mobile money providers are required to open with a bank as a requirement for them to operate mobile money services. The money deposited in trust accounts acts as collateral or an advance for mobile money services. With money in the trust accounts, the banks release money when a mobile account owner requests it. Likewise, when a mobile money account holder deposits money in his m-wallet, that money does not stay with the banks but goes straight to the trust account. One needs to remember that while the banks are the deposit-taking institutions, the MNOs are not. Hence, any deposits and savings go to their trust accounts in banks.

Graph 7: Bank Deposits and Mobile Money Trust Account Balances (TZS Billion and % GDP)



I have included all these statistics in this analysis to show the growth of mobile money not only with words but also with concrete statistics. The next sections will provide the narrative part of what caused the development of mobile money in Tanzania and what politics of financial inclusions enhanced this development.

# 4. Qualitative Findings and Their Explanations

### 4.1. Liberalization

From the findings, one needs to understand what happened with the telecommunications and banking sector before and after the liberalization policies. One also needs to know how the liberalized policies shaped the 'National Payments System' and the politics of financial inclusion. All this involves the role of the government and non-governmental actors. Let me start to clarify the role of the government. One needs to understand that the financial system serves the state and the people. It is not separated from the government. And therefore, it is not separated from politics. According to Stiglitz (2000:27-39), the primary role of the government is to provide the legal framework within which all economic transactions occur. Payments that transfer money from one individual to another - but not in return for the provision of goods and services are called transfer payments. I argue that a significant percentage of mobile money transactions fall under transfer payments. You will

see later how the government has provided the legal and conducive environments for facilitating mobile money growth. According to Di Castri (2013) and Di Castri and Gidvani (2014), the government also regulates the sector and make policy decisions. It also sets: the licensing requirements, transparency and disclosure rules, market conduct rules, rules on the privacy of data, national strategies, rules on credit registry, etc. The roles of the banking and non-banking institutions are to: establish their industry code of conduct, the provision of financial education or literacy, to create their own internal recourse mechanisms, conduct self-assessments, train their staff as well as to set their own strategies for financial inclusion. Moreover, the liberalization of the financial sector was also key to allowing mobile money operations. I come from a mixed economy country, the USA. According to Campbell and Stein (1991) and Mbowe (2010), Tanzania was not a mixed economy before the liberalization of its financial sector. This left the banking sector struggling and the economy to its knees. Moreover, the liberalization of the economy allowed the introduction of new and better products, increased customer choices, resulted in the growth in demand for financial and telecommunications services, increased investments and coverage for both financial and non-financial institutions (also see: World Bank, 2005; IMF, 2007; Goyal and Sarkar, 2014; and Beju Giupac-Ulici, 2012). Liberalization also and increased the number of services that the telecommunications sector could offer, this included short messaging services (SMS), multimedia messaging services (MMS), the possibility of the operators to upgrade their networks to enable the delivery of new and more modern services to customers. All this became possible because of the political changing economy of the telecommunications and the banking sectors. It also allowed the adaptation of the 'Converged Licensing Framework' by the telecommunications sector.

## 4.2. The Converged Licensing Framework

These are some of the changes that occurred when Tanzania liberalized its economy. This was what happened in the telecommunications sector, which later helped the advent of mobile money. The Tanzanian communications sector is governed by: the 1997 Telecommunications Policy, the 2003 Information and Communication Technologies (ICT) Policy, the 2003 Information Broadcasting Policv and the 2003 Postal Policy. Telecommunications in Tanzania are regulated by the Tanzania Communications Regulatory Authority (TCRA), which is a body set up by the 2003 Tanzania Communications Regulatory Authority Act (TCRAA). In 2015, the Government of Tanzania enacted the cybercrimes Act and the Electronic Transactions Act. The TCRA expected the two Acts to improve the confidence of financial institutions in ICT since the law is addressing e-services and cyber defense. The TCRA cited banks as the prime beneficiaries of the Acts as their activities are highly dependent on ICT. Furthermore, various sector legislations have shaped the telecommunications These included: The Tanzania services. Communications Act No. 18/1993; The Tanzania Communications Regulatory Authority Act No. 12/2003 which introduced Converged Licensing Framework (CLF), complemented bv 14 regulations; The 2015 Electronic Transactions Act; The 2015 Cybercrimes Act; The Universal Communications Service ACCESS Act No. 12/2006; The 2010 Electronic and Postal Communications Act. All these Acts were the results of the politics of the telecommunications sector in Tanzania.

> The best thing that the TCRA did a while ago was creating what was referred to as the 'Converged Licensing Framework' ... That Framework I am talking about 2006 or 2007. The issuance of the license to every service, as technology has changed over time. We started and converged licenses since 2006. They said they provided a license that was technologically and service neutral. What did all this mean? ... They are free to do any kind of innovation based on the licensing framework. As I said earlier, it is converged and that we do not regulate the technology. We do not regulate the service .... Hence, mobile money was like an addition to the services that the operators were offering. (Respondent Obama)

The CLF was key to implementing the liberalization policy. The TCRA introduced it on 23<sup>rd</sup>, 2005. Likewise, February it was technologically and service neutral, as well as it accommodated locals with minimum investments. The CLF ensures regulatory flexibility, addressing market and technology developments, as well as efficient utilization of network resources and encouraged the market entry of small-scale operators. The CLF of Tanzania establishes 4 categories of licenses as follows: Network Facilities Providers (NF), Network Service Providers (NS), Application Service Providers (AS) and Content Service Providers (CS). The licensing regime provides separate licenses for infrastructure and services. In the previous regime services, including internet provision were licensed individually. The CLF allows content service providers who do not own their own transmission facilities (network facilities) to deliver broadcasting services using licensed network facility operators (Mfungahema, 2014). According to Mfungahema (2014), the CLF has been a catalyst in the development of communication network infrastructure, network services, applications and content (radio and broadcasting). Thanks to the CLF that mobile money innovations were introduced in the telecommunications sector.

The 4 authorization categories in the CLF are further divided into 4 geographic market segments: international, national, regional, and district market segment. Hence, the operator could choose where they wanted to operate. How the market was regulated was for considering these choices.

## 4.3. Test, Monitor, and Regulate

You know, the central bank is an authority. It has the authority over the National Payments System. The MNOs and the other nonfinancial institutions get involved on the payment system side. They are not on the banking side. We were open on this. The banks objected in the very beginning. They said the MNOs were entering the money business. And that they were in the National Payments System. And that they did not have strict supervision and the requirements. thought the requirements Thev and supervision favored the MNOs and not the banks. In which case, the banks clearly thought this created the conditions for the unfair competition. And as they heard it from elsewhere that they could use the bank-led model to run mobile money, the big difference was whether one proceeded with innovation or not, and the willingness to take the risk to let innovation lead while you monitor and then appropriately manage the risks. The system was called 'test, monitor, and regulate.' This was the concept. (Respondent Ngosha)

Tanzania did not have an 'Electronic Commerce Act' when it launched mobile money services. It adopted the 'test, monitor, and regulate' approach which allowed the MNOs to launch and scale services depending on the guidance of the Bank of Tanzania (BOT) 'letters of no objection'(LNOs) (also see: Di Castri and Gidvani, 2014). In 2007, the BOT issued the 'Electronic Payment Schemes Guidelines (EPSGs) which gave the MNOs the right to offer payment services through mobile transfer. Although the EPSG allowed the MNOs to offer payment services through mobile money, they covered risks for banks and other financial institutions, leaving out the role of MNOs. Hence, the MNOs were required to partner with banks to receive the 'LNOs', which allowed the BOT to guarantee that the customer's money is safe in the banking system, backed with 100 percent liquidity prerequisite.

Due to lack of mobile money regulatory framework and laws at its inception in 2008, the

MNOs were forced to collaborate with the licensed banks and financial institutions for the BOT to release the LNOs which allowed the MNOs to deliver mobile money services (Di Castri and Gidvani, 2014). Due to the 'test, monitor and regulate' approach, Tanzania created and established the regulatory and mobile money policies which guided the development of the mobile money services. According to Respondent Nkema:

> I think the interesting part is that the actual MNO is not regulated by the central bank. What is regulated by the central bank is the e-money transfer. And that regulation is the same for the banks as it is for mobile money providers. What they differ is that they fall in the different tiers of providers. And in the way they meet the different requirements, which I consider to be fair because they take into consideration the risk also which it carries, because if you are a bank, you transfer large amounts of money. You give out larger credit, things like that. So, that is why by default, you will be in another tier than somebody who is just transferring small amounts of money. So, I don't think they favor anyone in particular.

The work of creating and establishing the appropriate regulatory and mobile money policies is ongoing. There are still many gaps in regulatory frameworks and mobile money policies that still need to be bridged as the National Payments System transforms itself.

## 4.4. National Payments System Act

The mobile money sector emerged due to the establishment and enactment of relevant legislation and regulations. The MNOs are not financial institutions but use the national payments system. According to Respondent Obama:

Any payment mechanism that is in the country is grounded, it falls under the BOT mandate. Whether you pay through the bank, whether through the Western Union, through TigoPesa, MPesa, whether through the EMS, whether it is through the bus, anything involving the payments it is under the BOT supervision.

It is clear to envisage pieces of legislation if the non-financial institutions use the payment system supervised by the BOT. There are four main pieces of legislation and 6 pieces of secondary legislation that have allowed the mobile money to operate in the financial sector. The four essential legislations are: firstly, the 2006 Bank of Tanzania Act replaced the 1995 and 1965 Acts. It not only created the Bank of Tanzania, but also defined its principal functions. The Bank of Tanzania established a few guidelines that helped the development of mobile money services such as: The National Payment Systems Guidelines for Retail Payments, and Rules and Regulations for Retail Payments, and the Guidelines Introducing Electronic Payments, e.g., Mobile Payments Regulations (MPR). According to Parkes (2014), the 2012 MPRs established a licensing regime for non-banks including the MNOs. It allowed them to provide services such as: account-to-account transfers, person-to-person fund transfers, business-to-business fund transfers, cash-in, and cash-out services. Secondly, the 2006 Banking and Financial Institutions Act provided the legal framework for undertaking licensed banking operations within Tanzania. Thirdly, the 2007 Electronic Payment Schemes Guidelines allowed the advent of mobile money. Fourthly, the 2015 National Payments System Act defined who could use the national payments system. A payment system in Tanzania is a facility that ensures the circulation of money. The payment system includes payment instruments, banking and money transfer payments procedures, and interbank payment transfers. The payment system in Tanzania is regulated by: The 2015 Payment System (Electronic Money) Regulations; The 2015 Payment System Licensing and Approval Regulations (The Licensing Regulations). The 2015 National Payments System Act provided a legal framework for payment systems in Tanzania and included laws to oversee licensing, compliance, enforcement and matters of liability for breach of the law. It also permitted institutions other than banks and financial institutions, such as the MNOs, to operate payment systems in Tanzania.

The six pieces of secondary legislation are: Firstly, the 2006 Finance Act which empowered the government not only to make changes in the tax regime, but also to amend different financial and tax laws. Secondly, the 2002 Prevention of Terrorism Act created the Financial Intelligence Unit (FIU) in the Ministry of Finance and Economic Affairs responsible for this Unit's functions. Moreover, UNCTAD (2012) mentions other regulations that have the potential to influence the functioning of the mobile money services, such as: firstly the 2006 Tanzania Evidence Act CAP 6, which specified the use of electronic documents as evidence in Tanzania's courts. Secondly, the 2003 Fair Competition Act fostered competition in different sectors and protected customers. To reinforce this Act the Fair Competition Commission (FCC) and the Fair Competition Tribunal (FCT) were made responsible for the administering of the laws and for the provision of a judicial forum to hear appeals respectively.

As the reforms were implemented, legislation and laws were introduced in the sector. They play a key role in making financial inclusion policy decisions and strategies which affect the development of mobile money. For instance, each of these Acts creates an institution which participates in the National Financial Inclusion Framework where the Tanzania Telecommunications Regulatory Authority (TCRA) also engages in the policy discussions. As mobile money providers need to work with banks and other financial institutions, at first the Bank of Tanzania signed a memorandum of understanding (MoU) with the TCRA to regulate the financial aspects of mobile money while the TCRA regulated the communications aspects of mobile money. The BOT did not have strict regulations for mobile money services as it did not know what would happen later with mobile money. It used the 'Test, Monitor and Regulate' model. The banks were the deposit takers while the MNOs remained the non-deposit takers providing financial services. Mobile money as such was defined as a platform or a tool that could be used to aid the provision of financial services. Mobile money providers were required to open trust accounts with banks. Their monies were deposited in those accounts. So, mobile money providers use the national payment systems to provide their services. With these new realities in 2015 the National Payment Systems Act was introduced, and with it, the electronic money regulations and the licensing regulations were introduced. In this way, mobile money providers were required to create a separate legal entity, separate from the mother company for regulatory purposes as required by the bank of Tanzania. To provide mobile money services, the MNOs were no longer required to obtain the 'letter of no objection' from the BOT to operate but were required to apply for a license to use the national payment systems. Hence, to operate mobile money services, the MNOs are required to comply with the following: The 2015 National Payment Systems Act, the 2015 Electronic Money Regulations, and the 2015 Licensing regulations.

Diagram 2 below shows what I mean by the National Payment Systems. There are two payment systems in Tanzania, one is the 'Large Value Payment Systems' (LVPSs), and the other one is the Retail Payment Systems (RPSs). Mobile money services fall under Retail Payment Systems. And as you will see the new emerging services in the retail payment systems are mobile banking, mobile money, and agent banking.



#### Diagram 2: National Payments System

Source: BOT (2017).

Diagram 3 depicts the DFS ecosystem. This is a very complicated ecosystem as shown here. As of 2016, 57 banks were operating in Tanzania, and 5 MNOs were in offering mobile money services, today they have 7 MNOs. So, this is still a growing sector. I have decided to show you this Diagram to illustrate how complicated is the digital financial ecosystem where mobile money services operate. As complicated as the DFS ecosystem is, there is a need for the interoperable systems.

#### Diagram 3: DFS Ecosystem



Source: BOT (2017).

### 4.5. Interoperability

Since its inception, the 'Converged Licensing Framework' took care of a lot of issues. The BOT needed to change as they had reviewed the National Payments System. They issued another Act that recognized digital financial transaction services and mobile money issues. They enacted electronically associated regulations which identified electronic transactions, including the issues regarding interoperability. (Respondent Obama)

Interoperability can be defined as 'money moving between mobile financial services accounts of

*different MNOs, and between mobile accounts and bank accounts.*' Interoperability, therefore, provides greater benefits to the mobile money service markets. It also allows the operators to offer more flexible payment options which can increase the overall number of transactions and velocity of money in the ecosystem. It also provides the regulators with an opportunity to draw more cash into the formal financial system. It also provides more accessible and flexible services as well as it allows for an opportunity to advance further financial inclusion (also see: Musa et al., 2014).

According to Di Castri (2013), interoperability also has the following benefits: first, it makes commercial sense for providers and it creates value for customers. Second, it helps to share the regulatory risks. Third, it lowers the cost of financial services, and by doing so, it increases customer choices. Fourth, it increases competition and breaks dominant positions which may help remove the need for individuals to own and manage multiple SIM cards. Interoperability also has its challenges. Its implementation can be technical and complex and can distract the operator from focusing on the basics of the service, such as building the distribution network and educating customers. Its compliance may increase costs, making the businesses more challenging for providers (also see: Di Castri, 2013).

From the above-mentioned benefits and challenges, MNOs, banks, and policymakers should work together to enhance interoperability. They should also agree on what type of interoperability suits them after assessing the benefits, costs, and risks. Moreover, putting regulations in place allows the markets to implement systems and solutions capable of being interoperable, which will deploy market-led interoperable solutions (Di Castri and Gidvani, 2014).

Kulkarni (2015) asserts that the CGAP has defined three levels of interoperability that need to be addressed for a developing country like Tanzania: (i) 'platform-level interconnection': this occurs when mobile money platforms are interconnected in such a way that one customer with an account with one MNO may be able to send and receive money to or from another customer owning an account with a different MNO; (ii) 'agency-level exclusivity': this occurs when a customer of one MNO is restricted from using an agent from another MNO to cash in or cash out services related to that customer's account. Hence, 'agency interoperability' can be achieved even though 'agency exclusivity' is an issue, as long as the platforms are interconnected. A good example is the 'interoperable ATM networks'; (iii) 'customer-level interoperability': involves two interoperability scenarios for this end. While the first one has to do with the customer's ability to access his/her account through any phone using a SIM card on the

same network, the second scenario has to do with the customer's ability to access multiple accounts on one SIM (also see: Masamila, 2014).

Soon after the Maya Declaration in 2011, which called for the achievement of financial inclusion, the TCRA and BOT began to draft mobile payments regulations. The BOT also collaborated with telecommunications, financial, as well as competition regulatory bodies to create а framework to enhance competition and to encourage interoperability in the mobile money sector. In 2014, the 'Government of Tanzania' 'National Financial launched the Inclusion Framework' committing the government to address the challenges facing strategies to enhance financial inclusion. Interoperability of the networks was also a concern that was to be addressed while implementing the 'National Financial Inclusion Framework' (also see: URT, 2014). As the implementation of the 'National Financial Inclusion Framework' progressed, the need for a full mobile money platform level interoperability became even more apparent if the 'e-float liquidity management' challenges were to be resolved. In Tanzania and in East Africa, 'e-float' is basically money kept in an account, and a customer can use his/her mobile phone to have access to that money in order to make payments or transfer money, etc.; and that the customer may add to or exchange for cash by visiting an agent.

In 2014, an interoperability agreement between the BOT, two banks, and all four MNOs was reached as it laid the foundation for different levels of interoperability. Tigo led the remaining MNOs into an agreement as the MNOs became aware of the challenges facing the mobile money sector, which included: (i) the direct competition for market share in a stalling market; (ii) the slow-pace growing market; and (iii) latent demand from potential customers' willingness to increase frequency and value of transactions. To overcome all these challenges, in 2013 Airtel, Tigo and Zantel implemented their interoperability scheme, while Vodacom supported the structure, it did not sign up (see: Jones-evans, 2016; Musa et al. 2014; Di Castri and Gidvani, 2014 and Bourreau and Valletti, 2015). In 2015, Vodacom started discussions to join the interoperability agreement (IFC, 2015) and in 2015 it joined the interoperability agreement to make Tanzania the first African mobile money market with full interoperability for mobile money peer-topeer (P2P) transfers (Kabendera, 2015). Furthermore, in 2015 'The 2015 National Payment Systems Act' and 'The 2015 Electronic Money Regulations' were reinforced to set up the rules of the game. The interoperability of mobile money markets became even more critical. Besides the interoperability of mobile money, factors aiding the deployment of mobile money services are also worth-mentioning in section 4.6.

# 4.6. The Deployment of Mobile Money Services

Apart from the findings mentioned above in the previous sections, it is worth mentioning that the mobile money deployment in Tanzania and East Africa in general, was also determined by the following factors (also see UNCTAD, 2012):

Firstly, the access channels, which were used as different platforms, applied different methods to deliver mobile money services. According to Respondent Obama:

> The issue is that we oversee the resources related to communications. For instance, the numbering, for example, for you to send a MPesa message, you need a USSD short code... Until today, when the operator emerges, he comes to us and we give him the numbering resources which is a short code. He has to declare what he wants to do with that code. So, he needs to have a business plan. At the moment, there are few and we want to make sure that everyone getting the numbering resources has a business. Otherwise, he can receive those resources and do nothing. So, we ask everybody to tell us about their business, and if we find it very impressive, we give them the numbering resources.

A number of access channels used might have included but were not limited to: (i) SMS commands using a short code; (ii) Unstructured Supplementary Service Data (USSD) which initiated sessions between the mobile phone and the server, and which performed a series of steps to accomplish transactions (M-Pesa and ZPesa used this platform as well); (iii) Subscriber Identity Model (SIM) (SIM Toolkit (STK) which was an approach supported by most platforms. The STK facilitated the breakdown of transactions into a series of logical steps which helped manage transactions. The presence of all these channels helped the deployment of mobile money and the smooth functioning of the different platforms of mobile money services.

Secondly, security factors also facilitated the deployment of mobile money. From a security perspective, if the different platforms were used, for instance, if the data was sent via USSD and received via SMS without being encrypted, that transaction risked being intercepted. Hence, well-stored data on the phone helped protect both the customer details and the account value. Mobile money was safe because the SIMs were registered. It was easy to track down where the payment started and where the payments ended. Theft incidents had been rarely reported.

Thirdly, how an MNO was networked, in terms of agents, branches, people, and ATMs, made the

deployment of its services easier. According to Respondent Nkema:

...Mobile Money was the key factor in bringing services closer to the people. They were able to reach out to a massive amount of people because they were piggybacking on kiosks. They didn't have to establish brick and mortar structures. So, without investing a single cent in infrastructure, the only infrastructure they had put was the 'minara'/ 'towers'. They didn't have to build the infrastructure as the banks did. No, they didn't. They just did it by making the agent their business. That was how they were able to roll out across the country. They contribute significantly being within the 5 km or 1 km within a financial service point. It is driven by mobile money. Without mobile, money we wouldn't be where we are now.

The networks provided interfaces through cashin and cash-out functions. There was a lot of changing technologies and business models as the MNOs and other stakeholders strived to manage mobile money services. This made service deployment an important aspect of supporting the smooth functioning of the mobile money sector. The deployment alone was not enough. Policies and regulations were also needed. This had much to do with the politics of financial inclusion in Tanzania.

## 4.7. National Financial Inclusion Politics

"So, the financial system serves the basic, eh, functionality of the system with the government at any point in time. It is never separate from it" (Respondent Ngosha). This claim explains the link between the financial system and the government, which brings in the politics of financial inclusion. Diagram 4 illustrates the different players in the 'National Financial Inclusion Framework' and their roles.

Diagram 4: Actors and Committees Implementing the National Financial Inclusion Framework



Source: TNCFI (2008).

When mobile money started in 2008, the banks objected. They thought mobile money providers were interfering with the banking services, as they engage in the money business. According to Respondent Mzuri:

> The reality was such that the banks did not directly agree that the MNOs start mobile money services. I could say that it was somehow the BOT agenda to support innovation. They wanted to promote innovation within the financial sector. That was the key agenda behind the establishment of mobile money. That was the reason why the BOT offered them the operating licenses without having their regulations in place.

At that time such disputes could be settled by the Bank of Tanzania and the Tanzania Communications Regulatory Authority. As Tanzania did not have a single financial inclusion policy, the National Financial Inclusion Framework was instead established. The framework defined financial inclusion and set the vision and targets to be met by financial and non-financial institutions. It also sets the different strategies to achieve financial inclusion nationwide. It is also a platform where disputes are settled, and new decisions are made through a 'consultative process'. It is a 'publicprivate partnership initiative' (PPPI). I am mentioning the national financial inclusion framework because it helped to bring mobile money services closer to the key financial providers and it helped both the MNOs and the banks to forge partnerships to allow the survival of mobile money. Mobile Money Providers participate through TAMNOA which is the 'Tanzania Mobile Money Operators Association'. The banks participate through the TBA (Tanzania Bankers Association). Both TAMNOA and the TBA participate in every level of the national financial inclusion framework as shown in the Diagram TT above. By doing, so they both protect their interests. This is where the politics of financial inclusion occur, and the decision from the committees as illustrated in Diagram 4 affect financial and non-financial institutions.

When it comes to mobile money and the politics of financial inclusion, one has to understand what mobile money does in relation to the poor people's everyday lives:

> For me, one of the key things, why mobile money is key for driving financial inclusion is that mobile money has the best need of people. Within the Tanzanian society, we know that the family is a core source of credit. It is a core source of support. We have over a quarter of the women's population who are the dependents. They receive money from somebody. If my uncle somewhere

needs money, I am the one who is going to send it to him. So, what mobile money did was it provided an easy and a quick, and somehow a cheap way of addressing the need for sending money. It was simple. It was using something that everybody has already: 'a phone'. Today, 68 percent have a phone, and 93 percent have access to mobile phones. If I do not have a phone, I go to my friend who has a phone. (Respondent Nkema)

The politics of financial inclusion become the issue about how to incorporate mobile money services into the 'National Financial Inclusion Framework.' The 'National Financial Inclusion Framework' provides national strategies to achieve national financial inclusion goals and the MNOs play an important part in attaining the national financial inclusion goals. The National Financial Inclusion Council (NC) is a policymaking body that sets the national financial strategies and policies. The process of policymaking has been always political. However, in the case of Tanzania, this process is a PPPI and it involves both the public and private sectors. The BOT, TCRA, Ministry of Finance are among a few institutions that represent the government, and the TAMNOA and the TBA are among the institutions that represent the MNOs, Banks and the private sector. Hence, the politics of financial inclusion are depicted in the 'National Financial Inclusion Framework' with the different committees playing their role as assigned to them. The process of policy-making and strategy formulation and implementation affect the financial sector (the mobile money services and strategies also included in the process). Policymakers design national strategies and policies such as the National Payments System Act and its regulations whereby the Parliament gets involved in the passing of the Acts. All the Acts as mentioned earlier in this article went through the National Assembly, which is a political body. The debates took place in the National Assembly before the Acts were confirmed and officialized by the members of the parliament. All the above-mentioned Acts could be regarded as the political tools that allowed the reforms in both the telecommunications and banking sectors and set the legal frameworks for the operations of the respective sectors. Those reforms and legal frameworks allowed the liberalization of the individual sectors which in turn allowed new financial and non-financial institutions to use the national payments system. Mobile money could use the national payments systems thanks to the Acts and legal frameworks that were in place.

Moreover, the policymakers were the state bureaucrats in charge of the financial sectors, or any other officials acting on behalf of the state or financial institutions. The role of the NC was to facilitate the smooth running of the financial sector by assessing and understanding the sectoral challenges. The politics of the NC involved knowing the right timing for the introduction of the appropriate policies. The NC was expected to be in a position to identify any regulatory risks associated with any policies and strategies. By doing so, it helped to enhance a healthy and competitive environment for the whole sector.

The National Financial Inclusion politics were friendly to mobile money. Mobile money had increased financial inclusion rates and helped to reach the financially excluded people. Hence, the politics of financial inclusion favored mobile money services as an innovation in the financial sector.

> The politics of financial inclusion allowed innovation. It has to be innovation in the market and innovation should be driven by everyone. Not only by the financial service providers, but also the regulators. The regulators should encourage new movers and should try to assist with accommodating innovation, not to just try to guarantee financial stability. Last but not least, they should also be flexible, so there should be flexibility from the financial provider side, especially the big players to also accommodate innovation, but also there should be flexibility from the regulator side to allow products entering the market may be in a controlled environment before they are launched to a wider environment. (Respondent Kong'honelli)

The statistics could illustrate how mobile money boosted financial inclusion over time. Strand 4 illustrates that mobile money had a higher uptake of formal financial services despite having one of the lowest numbers of financial products in the market.

Strand 4: Demand for and Supply of Financial

Services of financial Products in the market Uptake of Formal Financial Services Base: All products; n=1,534 Mobile months terraident Contractal bask lervices 125 Ubidibilite bervices 115 MPTS 210 aci 3% MPUmerplander services 00143- 175 SACOON 125 ANIO'S IN Capital markets 0.01% arieter 115 ey transfer | 24+ · 2017 - 2013 Source: FSDT (2017).

From the 'test, monitor and regulate' approach I mentioned in Section 4.3, Tanzania hesitated to charge taxes from mobile money users. According to Fuchs et al. (2016), mobile money taxation had

been a policy issue. Given the low use of bank products by the adult population in Tanzania, the mobile money and its use became of greater importance in providing access to formal financial services. Imposing higher taxes would harm the progress in the provision of inclusive financial policies. Mobile money was yet to be widely used to meet broader payment needs. Incorporated in the fees that the MNOs charged for money transfers was the commission they paid their agents. While MNOs did not charge fees to their customers for cash going into their mobile money wallets, the fees did apply for mobile wallet transfers (paid by the sender) and for cash-outs (paid by the receiver) (also see: Fuchs et al. 2016).

The taxation specific to mobile transfers was introduced in Tanzania in the Finance Act of 2013. In 2013, the excise tax was introduced and was applied to the principal transferred – a 'Tobin' or 'turnover style tax'. The taxes were applied as a fixed percentage of the principal. In 2014, excise tax applied to the fees paid by customers to their mobile money operators from money transfers (Fuchs et al. 2016).

Discussions with the Ministry of Finance and the Bank of Tanzania resulted in the introduction of the 'turnover tax', which was established to generate government revenues. As the tax was introduced, a wide range of the people affected by the new tax opposed it, even though very little revenue was in fact collected from it. Furthermore, the TBA protested the imposition of the tax, which led the government to reconsider its position. So far three Finance Acts were introduced in the following year: 2013; 2014 and 2015 (Also see: Fuchs et al., 2016).

Following the opposition to taxes, in 2013, the 2013 'Finance Act' introduced a 0.15 percent turnover tax on the amount transferred. Once more. the strong objections from stakeholders in early 2014, forced the Tanzanian government not to enforce the turnover tax introduced by the 2013 'Finance Act', and with Cabinet's approval, no excise duty was levied in the 2013/14 tax year. Things changed in late 2014. In the 2014 'Finance Act', the 10 percent excise duty was introduced on charges and fees payable for services provided by banks and MNOs. This was a significant amendment because initially, MNOs applied the excise tax to their transfer fees alone. They did not apply the tax to their larger cash-out fees. According to these amendments, excise duty was introduced and was to be applied to both the MNOs' transfer and cashout fees (also see: Fuchs et al., 2016).

As you should be noting at this stage, taxation on mobile money was (and still remains) a very delicate policy. Its delicacy was (and still is) in terms of the proposition that taxation could impact negatively on the development of the mobile money sector. From this perspective, it is easier to understand why the banks complained as the MNOs operated without or with low taxes. The introduction of the excise tax on all MNO fee incomes related to mobile money transfers could be contributing toward a leveling of the playing field (also see: Fuchs et al., 2016; GSMA, 2015:16-17; UNCTAD, 2012:32).

Whether taxation introduced a fair playing field is subject to debate. It should be noted that MNOs also pay VAT on the fees they charge for their services, while banks are yet exempted from VAT. Tanzania faces strong pressures to increase tax revenue collection. This pressure to improve tax revenues, especially for a service for which demand is relatively inelastic, could explain why excise taxes on money transfers were introduced with a rather narrow focus on revenue generation (Fuchs, 2016). Furthermore, GSMA (2015) claims that "taxes on operators reduce growth and investment in the mobile sector".

The government taxation policy on mobile money is one of the examples of policies that have emerged to support the advent of mobile money and the economic growth in general. However, mobile taxes in Tanzania remain inefficient and inequitable. In 2017, President John Pombe Magufuli raised tax concerns and forced mobile companies to be registered in the Dar es Salaam Stock Exchange (DSE) market.

The President's move came after claims that the telecommunications companies were reluctant to be listed in the DSE. This directive, which may become part of the taxation policy, ordered the revocation of license for mobile phone companies which were reluctant to list on the DSE. The TRCA was given the mandate to act tough against the 'stubborn' mobile companies. The directive was issued under premises that all mobile phone firms should float shares in the DSE market. The 'Electronic Revenue Collection System' (e-RCS) was launched in 2017 and will be operated by the 'Tanzania Revenue Authority' (TRA) and the 'Zanzibar Revenue Board' (ZRB). The new system was designed to track and directly collect excise duty and Value Added Tax (VAT) on all electronic transactions bv MNOs. telecommunication companies, and financial institutions, which would enhance efficiency in the collection of government revenues (also see; Mwakyusa, 2017). The directive sets up an environment for future new policies to emerge.

## **5. Challenges**

There are also challenges resulting from policy gaps between the use of mobile money technology and economic development in Tanzania (Hawaiju, 2013). For instance, though not severely impaired, a wider population of the Tanzanian adult users lacks financial capabilities. The 'National Financial Education Framework' (NFEF) was introduced in 2016, and will run through 2020 with its main focus on improving the levels of financial capability of the Tanzanian population. To prevent them from lagging behind they must be familiarized with the benefits and opportunities of 'mobile money' and 'mobile banking'. Policies to address these issues are needed. And it may be right to suggest that what has been analyzed in this paper, was just the beginning of the mobile money sector. More policies, Acts, legal and regulatory frameworks will be introduced in the future. This paper has been written as a brief introduction to the mobile money sector development in Tanzania focusing on important selected legal and regulatory Acts and agreements, as well as policies.

On the technical side, Diagram 5 summarizes what would be desired growth of mobile money services. Mobile money has to increase the access, uptake, and usage of formal financial services. In Tanzania, mobile money has increased access to formal financial services on the part of the financially excluded (See Strand 4 in Section 4.7). Its uptake of formal financial services is higher than that of the banks. Mobile money in Tanzania has 71,245,336 registered accounts as in 2016, however, only 17,025,685 registered users were active (see Table 1 in Section 3.2). The challenges facing the development of mobile money services include how to solicit customers to use their mobile money accounts. This is the challenge. Is mobile money a diminishing returns service? When will it start to show the diminishing returns and therefore retrogression? This is another challenge.

Diagram 5: Mobile Money Access, Uptake and Usage



# 6. Limitations

These findings are valid for Tanzania. Some countries may resemble the Tanzanian situation; however, I advise that researchers should conduct similar studies for those countries in order to comment specifically on the situations of those countries.

# 7. Conclusion

To conclude, mobile money development has been possible in Tanzania because there are those who see its financial inclusion benefits as a new delivery channel, its potential to reach the financially unreached and excluded people, its potential to reduce the costs of financial services. Moreover, mobile money services are safer than banking services. They can scale beyond any single financial institution's footprint. The MNOs perceived the mobile money's ability to increase customer loyalty, and they have used it to reach as many customers as possible. Supported by conducive legal frameworks and politics as illustrated in this article, mobile money services developed and grew in Tanzania. I have argued in this paper that the liberalization of the Tanzanian economy aided the development of mobile money through reforms, the CLF, the 'test, monitor and regulate' Approach, interoperability, the national financial inclusion politics and the '2015 National Payment Systems Act'. This was how mobile money started and developed in Tanzania.

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