ARCADA

Designing microinsurance products using Mobile money in Tanzania.

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Abstract:

Over the last 10 years, availability of mobile phones has increased dramatically especially in the developing markets in Asia and Africa. At the same time, majority still lack the access to official financial services such as banking and insurance. This gap has enabled an opportunity to mobile network operators and financial service providers to introduce mobile money transfer services that are addressing these needs.

The purpose of this study is to find out how microinsurance products are scaled using mobile money in emerging markets, specifically Tanzania, the study further looks at the role of sales agents in marketing mobile microinsurance products.

I examine the value proposition canvas adopted by BIMA (Milvik Tanzania) and how the company has leveraged mobile money to offer mobile microinsurance products. The literature review focuses on studies in the fields of mobile money, mobile microinsurance value chain and the value proposition canvas. Data was collected through my own observations (Participant observation) at the company in Tanzania for a period of four weeks, followed by semi structured interviews to key participants from the company.

Findings reveals that mobile money is essential means of collecting premiums, pay out claims, get transactional data of mobile money users to build specific target markets and also use the brand name of mobile money to embed microinsurance products

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FOREWORD

This thesis is written as completion to the master degree in media management, at Arcada University of applied science in Finland. The master programme focuses on current business models of media products, media economy and media innovation. The subject of this thesis is designing mobile microinsurance products using mobile money

The subject is selected in co-operation with Milvik Tanzania (BIMA) I have experienced this period as very interesting and instructive. At the beginning I had little knowledge of mobile money and mobile microinsurance. However, I have been able to achieve a result I am very satisfied with. I would like to thank my supervisor from the University, Dr Mats Nylund and the staff from BIMA offices in Tanzania. Their valuable insights and directions gave me needful guidance to complete the research and write this thesis.

Christian Goshashy   **Helsinki, April 2017**

1   INTRODUCTION

There are more than 1 billion mobile subscribers in Africa. The number of mobile subscribers and mobile network operators (MNOs) in Africa has increased due to enhanced investment and regulation in the industry (GSMA, 2015). Intermedia (2013) estimates that sixty-three percent of households own or have access to a mobile phone and 56 percent of households have at least one active SIM card in east Africa.

Since majority of these African households lack access to traditional banking and insurance services, the rapidly expanding mobile phone networks introduced mobile money (m-money) wallets, which are attached to the phone number of the customer and provide many functions of traditional bank accounts.

Mobile money provides consumers with access to a relatively inexpensive and reliable way of performing financial transactions that can potentially augment money liquidity and ameliorate crime-related risk. (Economides and Jeziorski, 2015)

Since its launch in 2007, M-Pesa as a platform for 5mobile money has transformed economic interaction in Kenya, East Africa and Africa in general. Its success has been replicated across Africa and Asia. Mobile money continues to deepen financial inclusion and is available in six out of seven markets where less than 20% of people have an account at a financial institution, Mobile money is available in 93 countries via 271 services. (African Development Bank, 2013)

GSMA (2015) have defined mobile money as a suite of financial services offered through mobile phones and other handheld mobile devices. These services can include person-to-person transfer of funds, such as domestic and international remittances, person-to-business payments for the purchase of a range of goods and services, and mobile banking, through which customers can access their bank accounts, pay bills or deposit funds.

Mobile money appears to have the potential to radically reconfigure how retail finance is done in developing countries particularly Tanzania by providing convenience and security, it has also brought massive financial data from customers and has opened up other financial sectors particularly banking and insurance that was previously difficult to reach due to lack of data and distribution channels.

Mobile micro insurance has been defined by Tellez (2012) as "any type of micro insurance product which leverages the mobile channel, regardless of the existence of a mobile money platform to improve a part of the insurance value chain.

Insurers and mobile operators' partner to use mobile channels such as SMS, USSD, short codes, applications and mobile internet to promote products to potential clients, educate existing clients about benefits, processes and value-added services, and solicit client feedback. Further, customers can use mobile channels to access policy data, check payment status and submit changes to policy coverage if required. (Prashad….etc. 2013)

Tellez and Zetterli (2014) adds that, many mobile network operators see Mobile micro-insurance as another source of customer loyalty and appear to be pursuing a role beyond simply providing the delivery channel, partly with the help of specialized micro insurance business-to-business (B2B) service providers that are rapidly growing into a new niche. This research looks at how BIMA (a mobile microinsurance provider) has leveraged mobile money platform from TIGO(Mobile operator) to offer its products, the research further looks at the role of agents in marketing these mobile microinsurance products.

1.1 Previous Research

After introduction of M-Pesa in 2007, different researches over mobile money were carried on the emerging money transfers technologies, consumer adoption of the mobile payment. Jussila (2016) investigated on innovations and entrepreneurship enabled by mobile money, and the importance of mobile money to businesses utilizing it.(Dahlberg et al., 2008) reviewed the key success factors of already implemented mobile money services and ecosystems.

GSMA (2015) have published different articles providing guidance for implementing a new mobile money service and interoperability. Later on after mobile money had become matured in the markets; different researchers began to investigate how mobile money can be used to leverage other financial sectors like microfinance and microinsurance.

Prashad….etc. (2013) compacted together how mobile money can be used in micro insurance and have also published several articles on the new mobile micro insurance market in the developing countries. Gikonyo (2012) looked at the effects of mobile phone technology on the growth of microinsurance in Kenya. Tellez (2012) reviewed the global landscape of micro insurance products and Mobile network operators' assets that can be leveraged to provide microinsurance. In 2014 Gray J, Bester H and others reviewed evolving business models and their regulatory implications across several countries.

This research seek to investigate how mobile money is being leveraged to offer micro insurance products in developing countries, with the case study of Tanzania and second part of the research investigates the role of insurance sales agents in marketing mobile micro insurance.

1.2 Research objectives and questions

The purpose of this study is to research how mobile micro insurance products can be scaled using mobile money in developing countries, with the case study of Tanzania and further investigate the role of insurance sales agents in marketing mobile micro insurance. This main purpose draws different research questions that I intended to answer at the end.

- How mobile money is leveraged to offer micro insurance products in Tanzania?

- What is the role of insurance sales agents in marketing mobile micro insurance products?

To answer these questions I have used BIMA brand owned by Milvik, a leading provider of mobile-delivered insurance and health services in emerging markets as my case company.

Milvik was founded in 2010 and is based in Stockholm, Sweden. Milvik AB operates as a subsidiary of Kinnevik New Ventures AB. Milvik operates in 14 countries across Africa, Asia and Latin America. For this study, I will use the brand name BIMA to refer to Milvik, since BIMA is the most used brand name representing the company.

BIMA is an intermediary company specialized in bridging the gap between mobile network operators and insurance companies by building innovative propositions from product designing, pricing, marketing and sales, policy administration and claims payment. In Tanzania, BIMA (Milvik Tanzania) is registered as an insurance broker in 2010.Through a strategic partnership, BIMA has partnered with TIGO, the second largest mobile network operator with over 11 million customers to provide different micro insurance products such as BIMA mkononi and Farijika na TIGO BIMA.

In this research, I investigate how Bima has scaled these two (Farijika and Tigo Bima) micro insurance products by leveraging TIGO mobile money distribution channels.

The case study company BIMA, does not use Tigo mobile money agents, rather BIMA recruits its own agents. In its business model, BIMA has chosen to utilize only the mobile money platform from TIGO leaving out Tigo mobile money agents who are 1700 scattered across the country. It is a very expensive cost for the company, this choice of BIMA not using TIGO existing mobile money agents forms the second question of my thesis. What is the role of agents in mobile microinsurance value chain? How agents create value in the customer journey circle? (Customer acquisition, customer service, claims)

1.3 Structure of the thesis

This study is a thesis work that follows the basic structure of an academic research. The thesis starts with an introduction of the research topic by presenting previous researches, objective, and research questions.

The introduction is followed by a theoretical framework, which consists of existing research around topics of mobile money, mobile microinsurance value chain and value proposition canvas that helps to explain the structure and design of mobile microinsurance products adopted by BIMA in Tanzania. These three areas are combined to form the basis for the answer and questions to my research problem.
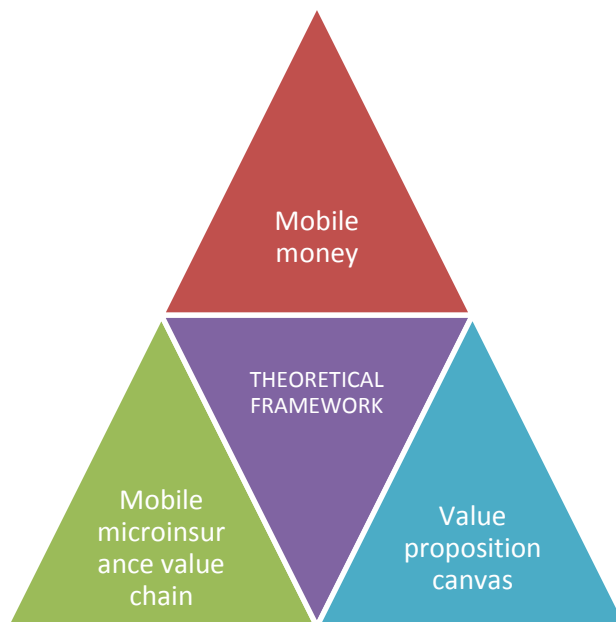
Figure 1 Structure of theoretical framework

After the literature review, data and research methodologies are presented followed with an analysis and key findings from the data.

The used data is from my own direct observation at BIMA organization in Tanzania for four weeks, followed by semi structure interviews with key participants I chose from the company. Based on the analysis, findings are presented and finally the discussion and conclusions chapter. Answers to the research questions are looked for in the following sections of this study.

The first research question regarding how mobile microinsurance products are scaled using mobile money is found on theoretical framework where it discusses the theories on mobile microinsurance models and compare to BIMA current activities on the findings and analysis section. The second research question regarding the role of BIMA sales agents in the customer journey (acquisition, claims) is found on the research methodology section where the current roles of BIMA agents on the customer journey section is discussed.

1.4 Limitations of this research

One limitation to this research is the fact that data was only collected from the company's perspectives. Customer jobs, gains and pains are defined only by the value creator (BIMA). The research has ignored the perspectives of the customer while designing mobile microinsurance products.

Another limitation comes from the choice of participatory observation as a method of research; it is time consuming, expensive (travelling to the company in Tanzania) and involved a consent that some data that I am exposed to while participating at the company could not be revealed and discussed (contract with TIGO, salaries of agents, mobile money data accessed from TIGO, etc.)

2 THEORETICAL FRAMEWORK

The theoretical framework of this research consists of three major parts; the digital (mobile) money, mobile micro insurance value chain and the value proposition canvas as shown on theoretical framework figure 1.

Firstly an overview of current trends in financial technology and the digital(mobile) money, followed by defining mobile money, its ecosystems and landscape in Tanzania to gather further understanding of Tigo (the partnered mobile operator of the case study company). The nature of mobile microinsurance has aroused from success of mobile money, hence it is relevant to understand the business environment of mobile money in Tanzania. It is also vital to understand also background of mobile money since in the case company (BIMA) is using mobile money as a means of collecting premiums and also settling claims.

Current trends in financial technology

According to Chishti and Barberis (2016), The FinTech market captured over US$14 billion in 2014, a three-fold increase from the previous year. New startups are popping up at an increasing pace, and large banks and insurance companies are being pushed toward increasing digital operations in order to survive. Fintech means 'Financial technology'. It comprises a new wave of companies changing the way people pay, send money, borrow, lend and invest. Chishti and Barberis (2016) further elaborates that, the most disrupted sectors are payments, money transfer, mobile payments, crowdfunding and peer to peer lending.

Fin tech firms focus on distinct areas of banking and insurance with the goal of becoming 'the best of breed' providers in these areas or also known as unbundling. My case company Milvik is 'Fintech' company which is based in Stockholm, Sweden that has focused on becoming an intermediary between insurance company and mobile network operators. The global Milvik Company operates in 18 countries across 4 continents.

Milvik leverages the mobile infrastructure (mobile money payments, mobile customer data, access to marketing) that mobile network possess to provide mobile microinsurance products to more than 5 million customers globally.

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For the purpose of this research, I will use BIMA to refer to Milvik. Bima is a brand name that Milvik uses globally.

BIMA is a 'FinTech firm' that has disrupted the way microinsurance is accessed by leveraging its products through mobile money infrastructures and has brought massive financial inclusion in the emerging markets, BIMA is a highly specialized service provider with an understanding of both the insurance industry (which MNOs lack) and the low-income customers that make up the target market (which insurers also lack)

In Africa, BIMA has strong presence in Ghana and Tanzania. The interest of this research is to understand how mobile money is used by BIMA in providing microinsurance products. In the next section, I define and present mobile money and its ecosystems particularly in Tanzania.

2.1 Mobile money

Jussila, (2015) split mobile money into different categories based on the distance, service provider, and the technology. Based on the distance, some of the services are relying on contact-based approach, where others are independent of the location of the parties involved. Based on the service provider, the players in the field are ranging from Mobile Network Operators (MNO) to commercial banks and credit companies to small application providers. And finally, based on the technology, the services can be split from using Near-Field Communication (NFC) to mobile networks and to internet-based cryptography (namely Bitcoin).

Electronic money vs. virtual money

Electronic money is, by the definition of European Union Electronic Money Directive 2009/110/EC (European Union, 2009), monetary value that is stored electronically, issued on receipt of funds of an amount not less in value than the monetary value issued, and accepted as a means of payment by undertakings other than the issuer. Electronic money has therefore basically the same legal status as any traditional currency of a country in terms of regulations and legal framework (European Central Bank, 2012). Therefore, traditional financial institutes (including the mobile network operators) involved in mobile money, are operating with electronic money.

Virtual money, on the other hand, is "a type of unregulated, digital money, which is issued and usually controlled by its developers, and used and accepted among the members of a specific virtual community" (European Central Bank, 2012).

European Central Bank (2012), has identified three types of virtual money schemes:

1) closed systems, where virtual currency and "real" money are not exchanged (with an example of money from World of Warcraft online game)

2) Unidirectional flow, where real money is traded for virtual money (an example of Facebook credits), and

3) Bidirectional flow, where real money can be traded for virtual money, and vice versa (an example of Bitcoin).

For the purpose of this thesis work, the mobile money is understood as regulated, electronic money where the money is fixed into fiat currencies issued by the central banks. Electronic money cannot increase the supply, as there is 1:1 ratio between electronic money and money in bank, and all customer funds are redeemable instantly (GSM Association, 2009a).

The definition of "mobile money" varies across the industry as it covers a wide scope of overlapping applications. (Ernst & Young, 2009) described mobile money as all services that allow electronic money transactions over a mobile phone. GSMA (2015) have defined mobile money as a network infrastructure for storing and moving money that facilitates the exchange of cash and electronic value between various actors including clients, businesses, the government, and financial service providers.

Jenkins (2013) adds that there is no limit to the range of transactions and services for which mobile money could eventually be used, as a result, mobile money has significant implications for economic activity across the board. First, it reduces the cost and risk inherent in dealing with cash. Second, and perhaps more significantly, it facilitates the flow of money from one party to another using a communications infrastructure that already connects billions of customers around the world – far more customers than currently have bank accounts.

Economides and Jeziorski (2016) described a mobile money account as a checking account associated with a mobile phone number. Users can cash-in and cash-out money from the account using a dense network of local agents serving as ATMs. Additionally, users can perform cash-free transactions, such as peer-to-peer transfers, using a mobile phone with mere support of legacy SMS technology. In Tanzania, transfers across users within the same m-money network are relatively inexpensive (fee is 1.1% on average), while conversion from m-money to cash ("cashing-out") is relatively expensive (fee is 7.3%).

Jenkins (2013) describes mobile money ecosystems as networks of organizations and individuals that must be in place for mobile money services to take root, proliferate, and go to scale, these include a wide range of different players, including mobile network operators, banks, airtime sales agents, retailers, utility companies, employers, regulators, international financial institutions and donors, and even civil society organizations.

The mobile money ecosystem will develop in different ways in each country, and between different service providers and mobile network operators. There is no single model that fits all markets. The types of model adopted depends on a wide range of external factors, including the market composition, openness of regulatory regimes, maturity of related industry sectors, market dominance of the participants and potential cooperation within the value chain. (Ernst & Young, 2009)

 In the next chapter, I explain the landscape of mobile money in Tanzania where my case company BIMA operates.

2.1.1 Mobile money in Tanzania

As one of the earliest countries to launch mobile money back in 2008, a year after M-Pesa was launched in Kenya, Tanzania has evolved into a mature, competitive market with five mobile money providers Airtel, Tigo, Vodacom, Zantel and recently Hallotel which launched its services in 2016 with Halo Pesa. In addition to mobile money, mobile operators in Tanzania offer other mobile financial services such as financing and micro financing services, and mobile insurance.

Table 1 shows that by 2016 Tanzania market has 29.3 million adults potential in mobile market from whom half have mobile internet subscription. This indicates huge penetration of both mobile phone market and internet market. Furthermore, the table depicts that 16.5 million have mobile money accounts, this shows huge penetration of mobile money considering that the mobile money industry started in 2008.

Total population:	53.4 million
Adult population	29.3 million
Pop. covered by 2G:	85%
Pop. covered by 3G:	35%
Connectivity Index Score:	31.6
2015 GDP per capita:	USD 864.9
Ease of Doing Business Rank:	139
unique mobile subscribers	25.3 million
mobile internet subscribers	16.1 million
adults that have a mobile money account	32.4%
mobile connections are smartphones	25.3%
registered mobile money accounts	16.5 million

Table 1 Tanzania mobile and internet prevalence figure (Gilman, 2016)

In 2015, almost a third of active mobile money accounts in East Africa were in Tanzania. This was an extension of strong growth, as mobile money accounts in Tanzania had doubled between 2013 and 2015 from 8.9 million to 16.5 million registered mobile money accounts (Gilman, 2016). It can therefore be concluded that half of adult population in Tanzania have a registered mobile money account and mobile internet. The next table 2 compares mobile money between Tanzania and Kenya.

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	Tanzania	Kenya
Total mobile money accounts	38 million	26 million
Active mobile money users	8.9 million	14.2 million
Average transactional value	19 dollars	29dollars
Cost of transferring 20 dollars	0.17 dollar	0.37 dollar
Mobile money providers	Vodacom M-Pesa 54%	Safaricom M-Pesa 95.5%
	Tigo pesa 29%	Airtel money 3.4 %
	Airtel money 13%	Others 1.1%
	Ezy Pesa 4%	
Number of total mobile money agents	166,000	124.708
Percentage of agents serving multiple providers	52%	4%
Percentage of people living 5 km to mobile money agent	34%	77%

Table 2 Tanzania VS Kenya mobile money figure in 2014 (CGAP, 2016)

The Kenyan market is dominated by one major player Safaricom who has 95% market share at the table depicts, compared to Tanzania whereas there are four mobile operators in the market. The cost of transactions are higher in Kenya compared to Tanzania, whereas the Kenyans are more active users and with much higher values. Tanzania has 10 million more mobile money accounts, Mobile money agents in Tanzania are interoperable (Can transfer for all mobile money providers), whereas in Kenya, they are not interoperable.

2.2 Mobile microinsurance value chain

Transaction costs and lack of effective distribution channels has been blocking insurance companies to provide insurance cover for low and middle income earners in developing countries, Tanzania particularly is a largely dispensed country with majority living in rural areas which lack adequate infrastructures such as roads, banks, hospitals etc. However in recent years with the rise of the FinTech industry, these blocks have been overcome with new financial technology solutions by offering mobile microinsurance products in these developing markets.

CGAP (2013) have defined Microinsurance as a means of protecting low income households against specific risks in exchange for a regular payment of premiums whose amount is proportional to the likelihood and cost of the relevant risk."

Tellez (2012) defined mobile microinsurance as "any type of microinsurance product which leverages the mobile channel, regardless of the existence of a mobile money platform to improve a part of the insurance value chain.

The use of mobile phone has been attributed as one of the main factor for this rise in microinsurance. Mobile operators and insurers have joined forces to provide microinsurance in order to reach scale and therefore there has been huge rise in this new form of delivering insurance known as mobile microinsurance or other academies refer it as digital microinsurance. (Prashad….etc. 2013)

The whole process of leveraging mobile operators' assets to provide microinsurance is referred to by Tellez (2012) as mobile microinsurance value chain. The following figure 2, summarizes the ways that insurers can leverage the MNOs' communication channels, retail distribution networks, and payment mechanisms.

	Product design / pricing	Marketing	Sales	Client Enrolment	Policy administration	Claim processing
Communication channels -Voice -Regular SMS -USSD		Insurers can promote services using mobile.		Customers can self-enroll over the air	Insurers can handle customer over the air	Customers can submit claims over the air.
Retail sales and distribution Airtime dealers Mobile money agents			Airtime dealers, mobile money agents can educate customer	Airtime dealers and mobile money agents can distribute enrolment forms		
Payment mechanisms mobile money payment				Customers can pay premiums with airtime, mobile money or over the counter		Insurers can disburse payouts into mobile money accounts.
Transactional data -Airtime -Mobile money	Transactional data to model risk					
Brand		Co-branding				

Figure 2 Microinsurance value chain (Tellez, 2012)

2.2.1 Key elements of mobile Microinsurance value chain

By leveraging mobile phone infrastructure insurers have made processes more efficient across the insurance value chain. They have reduced turnaround times for enrollment, premium collection, claims processing; lowered costs; and bridged geographical distances. Mobile phone t consists of different components that can be leveraged when delivering insurance. For instance, the client's mobile phone transaction history can be used by insurers in product design and to target clients based on usage.

At first glance, the incentives that drive revenues for MNOs and insurers do not seem naturally aligned: insurers think in terms of hundreds or thousands of customers, insurers launch two or three new products per year, MNOs launch dozens; insurers see the low-income market as difficult to serve, while MNOs see the low income market as under-served and often reach low-income markets (Gross, 2013a). According to Tellez (2012), the mobile microinsurance value chain as depicted above has four main elements that I discuss in the next section.

1. Client Enrolment

Prashad….etc. (2013) urges that microinsurance schemes that involve an MNO partner can use the pre- existing client information (Such as name, address, billing information, age) to meet identification requirements and thereby reduce data collection costs. According to Tanzania Electronic and Postal Communications Act of 2010, it is mandatory for every sim card to be registered. BIMA receives data from TIGO customers, who are registered and have a balance of at least 5 dollars from their mobile money accounts.

Agent-assisted enrolment

In mobile microinsurance models, intermediaries companies can choose whether to use agents to assist customers in enrolment (are the agents meeting the customers or making phone sales), or to use agentless enrolment for example Zong Insurance in Pakistan and YuCover in Kenya. Insurance providers can leverage the existing distribution network of airtime dealers and/or mobile money agents as a low-cost sales channel. In Tanzania, according to 2014 (CAGP) report, they were 17,000 mobile money agents.

Tellez (2012) explains that these agents can help explain a product to customers who might not be familiar with insurance, in addition to serving as a channel for notifications, claims handling and even disbursement. Using existing airtime retailers and/or mobile money agents' network may build trust in insurance, since customers are often familiar with these retailers already.

For the Mi-Life product offered in Ghana, the MNO MTN Ghana uses its mobile money agents for sales and enrolment. MFS Africa, the intermediary partner for Mi-Life believes that agents are critical to ensure that clients understand the product, also MTN agents are already trained to explain the benefits of mobile money, so they understand the importance of registering clients correctly. BIMA in Tanzania does not use TIGO mobile money agents, rather it recruits and trains its own agents to sell its products.

2. Premium collection

Developing a mechanism for collecting premiums in microinsurance policies especially in emerging market is a challenge for insurers. Tellez (2012) have identified four ways in which premiums can be collected; Stored-value mobile money accounts; Over-the-counter agent payments; pre and post-paid mobile accounts and freemium (no fee; loyalty based). Prashav…etc. (2013) have added airtime as another way for collecting premium.

Tellez (2012) adds that customers in the target market often have irregular and unpredictable cash flows and poor access to traditional payment mechanisms. Exploiting new channels for premium collection can result in higher renewal rates, particularly when used to extend flexibility for poor customers with irregular incomes.

One interesting way of addressing this channel for other industries such as home products like coca cola have used is Nano sized payment structure.

According to Strom (2015) Nano sized payment structure is the one that considers and understanding how much a low income customer has per day and is willing to spend.

Strom (2015) has highlighted three ways that BIMA globally uses to collect premium.

1. Mobile airtime (deducted as Nano payment)
2. mobile money
3. Cash through agents in the streets.

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BIMA collects premium through mobile money where the customer pays himself from his mobile wallet, the amount of premium depends on the period of cover, two, six or twelve months.

During its launch in Tanzania, BIMA used to collect premiums through airtime vouchers while selling its first product PONA na TIGO. (Getting well with TIGO) Premiums would be deducted automatically from the sim-card user airtime balance once he has signed the policy. However, BIMA has abandoned completely the use of air time for premium collection due to different challenges; regulation, ethical insurance practices, uneducated market etc.

In the following section I will describe the advantages and disadvantages of both mobile money and airtime for collecting premiums in microinsurance.

Mobile money Vs Airtime in premium collection.

Airtime has become an increasingly popular payment mechanism in countries with a regulatory environment that allows it. Unlike mobile money, airtime can be used by anyone who has a mobile phone and thus removes the need to have a separate payment mechanism for insurance. Prashav…etc. (2013) further points that using airtime for payments can be complex, however, because airtime units need to be converted into a monetary currency (one unit of airtime does not equal one unit of premium).

The ability to pay using airtime is convenient for customers since they continue to do what they are used to doing, which is, buying airtime. However, people need to be educated about using airtime as a payment mechanism, as they are only used to using airtime for calls and related services like ringtones. Insurers need to keep two cost factors in mind while deciding on airtime as a premium payment mechanism to be used while working with MNOs:

- Airtime purchase attracts VAT and often excise tax, while insurance premium payments do not. This makes airtime purchases more expensive.
- MNOs charge third parties (including insurance companies) to do payment collection through airtime. This is usually a percentage of what is paid through airtime.

3. Claims processing

Mobile phones can facilitate speedy claims settlement. In a typical process enabled through the mobile phone, clients initiate the claim by sending an SMS message with their contact details to the insurance company. The insurer or designated intermediary follows up with the client to tell them what documents are required and to inform them of the next steps to continue processing the claim (Prashad...etc., 2013)

Fewer schemes use mobile phones for claims processing, as compared to enrolment and premium collection. In the survey conducted by Tellez and Zetterli (forthcoming), only a third of schemes reviewed enabled customers to register claims over a mobile device and less than half used a claims process that relied solely on mobile phones.

Claims processing is perhaps the most important process from the client's perspective as this is when the value of insurance becomes tangible. The hope is that as schemes mature and competition increases, more schemes will use the mobile phone as an instrument for reporting, registering and settling the claims of the client. (Prashad...etc., 2013)

4. Transactional data

Big data refers to the dynamic, large and disparate volumes of data being created by people, tools and machines; it requires new, innovative and scalable technology to collect, host and analytically process the vast amount of data gathered in order to derive real-time business insights that relate to consumers, risk, profit, performance, productivity management and enhanced shareholder value. Big data includes information garnered from social media, data from internet-enabled devices (including smartphones and tablets), machine data, video and voice recordings, and the continued preservation and logging of structured and unstructured data. It is typically characterized by the four "V's":

• **Volume:** the amount of data being created is vast compared to traditional data sources

• **Variety:** data comes from different sources and is being created by machines as well as people

• **Velocity:** data is being generated extremely fast, a process that never stops.

• **Veracity:** big data is sourced from many different places, as a result you need to test the veracity/quality of the data (Ernest and young 2014)

One of the major challenges faced by insurance practitioners when designing and pricing new products is the lack of historical data. The real time rendering of insurance and mobile transaction information (airtime or mobile money usage patterns, geo-tagging, etc.) can dramatically improve this process and give insurers access to reliable data to find patterns necessary for better understanding their customers (Tellez, 2012).

2.2.2 Product life cycle of mobile microinsurance products

Insurance can be offered as a free product, a paid-for product or a combination of the two. Products are likely to evolve as the market matures, as depicted in Figure 3.
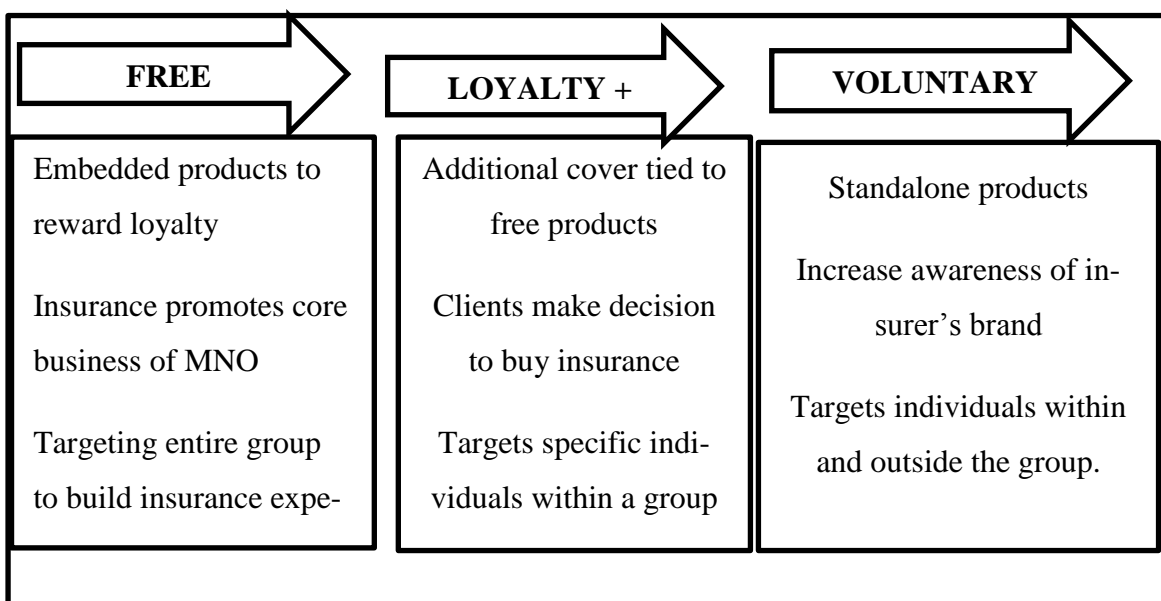
FREE	LOYALTY +	VOLUNTARY
Embedded products to reward loyalty	Additional cover tied to free products	Standalone products
Insurance promotes core business of MNO	Clients make decision to buy insurance	Increase awareness of insurer's brand
Targeting entire group to build insurance expe-	Targets specific individuals within a group	Targets individuals within and outside the group.

Figure 3 Product life cycle of mobile microinsurance products (Prashad…etc. 2013)

The first stage of market maturity is suitable for loyalty-based schemes that include a free insurance product embedded in the MNO's core service. It makes sense to start with this model in markets with limited insurance experience.

As markets mature and customers gain a better understanding of insurance, the second stage can include the offer of a "freemium" product that is still loyalty-based, but offers clients the opportunity to buy extra cover.

The third stage allows the sale of a stand-alone, voluntary product that can cover various risks and is paid for by the client. In mature insurance markets with an insurance culture, it is possible for insurers and MNOs to offer voluntary insurance products without going through the first two stages. (Prashad...etc.2013)

Cenfri (2013) believes that positive market discovery is essential to make a market for insurance especially in the first two stages. Market discovery is the process that introduces a person to the insurance market. Discovery can be positive if the consumer is introduced to a product in a way that allows them to understand the value that insurance holds for them. In this case the individual will tend to use insurance again in the future.

Discovery can also be negative (e.g. if a claim is rejected due to conditions not understood by the client), in which case the client may be discouraged from using insurance again and will likely disseminate this negative perception via word-of-mouth. Where clients are unaware of insurance cover that they) have (e.g. some credit life products), there is no market discovery. Bester, Chamberlain, Hougaard (2009).

This is evident in Tanzania, where out of the 4.6 million active policies estimated in the Tanzanian market, 3.3 million were embedded products. Client-value concerns in Tanzania are further amplified by one insurer capturing 57% of this embedded product market with a claims ratio of 36%. (Centri, 2013)

2.2.3 Microinsurance landscape in Tanzania

Tanzania with a total population of 50 million people is one of the fastest growing insurance markets, with premiums increasing about 20% a year since 2009 and the number of insurers almost doubling since 2006. Yet, 92% of the adult population remains uninsured and the potential microinsurance target market for insurance providers is huge (Zahid and Dirk, 2014). The following figure 4 adopted from Kasembe (2014) depicts the unserved microinsurance customers in Tanzania.
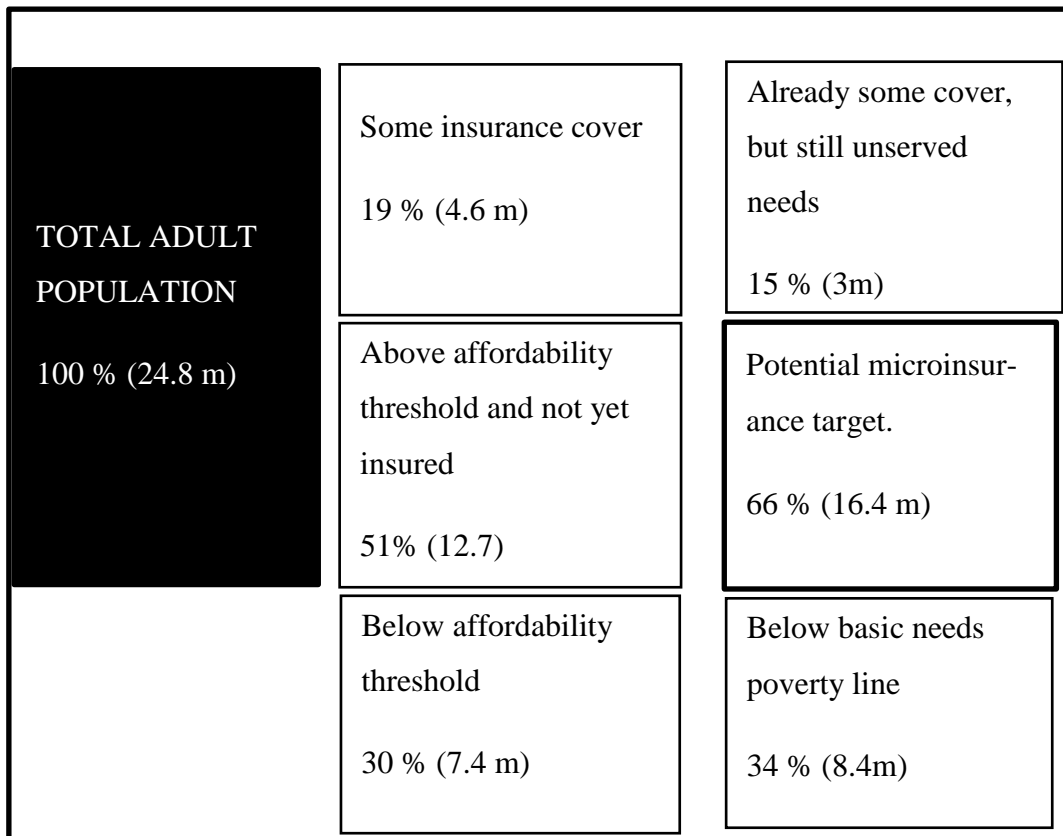
	Some insurance cover 19 % (4.6 m)	Already some cover, but still unserved needs 15 % (3m)
TOTAL ADULT POPULATION 100 % (24.8 m)	Above affordability threshold and not yet insured 51% (12.7)	Potential microinsurance target. 66 % (16.4 m)
	Below affordability threshold 30 % (7.4 m)	Below basic needs poverty line 34 % (8.4m)

Figure 4 Size of microinsurance market in Tanzania. (Kasembe, 2014)

Above figure 4 reveals that at least half of adult population can afford microinsurance products but are not yet insured (12.7 million). The figure further highlights that only 4.6m adults have some insurance cover but 3m of those adults still have unserved insurance needs. This shows that there is a huge potential for innovative microinsurance products in Tanzania.

2.3 Value proposition canvas

This third part of theoretical framework focuses on theory of value proposition canvas generated by Osterwalder and others (2014) from the Book Value proposition design.

The value proposition sits at the pivot point of the entire business model. A "value proposition canvas" is a chart that maps the key things that make up your product and why people buy it. Osterwalder (2014) adopted the following value proposition canvas to define the meeting point between customer segment and value proposition map.

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The Value (Proposition) Map breaks value proposition down into products and services, pain relievers, and gain creators. The Customer (Segment) Profile breaks the customer down into its jobs, pains, and gains.
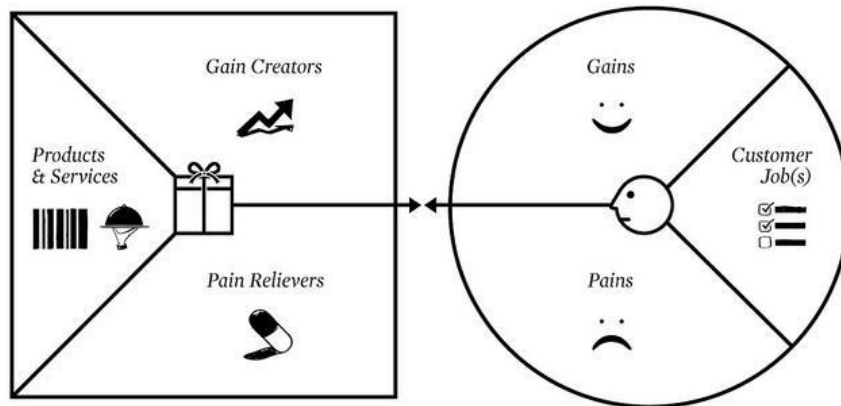

Figure 5 Value proposition canvas (Osterwalder, 2014)

Customer jobs

Osterwalder (2014) described customer jobs the things your customers are trying to get done in their work or in their life. A customer job could be the tasks they are trying to perform and complete, the problems they are trying to solve, or needs they are trying to satisfy. Osterwalder (2014) further distinguished between three main types of customer jobs to be done and supporting jobs:

- *Functional jobs:* Customers try to perform or complete a specific task or solve a specific problem.
- *Social jobs:* Customers want to look good or gain power or status. These jobs describe how customers want to be perceived by others, for example, look trendy as a consumer or be perceived as competent as a professional.
- *Emotional jobs:* Customers want to feel food and have a sense of security.
- *Supporting jobs:* Customers also perform supporting jobs in the context of purchasing and consuming value either as consumers or as professionals.

Customer Pains

Osterwalder (2014) described pains as anything that annoys the customers before, during, and after trying to get a job done or simply prevents them from getting a job done. Pains also describe risks, that is, potential bad outcomes, related to getting a job done badly or not at all. Osterwalder (2014) identified three types of customer pains:

- *Undesired outcomes and problems:* Pains are functional (e.g., a solution doesn't work, doesn't work well, or has negative side effects), social ("I look bad doing this"), emotional ("I feel bad every time I do this"), or ancillary ("It's annoying to go to the store for this").
- *Obstacles:* These are things that prevent customers from even getting started with a job or that slow them down (e.g., "I lack the time to get this job done accurately," or "I can't afford any of the existing solutions").
- Risks: Things that could go wrong and have important negative consequences (e.g., "I might lose credibility when using this type of solution,"

Customer Gains

Osterwalder (2014) described gains as the outcomes and benefits customers want. Some gains are required, expected, or desired by customers, and some would surprise them. Gains include functional utility, social gains, positive emotions, and cost savings. Osterwalder (2014) identified four types of customer gains in terms of outcomes and benefits:

- *Required gains:* These are gains without which a solution wouldn't work. For example, the most basic expectation that we have from a smartphone is that we can make a call with it.
- *Expected gains:* These are relatively basic gains that we expect from a solution, even if it could work without them.
- *Desired gains:* These are gains that go beyond what we expect from a solution but would love to have if we could. These are usually gains that customers would come up with if you asked them. For example, we desire smartphones to be seamlessly integrated with our other devices.
- *Unexpected gains:* These are gains that go beyond customer expectations and desires. They wouldn't even come up with them if you asked them.

The left side of the canvas from figure 5 consist of Value (Proposition) Map which breaks value proposition down into products and services, pain relievers, and gain creators.

Products and Services

This bundle of products and services that helps customers complete either functional, social, or emotional jobs or helps them satisfy basic needs. It is crucial to acknowledge that products and services don't create value alone— only in relationship to a specific customer segment and their jobs, pains, and gains (Osterwalder, 2014). Value proposition is likely to be composed of various types of products and services:

- *Physical/tangible:* Goods, such as manufactured products.
- *Intangible Products:* copyrights or services such as after-sales assistance.
- *Digital Products:* music downloads or services such as online recommendations.
- *Financial Products:* investment funds, insurances, financing of a purchase.

Pain Relievers

Osterwalder (2014) describe pain relievers as how exactly products and services alleviate specific customer pains. They explicitly outline how you intend to eliminate or reduce some of the things that annoy customers before, during, or after they are trying to complete a job or that prevent them from doing so. Great value propositions often focus only on few pains that they alleviate extremely well.

Gain Creators

Osterwalder (2014) describe gain creators as how products and services create customer gains. They explicitly outline how you intend to produce outcomes and benefits that your customer expects, desires, or would be surprised by, including functional utility, social gains, positive emotions, and cost savings. As with pain relievers, gain creators don't need to address every gain identified in the customer profile. Focus on those that are relevant to customers and where your products and services can make a difference.

Achieving Fit is the process of designing value propositions around products and services that meet jobs, pains, and gains that customers really care about. Fit between what a company offers and what customers want is the number one requirement of a successful value proposition.

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3   RESEARCH METHODOLOGY

This third chapter of the thesis explains how research was carried out, it also presents how key findings were figured out. The chapter is divided into 5 sections, choice of participant observation as a research method, my role as a researcher while participating in BIMA activities, How I collected relevant data through observations and semi structured interviews, followed by analysis and key findings, Lastly, I present ethical issues in this research.

3.1   Choice of research method

In order to understand how BIMA has structured its business and manage to reach scale while leveraging TIGO mobile money ecosystem, I have used qualitative research methods mainly participant observation where I firstly observe and then conduct semi structured interviews with personnel from BIMA to collect and analyze data.

Qualitative research as defined by Saldana (2011) is an umbrella term for a wide variety of approaches to and methods for the study of natural social life, it's goal is to understand the nature of phenomena, and is not necessarily interested in assessing the magnitude and distribution of phenomena (i.e., quantifying it). There are many ways to make a qualitative research, for this thesis, I chose to use participant observation also referred as participant research.

 DeWalt (2010) described participant observation as one of the method in qualitative research to collect data by ethnographers who observe and/or take part in the common and uncommon activities of the people being studied. Schensul and Lecompte (1999) define participant observation as "the process of learning through exposure to or involvement in the day-to-day or routine activities of participants in the researcher setting"

Further, Barbara (2005) points out that the process of conducting this type of research work involves gaining entry into the community, selecting gatekeepers and key informants, participating in as many different activities as are allowable by the community members, clarifying one's findings through member checks, formal interviews, and informal conversations, and keeping organized, structured field notes.

Participant observation is used as a mainstay in field work in a variety of disciplines, and, as such, has proven to be a beneficial tool for producing studies that provide accurate representation of a culture or phenomena.

Participant observation has a unique way of approaching BIMA business model and the design for value proposition canvas they have adopted, observing and participating at the company allows better understanding of the most fundamental processes of their key activities.

As Dewalt, (2010) points out, it provides context for sampling, open-ended interviewing, construction of interview guides and questionnaires, and other more structured and more quantitative methods of data collection.

The second method of collecting data involved semi structured interviews with key informants I identified after observing company activities for one week.

3.2 My role as an observer

As shown in the Participant observation continuum figure 6, a researcher can take different roles in participant observational research methods. My role was highly observational by recording agent's calls through live barging, I took pictures of agents sitting arrangements. My role was also very visible as I conducted semi structured interviews with different key participants I identified.

Barbara (2005) notes that the degree to which the researcher involves himself/herself in participation observation makes a difference in the quality and amount of data he/she will be able to collect as depicted on figure 6, of Participant observation continuum adopted from Guest et al. (2013)
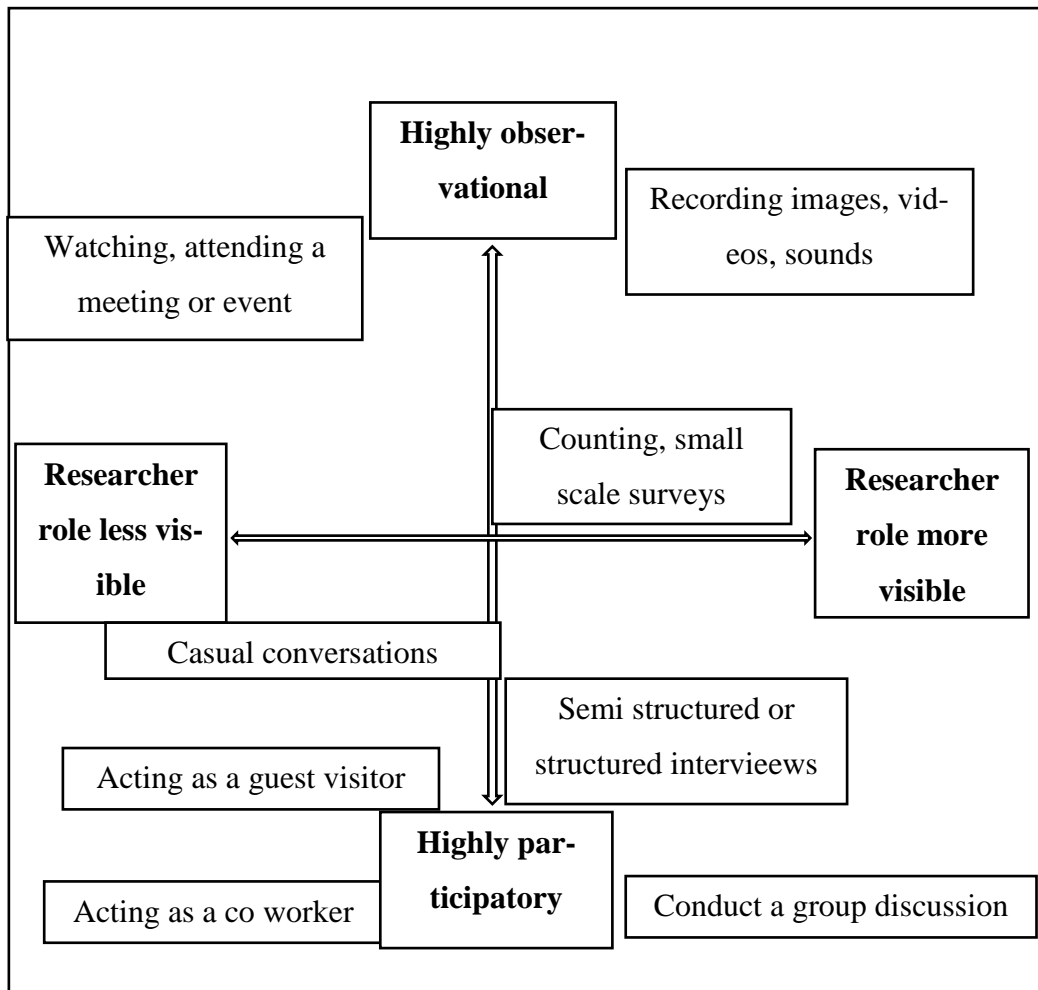
Figure 6 Participant observation continuum. (Guest...etc., 2013)

I spent four weeks (4) at BIMA offices, I spent the first hours of the day helping assistant director (Arshawin) in managing daily tasks, the second part of the day observing, asking questions, listening and taking notes from agents in the call center, claims, renewal team and claims team.

Hence my role was an observer as participant who was highly participatory since I was participating in the company activities as an outsider (Co-worker) then also observing their activities to determine answers for the research question.

3.3 Data collection

In this research I have used two ways to collect relevant data to answer my research question; firstly I have used participant observation whereas I observed directly company activities and taking notes of interactions, reviewing company documents, the second method to gather data was semi structured interviews.

3.3.1 Observer as a participant

As Barbara (2005) notes, the *observer as participant* stance enables the researcher to participate in the group activities as desired, yet the main role of the researcher in this stance is to collect data, and the group being studied is aware of the researcher's observation activities.

Observations enabled me to draw out different ways in which agents' role is monitored through live barging system. (See appendix. Live barging) Team captains monitor agents' calls by actively listening to the agent

I have used a call barging system to listen and analyze the calls of 6 agents. 3 from call Centre, 2 from renewals and 1 from claims department. These agents were aware that that I was listening to their calls. I have analyzed agent's calls in order to understand what role they have in marketing mobile microinsurance products.

3.3.2 Semi structured interviews

The second method to collect data was through semi-structured intervieews with key participants I identified after 1st week of observation. Semi-structured interview refers to verbal interchange where one person, the interviewer, attempts to elicit information from another person by asking questions. Although the interviewer prepares a list of predetermined questions semi structured interviews unfold in a conversational manner offering participants the chance to explore issues they feel are important. (Dewalt, 2010)

Key participants from the intervieews helped to collect data about different business model segments and profiling a mobile microinsurance customer jobs, pains and gains.

Key Informant	No of intervieews
Assistant Managing director,	5
Business Manager	2
Renewal Manager	3
Claims Manager	3
Call center manager	2
2 Agents Team captains	1
6 agents	1

Table 3 Key participants and number of times they were interviewed

Some of the data and other sensitive company information are not revealed in this research. For example, what type of data they receive from TIGO, how much profit is shared to TIGO, what kind of contractual agreement they have with TIGO Etc. This consent was agreed with Managing director prior to beginning the research. Therefore, all materials revealed in this research have consent from the company.

3.4 Findings and Data analysis

Data collected from observations and interviews was arranged in four figures (business model canvas, customer profile, value map, pictures and how the customer is communicated) that I will present below followed by their analysis.

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
Mobile network operator who provides distribution and payments infrastructures TIGO.	Telemarketing Claims processing	Farijika Hospitalization	Each customer segment has its own dedicated agents.	Customers who has more than 5 dollar balance in their mobile money accounts
Reinsurance company which underwrites all the policies JUBILEE			5 dollar balance customers has 120 agents divided 9 teams,	Renewal customers
Regulator who supervises the micro-insurance industry TIRA			Renewal customers has 20 agents. They receive data one month to expiry of customer policy Claims has 4 agents who receives and process documents to the insurance company	claims customers
	Key Resources Strategic partnership with TIGO Agent workforce		**Channels** SMS from TIGO, a call from BIMA agent, USSD code to register and pay for the policy.	

Key costs	Revenue Streams
Agents salaries and commissions, profits shared to partners.(mobile operator and insurer)	The only revenue comes from premiums paid through mobile money, customers can pay for a full year policy, half a year or quarter a year.

Figure 7 BIMA business model canvas (Goshashy, 2017)

Channels

Sales agent's play a critical role in helping customers evaluate Bima products value propositions from enrolment to claims processing. At BIMA there are 120 insurance sales agents who work on two shifts. Sales agent make calls to an average of 60 customers per day. Sales agents are supposed to follow a call script designed to sell the products. Sales agents work under Call center Manager. BIMA uses three ways to communicate with its customers;

- **Voice** BIMA sales agents stationed at call centers make voice calls to Tigo customers to pitch microinsurance sales and handle claims.
- **SMS** BIMA sends to automated SMS to its customers for reminders in premium collection or activation of a new policy. Customers can also enroll themselves into a new policy by sending a short SMS.
- **The USSD** (Unstructured Supplementary Service Data) protocol allows for secure, way for customers to register and check the status of their policies.

The following table represents how often Bima customer is communicated with the agent.

Before enrolment	During enrolment	Claims processing
Billboards, brochures about TigoBima SMS from TIGO that BIMA agent will call BIMA agent calls and educate the customer about microinsurance products offered Customer uses USSD code to register and pay.	Customer receives a call from BIMA quality department to detect whether there is any issues with the policy One month before the expiry of the policy, customer receives call from renewal department to be reminded of renewing the policy	After leaving the hospital, the customer scans all documents required and send through email to BIMA claims department. Customer can also take the copies of required documents to nearest TIGO office.

Table 4 How often BIMA customer is communicated (Goshashy, 2017)

Partnerships

Partnerships are critical and key resource for BIMA business model. The whole business is formed from being an intermediary between insurance BIMA works closely with mobile operator TIGO to deliver to their specific requirements and KPIs (e.g. ARPU, churn, acquisition, revenue, CSR) through a plug and play, fully managed solution. At the time of research, February 2017, TIGO was the only mobile operator partner that BIMA works with in terms of embedding its products. However, BIMA is considering and actively designing other kinds of strategic partnerships with mobile operators and banks (underwriters) and mobile network operators (distribution infrastructure)

According to the business manager, BIMA has built its business model based on partnerships from Mobile network operators in order to reach scale(volume) which is very crucial in microinsurance business since the sum of premiums are very small.(12 USD per year). The same premium has to be split among 3 partners (insurer, BIMA and MNO)

From the interview, the business manager further adds that BIMA is interested in two major strategic strength from MNOs

- Mobile operator brand trust(MNO have very strong presence in emerging markets, they have foot in the door)
- Payment channels

Business manager rules out BIMA using MNO mobile money agents since the company model is focused in educating and keep the customer for longer periods. BIMA employs a large number of agents who are dedicated in acquiring customers either by actual visit or call center.

BIMA manages everything from product design, distribution and sales, provide the essential technological platform to run the service, through to the claims administration. The second strategic partner for BIMA are insurers who actually are the underwriters of the insurance policy. BIMA, strategically designs products which they negotiate with underwriters, then sells these policy. In Tanzania, BIMA has one strategic underwriter, Jubilee.

Customer relationship

Even though it is a very expensive undertaking, Bima has opted for its own distribution channel by employing its own sales agents rather than leveraging on TIGO (mobile network) mobile money agents. Tigo has a network of 3000 mobile money agents scattered in Tanzania. The use of own agents gives BIMA not only ability to control sales flow, fraud but also ability for BIMA to establish itself as a mobile microinsurance selling its own products without relying on Tigo brand name.

Relationship with customers is vital for BIMA survival since the Tanzanian market is new and customers need more education about insurance. Bima has communication with the customer during the policy. (Refer to table 3, how Bima customer is communicated).

Figure 8 BIMA sales agents calling customers

Human interactions between the agent and customer brings trust in products. For a BIMA products where they are mobile it is important for human connection between agent and customers. During interview, an agent said that he at times has to call his customers more than four times to make sure they are in a good position to speak. The quality departments also calls the customers randomly to check their policies and see whether they need assistance.

Even though the claim process is mobile, customers need to scan and email their documents to BIMA claims department. In a developing country like Tanzania, very few have access to scanners and emails hence they have to make a journey to nearest TIGO office, this makes the claims process long and tiresome, BIMA claims ratio by end of 2016 was below the standard regulations in Tanzania, 1%

The findings reveal that the role of agents is essential to educate customers since there is very low level of penetration and education in insurance in Tanzania. Agents bring long term human interaction with the customers, BIMA uses its own agents who make tele-marketing, this is the most expensive cost of the company but it gives BIMA great ability to control fraud and manage agents much closer. Tigo's mobile money agents are scattered across the country, it will be difficult to control them from BIMA's perspectives.

Another finding from the data is about the normal microinsurance customers in Tanzania, key participants were asked different questions on how they understand customer jobs, gains and pains as shown on figure 9 below.
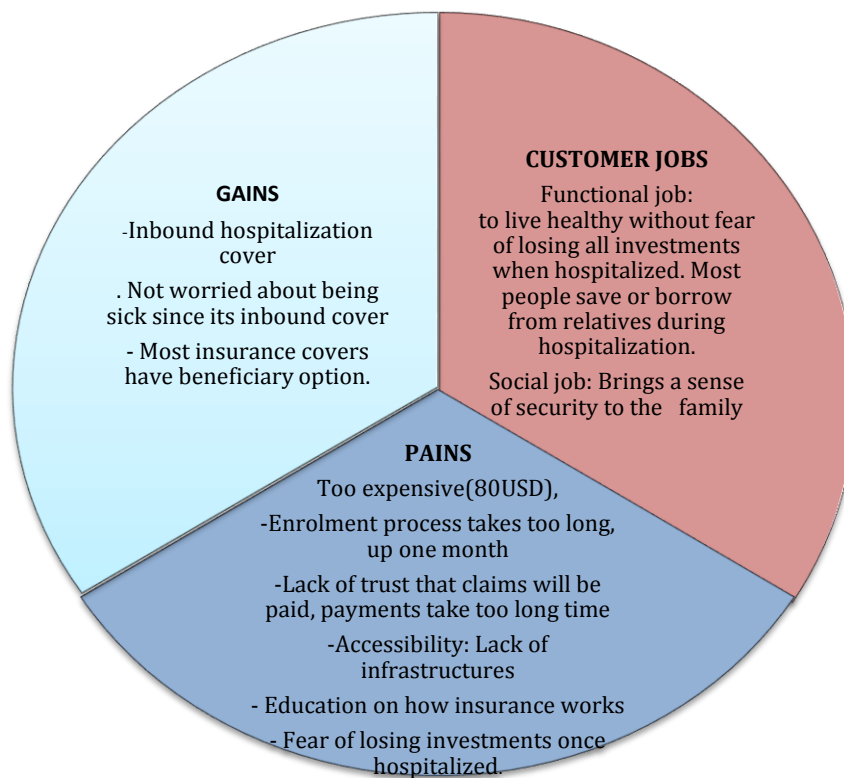

Figure 9 Tanzanian mobile microinsurance customer profile

Customers

BIMA have segmented their customers as low income earners above 18 years old who are uninsured and vulnerable to risks, the total premium of both insurance policies (Hospitalization and accident) is less than 20dollars per year. At first through partnership with TIGO, the mobile operator, BIMA targeted all Tigo subscribers about 11 million people. Through the customer data available from TIGO, Bima segments its customers into the following groups:

All Tigo customers who have a balance of more than ths 10000(5USD) in their mobile money accounts.

BIMA receives daily customer balance data from Tigo and the data analysis arranges the data bases on Amount of balance, Age, Location and marital status. By average, the operation manager says during our interview, he receives about 4000 new number of customers per day. These customers receive a text in their phone from Tigo being informed that TigoBima agent will call to explain about the insurance product.

The first contact the customer encounters is a SMS from his mobile operator, so from this point the customer believes he is dealing with his mobile operator, this is done to build trust as assistant director reveals in the interview. TIGO is a very trusted brand

The second encounter is when Bima insurance agent calls the customer to sell two products. Farijika (Accident insurance) and HP (outpatient insurance). At this point, the agent introduces himself\herself as a representative from TIGOBIMA.

During my observations I noted that some agents mention only as representative from TIGO. Using TIGO brand gives agents the credibility to speak about insurance, 'Tanzania has very low penetration of insurance, educating the benefits and building trust are the most essential aims of agents making the calls' said call center manager.

The second segment consists of Renewal Customers

Renewal customers are those are having a microinsurance policy but it is going to end in three months' time. BIMA has 20 agents who are dedicated in calling these customers to recheck and remind the customers to renewal the policy. The last finding from the data was categorized in value map as shown in figure 9 of value map below,
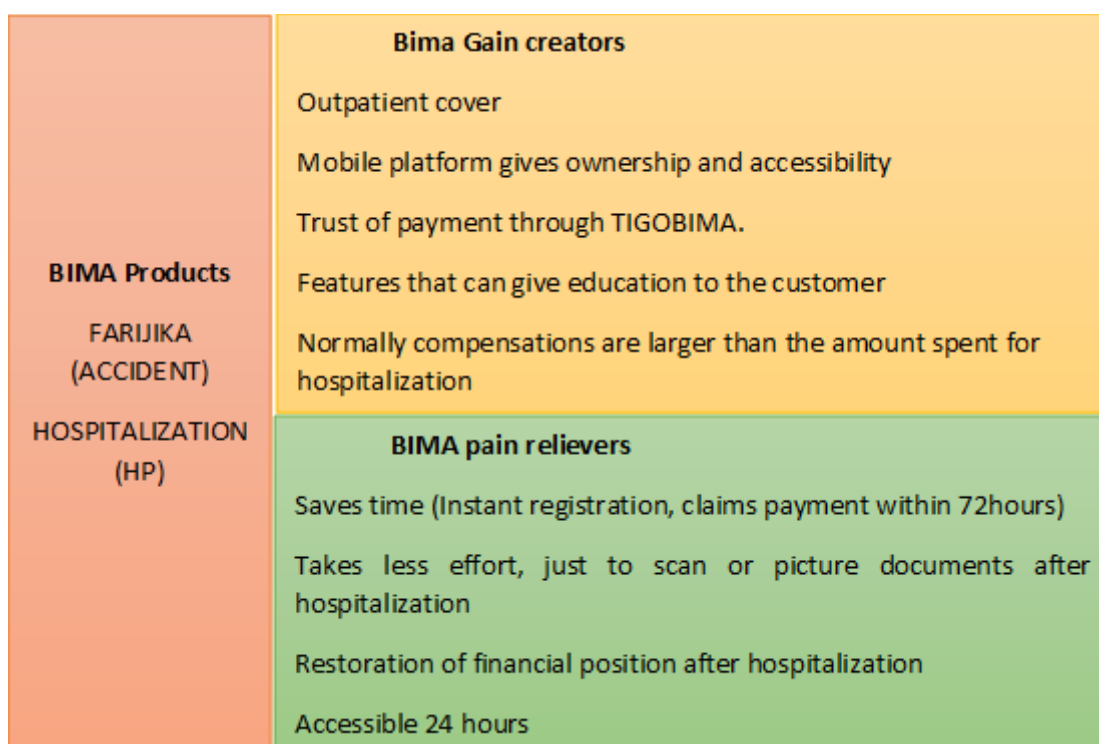
Figure 10 BIMA value map (Goshashy, 2017)

Bima Products

BIMA offers two main mobile microinsurance products, Farijika as accident insurance and HP as an out bound insurance as shown in table 5 of product characteristics.

Name of the product	Type of cover	Price and duration
Farijika. (Accident insurance)	Hospitalization after accident. (15usd per night of hospitalization). 1500 USD as claims settlement for permanent disability or death caused by accident.	1 USD for 3 months 2.5 USD for 6 months 5 USD for 12 months
HP(Hospitalization)	Covers for hospitalization caused by sickness. (20USD per night).20 USD per night as claims settlement for up to 40 days of hospitalization	1.5 USD for 3 months 4 USD for 6 months 8 USD for 12 months

Table 5 Types of BIMA products and characteristics

To analyze the above findings from the four figures I presented, I will define how BIMA has used mobile money to design mobile microinsurance products to achieve FIT. As Osterwalder (2014) described, *Achieving Fit* is the process of designing value propositions around products and services that meet jobs, pains, and gains that customers really care about. Fit between what a company offers and what customers want is the number one requirement of a successful value proposition.

Bima has designed FARIJIKA as mobile microinsurance product that covers 20usd for every day the insured person is hospitalized. The traffic situation in Tanzania is vulnerable to accidents and many motor drivers are worried of losing all their investments (savings) when hospitalized.

It is common for Tanzanians to save (put money aside, not necessarily in banks for unforeseen events such as sickness, accident). BIMA, s Farijika addresses this worry for a subscription of 8 USD per year. The product also settles 1500usd in case of death or permanent disability caused by accident. The claims payments are fixed, as in same amount despite the cost of hospitalization. BIMA has created gains for customers by restoring them their financial position after being hospitalized for a very low subscription cost compared to compensation.

Through HP product, BIMA has addressed the customer jobs in a different way than other life microinsurance products by being the only cover that offers outbound compensations after being hospitalized. The rest of Tanzanian life insurance products are inbound insurance.

BIMA has used TIGO's mobile money ecosystem to create credibility and trust that claims is paid. As discussed on the mobile microinsurance landscape in Tanzania, one of the reasons there is a low penetration of insurance in Tanzania (3%) is from lack of trust from the customers whether claims are settled. BIMA has marketed its products as from TIGOBIMA, leveraging Tigo's mobile money market of 11 million to receive relevant data about the customers.

The mobile money platforms allows for accessibility 24 hours, as customers has to dial the USSD code for registration and payment through his mobile money account. The platforms allows also claims to paid more fast by BIMA products (within 72 hours of

receiving documents which need only to be scanned or pictured) compared to other products which requires visiting the actual office to submit paper work and verification of identification. BIMA has relieved accessibility pain that customers faced.

The two products offered by BIMA, Farijika and HP has reached some fit by doing the functional jobs of customer segments in accident, and hospitalization.

3.5 Ethical issues in this research

The management of BIMA has all the rights to decide what materials can be revealed to the public, as this research looks at the business model, there might be areas where they might want to protect their trade secrecy. Some materials or what I observed are not revealed therefore such as TIGO's contact with BIMA.

 Another ethical responsibility is to preserve the anonymity of the participants. Since I was observing agents and listening to their calls, their names are not mentioned.

Another ethical issue arose from the participant observation as a method of collecting data, whereas I was involved as a co-worker with BIMA's staff for one month. The relationship formed during the research period is a challenge for me as a researcher.

4   DISCUSSION AND CONCLUSIONS

The purpose of this study was to research and analyze how mobile microinsurance products are designed using mobile money in Tanzania. The platform of mobile money is leveraged in providing financial services in Tanzania and other developing countries such as microfinance and microinsurance. This chapter concludes the study with research summary, contribution to existing literature and practical implications

4.1   Research summary

The business model adopted by BIMA reveals that mobile money is leveraged to provide different functions in the mobile microinsurance value chain;

In the beginning when BIMA entered the market, it used Tigo brand name to assure the market that the products were trustworthy and claims are paid. Tanzania with a low insurance penetration rate of 3 %, it was necessary to build trust to the market, hence Tigo-Bima was well accepted in the market because of Tigo's brand trustworthiness. The first function of mobile money to offer microinsurance products is **brand trust**. BIMA achieved this by creating TIGOBIMA.

The second function of mobile money platform is to provide **market penetration** through freemium microinsurance product from BIMA. At first, BIMA introduced its first product free for TIGO mobile money users who transacted more than 100usd per day. (Insurance was activated for a mobile money user and notified about the policy). This helped TIGO to reduce churn (switching to M-pesa mobile money) as customers gain by using Tigo mobile money. It also increased average revenue customers spends on Tigo as customers wanted to gain free insurance. As the market matured, BIMA moved to voluntary products of Farijika and HP.

The third function of mobile money is to provide **transaction data**. BIMA receives information from TIGO about customers balance in their mobile money accounts; this information is analyzed to help segment the customers in accordance to their ability to pay and given to agents in form of call sheets. Assistant director explains that transactional data from mobile network operates allows BIMA to study consumption behavior of theirs customer and use these different data variable to target specific customers, design the

products pricing and payment mechanisms. Agents use this data to personalize their conversation to customers

The other functions of mobile money in microinsurance are discussed and compared with other life microinsurance products in the following figure 11

Feature	Typical life microinsurance product in Tanzania	TIGOBIMA products
Enrolment	- Long process for paperwork. (Medical check-up) up to 1 month. - Eligibility for verification	- Instant registration by dialing a USSD code from Tigo mobile money menu. - Electronic signature on customer phone through security codes.
Premium collection	- Payments collected through bank account transfers and cheques. - Policy lapses upon repeated failure to collect premium	-Collection of premium through Nano sized structure. - Ability to 'catch up' on missed payments
Product complexity	Complex set of exclusions, terms and conditions	-Very limited exclusions. -Terms and conditions are sent over SMS in plain simple language.
Pricing	Price is differentiated based on individual risk.(Age, medical history)	Flat fixed pricing and benefits for all customers
Claims payments	Process takes up to 2 months and requires extensive documentation	Claims processed in 72 hours upon presentation of all documents.

Figure 11 Designed TigoBima products compared to other products (Goshashy, 2017)

BIMA has used mobile money to differentiate itself in the Tanzanian market by addressing the market leveraging on the acceptability and penetration of Tigo Pesa. (Tigo Mobile money ecosystem). TIGO is therefore the key partner for BIMA business model, BIMA's own agents provide the distribution of products using mobile money data.

The role of partnership in designing mobile microinsurance products using mobile money.

Findings reveal that partnership are critical in designing mobile microinsurance products since the value chain involves different stakeholders.

Mobile operator provides the mobile money platform (Brand name, means of collecting premiums and settling payments, marketing data) and gains from the value chain through reduced churn from customers, increased revenue per customer and profit shared.

Insurance companies who have lacked distribution channels and knowledge of managing microinsurance products provides re-insurance and underwriting services to intermediaries companies that have specialized in microinsurance market, they gain from the profit shared from premiums.

Specialized intermediary fin tech firms like BIMA specialize in designing products that create value to the market, manage policy and detect frauds and educate the market. They gain through the profits shared from premium collections.

Customers gain through affordable microinsurance products (8 USD per year) that accessible all the time through mobile money platform. This helps them to manage risks much more effective and increase financial inclusion in developing countries.

The role of agents in mobile microinsurance value chain

The business model canvas reveals that agents' salaries form the biggest cost for the company. Since this is a mobile microinsurance business it could have reduced cost having an agentless system or leveraging on Tigo's mobile money agents. BIMA has opted to use its own agents for providing effective education to customers considering low penetration rate of insurance in Tanzania.

Furthermore, agents enable BIMA to reach effective scale with minimum frauds. Agent's calls are listened and controlled through live barging system. Customers are registered online with their mobile money identification without medical checkups, the role of agents is make sure customers have registered collect and have paid their subscription on time. Renewal agents only calls existing customers to remind them about policy expiry.

4.2 Validity and reliability of the research

Participant observation is conducted by a biased human who serves as the instrument for data collection; In this case, I am a Tanzanian who does not live in Tanzania, hence I was familiar with the language spoken by agents (Swahili), understanding the local language and culture helped to create trust between me, the researcher and the researched object (The company-BIMA). This trust enabled collection of reliable data from the semi structured interviews and key documents from the company.

The observations I have made to fill in the business model and define how mobile money is leveraged are based on my own observations, however the data is valid since together with key participants we profiled the Tanzanian microinsurance customer, filled in different functions from of business model segments. Key participants had a chance of reviewing their answers by checking the figures I created after findings

However, I do not know to which extent the intervieews and agents altered their behavior because of my observations. Since agents were aware that I was monitoring their calls.

4.3 Practical implications and suggestions for further research

This research has revealed different how BIMA has achieved fit through the two products it offers; however achieving fit is a continuous process, BIMA should constantly redesign the value proposition canvas developed and examine whether customers have new jobs to be done, new pains and gains and redesign the value to achieve fit.

No value proposition can solve all customer jobs, BIMA can try to penetrate further in the market by offering other types of microinsurance products such as funeral insurance (Since majority of the people lose their investments during funerals also, agricultural insurance (75 % of the population depend on agriculture)

Moreover, BIMA should simplify the way it receives documents for claims. During my interview with claims manager, he said that he has to use his own WhatsApp number to accept pictured documents. BIMA should adopt social media channels to receive claims documents, WhatsApp, Facebook messenger, channels that people have easy access with. Tanzania has high penetration of mobile internet. This will not only improve the process but become a claim testimonial that claims are paid. (Co –creation of value)

The company can also focus in increasing automation of its services since agents' job is to make a phone call and follow a script already provided. A computer based calling system, where customers can dial and receive information. This will reduce the huge costs the company incurs to manage agents.

Furthermore, the same ecosystem of how mobile money is leveraged to offer mobile microinsurance products discussed in this research can be utilized to provide other financial services such as micro finance.

Other students and researchers can investigate other areas and problems identified in this research such as claims process in mobile microinsurance, using mobile money agents in providing mobile microinsurance or any other financial service, and comparing Tanzania mobile microinsurance market with that of other country.

REFERENCES

African Development Bank. Financial Inclusion and Integration through Mobile Payments and Transfer. Tunisia. 2013

Alexander Osterwalder & Yves Pigneur. Business model generation. 2009. Amazon library. USA

Chishti Susanne, Janos Barberis. The FINTECH Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries.2016.

CGAP, Infographic: Tanzania's Mobile Money Revolution, Retrieved on December 2016, http://www.cgap.org/data/infographic-tanzanias-mobile-money-revolution

Cenfri, Cenfri Learning Journey retrieved on Jan 2017. http://cenfri.org/documents/microinsurance/2013/ILO1316_Cenfri_Learning%20Journey_Final.pdf

DeWalt, Kathleen M. & DeWalt, Billie R. (2002). *Participant observation: a guide for fieldworker*s. Walnut Creek, CA: AltaMira Press.

Economides Nicholas and Przemyslaw Jeziorski, Mobile Money in Tanzania. NYU Stern and Duke University. 2015

European Central Bank (ECB). (2012). Virtual Currency Schemes. ISBN: 978-92-899-0862-7. Retrieved June 18, 2014 from http://www.ecb.europa.eu/pub/pdf/other/virtual-currencyschemes201210en.pdf.

European Union. (2009). DIRECTIVE 2009/110/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL Retrieved September 28, 2016 from http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:267:0007:0017:EN:PDF.

Guest, Greg; Namey, Emily E. and Mitchell, Marilyn L. (2013) Collecting Qualitative Data: A Field Manual for Applied Research. London: Sage. Chapter 3.

GSM Association (GSMA). (2009a). GSMA Mobile Money for the Unbanked. Retrieved April 12, 2014 from http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2009/09/FINALmmu_2009_annual_report.pdf.

Gikonyo Thomas. The effects of mobile phone technology on the growth of microinsurance in Kenya.2012. University of Nairobi. Nairobi

Gilman Lara, The impact of mobile money interoperability in Tanzania, GSMA publications. 2016

International Finance Corporation. Achieving Interoperability IN MOBILE FINANCIAL SERVICES. 2015. IFC, Sub-Saharan Africa.

Jenkins, Beth. 2008. "Developing Mobile Money Ecosystems." Washington, DC: IFC and the Harvard Kennedy School.

Jussila Aarno, Mobile Money as an Enabler for Entrepreneurship: Case Eastern Africa, Master's thesis -Aalto University.2015

Lehdonvirta, V. & Ernkvist, M. (2011). Converting the Virtual Economy into Development Potential: Knowledge Map of the Virtual Economy. Washington, DC; infoDev / World Bank. Available at http://www.infodev.org/publications.

McGrath, F. (2013). Mobile Money for the Unbanked 101, GSMA Mobile Money for the Unbanked. Retrieved June 3, 2014 from http://www.gsma.com/mobilefordevelopment/wpcontent/uploads/2013/07/MMU_Mobile-Money-101.pdf.

Prashad Pranav, David Saunders and Aparna Dalal. MOBILE PHONES AND MICRO-INSURANCE. ILO's Microinsurance Innovation Facility, Microinsurance paper no 26. 2013

Strom Matilda, The Business case for client centricity. 2015 Mastercard foundation. Retrieved on 2.01.2017 https://www.youtube.com/watch?v=iNrMiZ5M_QA

Saldana, Johnny. Understanding Statistics: Fundamentals of Qualitative Research. Cary, GB: Oxford University Press, USA, 2011. ProQuest ebrary. Web. 4 January 2017.

Tarazi, M. Logic behind branchless banking, Presentation at Role of Funders Workshop. 2012. CGAP, Brussels.

Téllez, Camilo. Emerging practices in mobile microinsurance. 2012. London, GSMA.

Tellez, C.; Zetterli, P. forthcoming. The global landscape of mobile microinsurance, 2014 CGAP Brief .Washington DC, CGAP

Wellington Jerry and Szczerbinski Marcin. Guides for the Perplexed: Research Methods for the Social Sciences (1). Oxford University press. 2007. ProQuest ebrary. Web. 4 January 2017.

Kawulich, Barbara B. (2005). Participant Observation as a Data Collection Method [81 paragraphs]. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, *6*(2), Art. 43

APPENDICES

Appendix 1: SUMMARY OF MY WORK AT MILVIK TANZANIA, 10th January-10th February 2017.

Week 1.

Understanding the customer journey circle. (How every department works?)

Work with renewal team, strategizing different methods (competitions, coaching) for improving renewal rate. (Rachel and Raymond)

Live barging for 3 renewal sales agent.

Making Personal improvement plan (PIP) for 3 renewal agents and coaching them.

Personally making 3 calls to renewal customers to experience customer needs.

Week 2

Designing customer flow script for the programmer in English and Swahili.

Work with claims department to detect possible difficulties. (How to reduce the abandoned call rate, it was 55% in December 2016. Discussing with Albert, how to reduce the rate.)

Claims department spend most of their time educating the customer on how to make claims not processing claims. We agreed with Albert that agents must mention to customers what documents they need while making claims.

Coordinate with training department (Anastasia) on insisting to agents to mention what documents are needed while making claims and how to send them.

Redesigning the customer flow chart after Ashwin feedback.

Coaching the new premium agent on how to sell both products and motivating her.

Helping IT guy on making Bima mkononi website.

Week 3

Working at the call center with Jamal on organizational and professional issues. Understanding roles of team captains and supervisors.

Preparing daily activity schedule for supervisors and team captains.

Visiting various bodaboda communities with Raymond, collecting data for their hospitalization and accident needs, give the feedback to Donald.

Visiting Jubilee and Nakuroi (selling corporate packages) with Raymond.

Making 10 calls to customers and redesigning the customer flow chart

Meeting and training team captains on their daily working activities.

Meeting and coaching supervisors on how to manage better their times and work.

Week 4

Discussing with Jamal on how to improve departmental communication. (Held the first meeting on Wednesday and we have agreed to have regular Monday sales meeting on communication and sales)Visiting to town and Masaki to 4 insurers to establish official working relationship. (Donald)