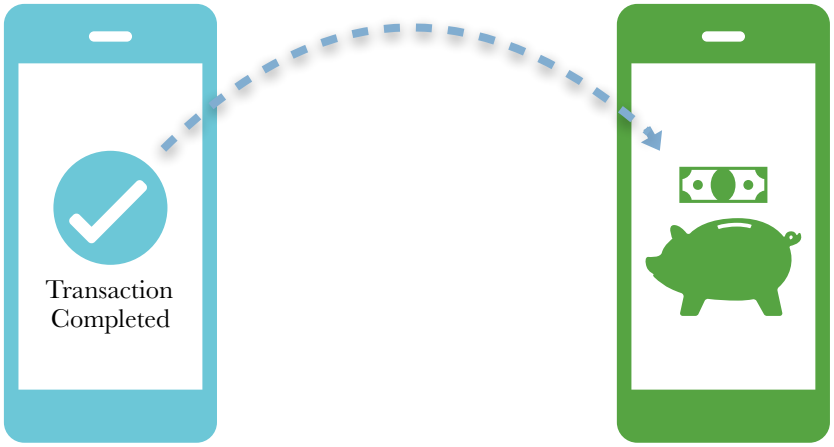

The Digital Revolution in Financial Services

The Case of Financial Inclusion: What can developing countries learn from the mobile money success in Kenya, and what spillover effects can this lead to?

A Master Thesis Written by Rebecca Hjelmervik and Helene Borud
Student Numbers: 115493 and 116095
Supervised by: Abayomi Baiyere

Copenhagen Business School

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Abstract

This thesis argues that there are several factors influencing adoption rates and success of mobile payment solutions in developing markets. Thus, a successful implementation of the service may lead to the multiple spillover effects identified in the study. To fit the scope of this study, a case country and company will be utilised to analyse mobile payments through an International Business perspective. To understand the underlying conditions affecting adoption rates this study will take a qualitative approach to determine why mobile payment services has experienced such immense growth and success in Africa. Data was collected using semi-structured interviews with representatives from World Bank, Gates Foundation, and UN organisation Better Than Cash, amongst others. The Technology Acceptance Model and Technology Life Cycle Model will be used to assess adoption rate, whereas development economics is applied determine potential spillover effects. The results showed several reasons for the fast adoption rate. First, the high mobile penetration rate in Kenya. The digital infrastructure was already there, so all Safaricom had to do was provide the service. Second, the proportion of unbanked Kenyans. Inhabitants were desperate for a better solution to bearing cash, which is why mobile money committed to efficient, secure and convenient transfers. Third, the regulative environment in Kenya accommodated entrepreneurial spirit and innovation. When allowing for technology to flourish, Safaricom were able to continuously develop their service to meet the need of consumers. Female empowerment, a higher financial inclusion rate and increased efficiency and security has been identified as the most important spillover effects.

Keywords: Financial Inclusion, Technological Development, Mobile Payments, Mobile Money, Technological Adoption, Spillover Effects, M-PESA, Kenya.

Abbreviation List

P2P = Peer to Peer

B2B = Business to Business

P2G = Person to Government

Ksh = Kenyan Shillings

USD = US Dollars

RQ = Research Question

FinTech = Financial Technology

SDG = Sustainable Development Goals

UN = United Nations

FDI = Foreign Direct Investments

UNDP = United Nations Development Programme

UN = United Nations

PU = Perceived Usefulness

PEOU = Perceived Ease of Use

ItU = Intention to Use

TRA = Theory of Reasoned Action

TALC = Technology Adoption Life Cycle

TAM = Technology Acceptance Model

DRC = Democratic Republic of Congo

CBK = Central Bank of Kenya

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1. Introduction

"We are about to enter a new phase of money. The future of money is programmable. When we combine software and currency, money becomes more than just a static unit of value, and we do not have to rely on institutions for security." (Neha Narula, 2016)

1.1 The History

The path from cash to mobile payments has at times been long and winding. From cash to cheques and the introduction of branch baking, the banking industry has seen an incremental evolution. ATM's or «cash dispensers» as they were called, were introduced in the late 1960s and marked the first revolutionary change in the financial industry (Railton, 1985; Barclays, 2017). From here on, the transformation of the banking sector has been driven forward by innovation. After the introduction of online banking customers could transact using their computer at home, which allowed for convenience and efficiency. With technological advances the online banking became mobile and is now something most banks offers smartphone users. This grants customers even greater accessibility, as it does no longer involve a computer but rather simply the phone you carry in your pocket everyday (Moser, 2015). The last, substantial disruptive technology to alter the banking industry is mobile money. It provides much of the same features as mobile banking, however, it does not require a smartphone with an app-function nor does it require an official bank account. Mobile money includes mobile banking but it goes a greater length to include those who are not smartphone or bank account owners (Lashitew, Van Tulder & Liasse, 2019). Even though

the banking industry has experienced a heavy technological transformation during the last decades it does not mean that the different alternatives are mutually exclusive - currently, they all coexist.

Though most developed countries have followed incremental steps when it comes to the advancement of the banking industry, evidence shows that this is not always the case for developing ones. In Africa, mobile money has opened endless opportunities for inhabitants who previously only could dream of opening a bank account. Africans now pay their bills, rent, school fees as well as transfers funds between relatives only by using their mobile phone (Lashitew et al., 2019; World Bank, 2017a). Traditionally, urban inhabitants sent cash via bus drivers who delivered them to their relatives located in the rural areas. This was not only time consuming (approximately 3 days) but also risky. There was no way of checking how much of the money arrived, or if it arrived at all.

1.2 Current State

Digital and mobile payments are on a rise and are currently being labeled as one of the most important tools to ensure financial inclusion for all. Furthermore, Demirgüç-Kunt et al., (2018) has identified financial inclusion as one of the most powerful tools to eradicate poverty. This establishes the cornerstone for this thesis and the cause and effect relationship between financial inclusion and poverty.

Dan Schulman, current CEO of PayPal declared that democratising financial services to improve people and businesses financial health will be the most important yet challenging opportunity in our lifetime (Centre for Financial Services Innovation, 2018). Globally, only 69 percent of all adults have some kind of account ownership. That leaves 1.7 billion people unbanked. 'Unbanked' is defined as being financially excluded, having no account with an official financial institution or access to mobile payment solutions. Naturally, the unbanked are mainly positioned in developing countries, as bank ownership is more or less universal in developed economies (Demirgüç-Kunt, Asli, Klapper, Singer, Ansar & Hess, 2018). Moreover, for people in developed markets, mobile payment solutions is considered a convenience. In developing ones, however, it is an advancement set to drastically

improve inhabitants life. Mobile money in developing economies is an inclusive innovation, as it widely enhance the living standard by offering a convenient and secure alternative to previously unbanked populations (Kaplinski, 2011; Pansera & Owen, 2018; Bansal, Bruno, Denecker, Goparaju & Niederkorn, 2018. This form of 'branchless banking' is particularly interesting in terms of developing countries and its advancement. Out of the 1.7 billion unbanked globally, 1.1 billion of these have a mobile phone. Knowing this, digital finance appears as a natural step towards a more inclusive, equal world (Demirgüç-Kunt et al., 2018).

The World Bank Findex report finds that the emergence of financial technology as a tool to increase financial inclusion has proven most valuable in the Sub-Saharan countries, which accounts for the largest adoption of any region in the world (Demirgüç-Kunt et al., 2018). This thesis will explore how mobile payments can work as an economic accelerator in developing countries with particular emphasis on Sub-Sahara.

1.3 What is Mobile Payment Solutions?

Mobile payments is a phenomenon placed under the umbrella term «digital payments». Though there is not one single, acknowledged definition for digital payments, the term essentially entails transactions from one part to another utilising electronic or digital channels for completing the transfers. The «paper versus non-paper» is one way to look at digital payment solutions. For instance, cash and checks are paper based payment instruments and are often associated with uncertainty. Digital payments, using this rationale, are the remaining instruments. This includes cards, direct debits, digital wallets and mobile solutions amongst others (Better Than Cash, 2019a).

Mobile payment solutions is simply the transfer of funds using a mobile device (De Bel & Gâza, 2011). The introduction of mobile money has enabled people to easily transfer and receive smaller amounts of money. As a consequence of this these micropayments have contributed to create new opportunities, especially in developing economies. For instance, in Kenya and Nigeria low-cost private school Bridge International are mainly receiving their school fees and paying teachers via

mobile money (World Bank, 2016). This has proven as a cost-efficient business model. McKinsey researchers identify two potential purposes of mobile payment solutions: it can be a mean to increase financial inclusion and a profitable business opportunity in previously unexplored markets with immense potential. (Bansal et al., 2018)

Several advantages has been recognised for digital payments as opposed to cash-based societies. Firstly, due to the speed and efficiency of the transaction it is a cost saving option. Though digital instrument providers may charge fees, these are relatively small compared to the transaction costs of bearing cash. In Niger, inhabitants reduced travel times with 40 minutes daily after switching to mobile payments. This is due to the large distances to cash-out points, which are now replaced with the requirement of only having to carry a mobile phone (Demirgüç-Kunt et al., 2018). Secondly, it is more transparent and secure which has in many areas induced lower corruption and theft rates. For instance, the Afghan government developed a digital solution to pay the police through their phones instead of cash. Afghan police officers believed they had received a salary increase, when in reality they had only just received their actual, full pay. The system uncovered 'ghost' workers who had received unwarranted pay for decades, which in reality was merely corrupt police officials scamming the system (Blumenstock, Callen, Ghani & Koepke, 2015; Better Than Cash, 2019b). Thirdly, it makes financial services more accessible and easy to use. Inhabitants who previously have not been able to travel over larger distances or seen the importance of having a bank account are now able to be financially included (Better Than Cash, 2019b).

1.4 Research Question and Objectives

World Bank president Jim Yong Kim opened the World Bank/IMF annual meeting with a bold declaration: Universal access to financial services is within reach (Burns, 2018). Mobile payment solutions has been widely recognised as one of the most important tools to achieve this (Demirgüç-Kunt et al., 2018). As mobile payments appears to be an instrument of colossal significance, we find it highly relevant for it to be the focal point of our research. Consequently, this thesis will be a qualitative study on the adoption of mobile payment solutions and its impact on developing

countries. A more elaborate delimitation can be found in the methodology section. The research question this study will pursue to answer is as following:

The Case of Financial Inclusion: What can developing countries learn from the mobile money success in Kenya, and what spillover effects can this lead to?

To be able to efficiently and precisely answer our research question, we have found it helpful to establish some research objectives that will provide us with specific directions throughout the analysis.

1. Assess the rate of adaptation of mobile money services

2. Assess differences between gender, location and age

3. Assess risks and concerns with utilising mobile payments in developing economies

These were identified after determining our research question. We acknowledged that appropriate research objectives have to organise the study, narrow it down and function as a summary of what the study is set to achieve. The first objective will explore the underlying reasons for success and mobile adaptation, as this is crucial to later understand the impacts mobile payments may have. Then it will assess demographic differences within the case country and try to identify patterns. The third and last objective will investigate risks and concerns regarding mobile payments and will be

vital when discussing the future challenges and opportunities mobile payments face in developing markets. Moreover, this will provide some insights into why some may be lagging behind in terms of adopting to the technology.

1.5 Case Country Profile

Due to the scope and feasibility of our study, it was natural to choose a case country for our research. In order to establish determinants for adoption and potential spillover effects, we will focus on one specific country and its development path to obtain an in-depth understanding of the subject, before discussing this in the wider context of developing markets. The following section provides a glimpse over the situation in Kenya and a basic country profile. We believe this is needed to later understand the results and analysis section, as most interviewees had experience in the market and some of their statements may require elementary knowledge about the country.

1.5.1 Economic Situation

Kenya is located in the eastern Sub-Saharan area of Africa and despite the natural challenges associated with being a developing country, it has emerged as one of the frontier economies in Africa. World Bank now considered it the financial, economical and transportation hub of East Africa with a real GDP growth of 5 percent the last decade. Kenya has experienced a steep increase in GDP per capita, which is depicted in the graph on the next page. Even though the GDP per capita has more than doubled since year 2000, from 404 USD to 1595 USD in 2017, and the poverty rates have declined with eight percent points from 2006 to 2016, Kenya faces challenges with their limited ability to significantly reduce inequality and poverty. They also have wide disparities in opportunities and outcomes between gender, regions and the growing youth population (Demirgüç-Kunt et al., 2018; The World Bank, 2019b).

CIA reports that Kenya has a growing entrepreneurial middle class as well as a steady growth, but that the economic development has been harmed by corruption and weak governance. Agriculture contributes to approximately one-third of the country's GDP and is therefore considered the backbone of Kenyan economy. Roughly 73 percent of the population lives in rural areas and works at minimum part-time in the sector (D'Alessandro, Caballero, Lichte & Simpkin, 2015; CIA, 2018). To achieve the growth development goals set by the Government of Kenya, the future performance of the agriculture sector will be important to achieve the targets set for a significant acceleration in agricultural growth.

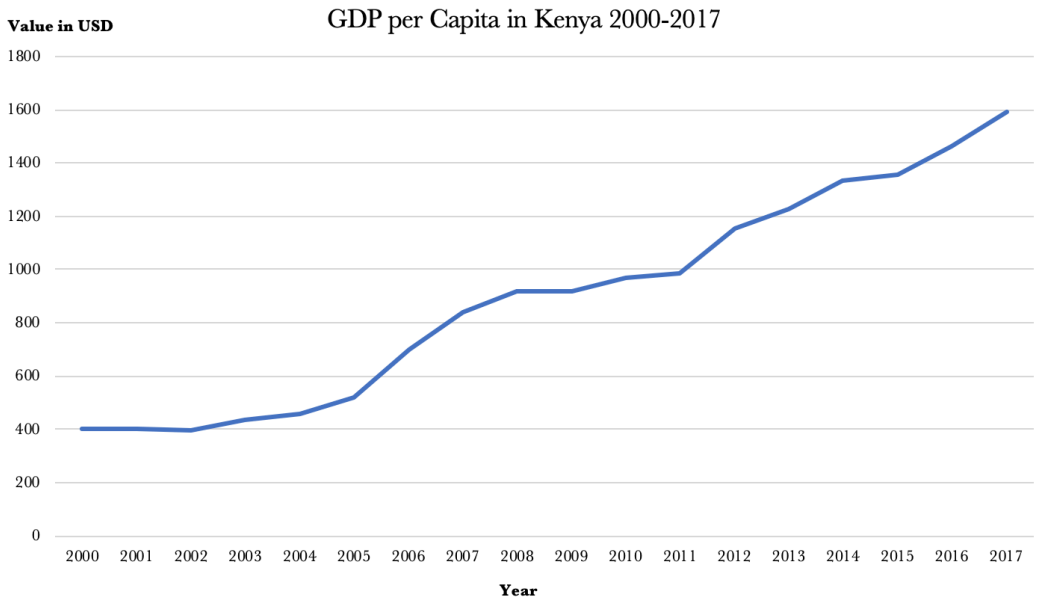

FIGURE 1: GDP PER CAPITA
Source: World Bank (2019a)

1.5.2 Process for Development

Kenya's key development challenges include climate change, inequality, poverty and the economy's vulnerability to internal and external shocks. This is evident in developing economies throughout; they have had considerable economic challenges that have continued to hinder trade expansion. The lack of financial solutions including credit facilities and access to financial services are the major problems experienced by the underdeveloped. World Bank (2019c) has put up incentives to further enhance development in Kenya and proposed significant structural, political and economic

reforms to drive social development, political prosperity and economic growth over the past decade. They predicts a growth in the gross domestic product (GDP) at respectively 5.8 percent in 2019, and 6 percent in 2020 (World Bank, 2019c). This hinges on growth in the private sector credit (the financial resources financial corporations provide to the private sector), the recovery of agriculture after severe droughts, easing of political uncertainty, global oil prices and management of public expenditure and debt.

In addition to fostering economic development, the government has established a long-term development plan called «Vision 2030», where it outlined the «big four» priorities, which are universal healthcare, food security, affordable housing and manufacturing, respectively (Vision 2030, 2019). More broadly, the plan aims to transform the country's agriculture from subsistence, to a more commercially oriented and competitive sector that can «meet the country's food needs, expand exports and become a key engine for forward growth» (D'Alessandro, Caballero, Lichte & Simpkin, 2015). The strategy is set to meet the government's economic growth target of 10 percent per annum. Vision 2030 is formulated in consultation with the government, consultants countrywide, civil society organisations and the private sector and is centred around three focal points.

First, improvement of the economy's competitiveness and sustainability to main rapid growth over a decade. Second, ensure all groups a share in advanced prosperity and help the vulnerable to fulfil their potential. The third and final is to build equity centred on devolution to ensure an effective transfer of resources to all people in all areas. Logistics and infrastructure are considered as decisive factors to achieve the set of goals, and the World Bank Group are engaging to increase productivity and improve business competitiveness through innovative financing and knowledge work (Demirgüç-Kunt et al., 2018).

1.5.3 Demography

Kenya is the world's 27th most populous country with its 52.2 million inhabitants (KNBS, 2019). 27 percent of these inhabitants reside in the urban areas, and the urbanisation rate of change is annually at 4.23 percent estimated on numbers from 2018 (World Bank, 2019d). The country has experienced an extensive population growth since the mid-20th century. This is a result of a high birth rate in combination with a declining mortality rate. Over 40 percent of the population are under the age of fifteen, this is mainly because of highly sustained fertility rates, early marriages and childbearing, as well as an unmet need for family planning. 21 percent of the inhabitants are illiterate, which is expected to decrease over the coming years as estimated proportion of completed education will prosper (World Bank, 2019e). World Bank states that Kenya has the potential to be one of Africa's "success stories" as a result of its dynamic private sector, growing youthful population and skilled workforce. Kenya has near universal primary school enrolment as this is a free service and later years shows narrowed gender gaps in education (World Bank, 2019b).

1.5.4 Payment Market

The payment market in Kenya is diverse and FSD Kenya (2019) asserts that 82.9 percent of all Kenyans are now financially included. Mainly, this takes place utilising mobile money platforms which accounts for 79 percent. In 2007, FSD Kenya described the card transactional infrastructure as still in its infancy, however, in urban areas like Nairobi card solutions are now widely employed (FSD Kenya, 2007). Traditional bank accounts and mobile bank accounts has experienced growth and today makes up for 26 percent and 30 percent, respectively. Apart from this, some financial activity occurs through the National Hospital Insurance fund (8 percent), but this fraction is considerably smaller than the other options and will, therefore, not be discussed further. Previously, the economy was mainly characterised by its use of cash (FSD Kenya, 2019).

Kenya has committed to facilitating electronic payments and implementing digital services in order to move to a 'cash-light' economy (GSMA, 2017). In Kenya, payments and government services has

traditionally been largely manual and paid for through government-appointed banks or in cash. Before digitising the services, the government fund collection was highly burdened by inefficiencies, pilferage and poor service quality. By promoting digital payments, the government's motivation and objective was to improve efficiency, accountability and transparency in public sector transactions and stop revenue leakages (GSMA, 2017).

The digitising of government payments in Kenya has increased accountability and transparency, and also the traceability of funds collected by the government. According to GSMAs report on P2G payments from 2017 digitising of payments has allowed government agencies to improve financial planning by understanding how each service contributes to the overall budget and minimise fraud as well as ensure better coordination and faster implementation between ministries, regulators and payment providers. However, the report states that the P2G services have not fully met the potential to reach the underserved, specifically the gaps based on gender, employment type and education level. It suggests that this is a reflection of the fact that government services are skewed towards the population that is male, urban and educated because of the user interface. Additionally, it recommend that it could be solved and then allow a fully uptake on P2G payments through innovation of easy-to-navigate mobile application software, a greater access to smartphones and a better integration into the service process (GSMA, 2017).

With the introduction of mobile money, Kenya leapfrogged directly from cash payments to mobile payments and skipped the bank process entirely (Respondent 1, 3). This could result in both economic security and efficiency for the Kenyan inhabitants, as well as function as a model for adoption for other developing countries.

1.6 Case Company Profile

As Kenya is our case country, we found it natural to choose M-PESA as our case company for the study. This is due to several reasons. Firstly, it is by far the largest provider of mobile payment services is Kenya. It accounts for 65 percent of the market share and is practically operating with a monopolistic position. However, this dominance is actually a steep decrease from 72 percent just one year earlier, in September 2017 (Communications Authority of Kenya, 2018; Njanja, 2018; Anyanzwa, 2018). Though this implies a boost in the competitive environment, Safaricom's M-PESA still performs as second to none in the Kenyan market. Secondly, M-PESA was discussed at such an extent during all our interviews that it would be impossible for us to neglect. Therefore, we believe it is necessary to understand the true role of M-PESA in Kenya as well as its way of operating in order to make sense of all information gathered from the interviews.

In 2000, Vodafone's CEO Michael Joseph teamed up with the Department of Development in the UK, joining forces on a new project that would develop financial services for the unbanked. Eager to foster innovation that could turn out beneficial for the poorer part of the population, Joseph was set on producing something that no-one has ever done before in Kenya. Their original idea of making a micro-finance institution resulted in a discovery of what was really Kenya's biggest financial issue. Those who received loans had to travel for days in order to deliver these to family members located in the rural areas. At this point, Vodafone abandoned their original plan in order to focus fully on mobile phone transfers for everyone. This was the start of M-PESA. "M" is the abbreviation for mobile while "pesa" is the Swahili word for money (Chuhan-Pole & Angwafo, 2011; Vodafone, 2017). It was launched in 2007, and provided unbanked people with an opportunity to easily receive and transfer money in a secure way (Vodafone, 2017; McGath, 2018). By the end of their first year, they had managed to get 1.2 million users signed up. Their success has only spiralled since then and during their 10 year anniversary two years ago, it was revealed that M-PESA at the time accommodated over 30 million customers in over 10 different countries (Monks, 2017). In Kenya alone, M-PESA processed 49 percent of country's GDP in 2017. This equals roughly 3.6 trillion Kenyan shillings or 32.8 billion US dollars (McGath, 2018).

Their ambition to be present in both rural and urban Kenya through phone communication is clearly demonstrated in their slogan, «Send Money Home» (McGath, 2018). They strive to decrease costs and eliminate distances. Instead of traditional branches, M-PESA operates with agents located on street corners all over Kenya, with an average distance of 1.4 kilometres to the nearest agent. Here, customers can convert their cash to electronic money. Before the launch of M-PESA in 2008, the average distance to banks was 9.2 kilometres (Vodafone, 2017).

After the introduction of M-PESA as merely a method for P2P payments, a change in user patterns in the utilisation of mobile payments created a need for adding further services to the platform. Some of the various services M-PESA now offers can be found in the table below.

Service	Function
Lipa-Na	In 2013 the service Lipa Na was introduced, that allowed the M-PESA users to pay for services and physical goods through their mobile phones. The success with this launch resulted in more services that has increased M-PESAs offer to all customer.
M-Shwari	A solution for saving money with interests up to 6.65%, as well as accessing micro credit loans with an instant reception in your M-PESA account with a facility fee of 7.5%. This is a solution for saving to all those who do not have bank accounts, or an easier solution to those who believe that saving should be «hassle free, with no forms to fill in».
Lipa Karo	A service with the purpose of collecting school fees through the M-PESA PayBill platform. It facilitates the easing the payment procedure, making it prompt and secure.
Changa na M-PESA	A service that allows the users to raise money for a certain purpose, e.g. weddings, educations, funerals and charity. This helps the collection procedure as well as consolidating the funds. Through this platform, you can save up to 10 times more than on a regular private customers account.
Government Services	You can pay directly to the government services through this platform at M-PESA. This includes land rents, all concerns about immigration hereunder birth and death registration and passport/visa/travel permits, and business concerns, such as registration.

FIGURE 2: M-PESA SERVICES.
Source: M-PESA (2019a; 2019b; 2019c)

1.6.1 How Does it Work?

Set Up An Account

Registration is a simple and efficient process. The client goes to any M-PESA agent with their ID and the agent will set up an electronic money account in their name, which is linked to their mobile phone number. This process is free of charge (Jack & Suri, 2011; Chuhan-Pole & Angwafo, 2011). Per now, it is possible to have up to three different accounts attached to each name. As Kenyans do not receive an ID until they turn 18, this operates as the age limit to the service.

Checking Your Balance

A balance check can be done in two ways. Either, the client can choose to pay a fee of 1 Kenyan shilling in order to receive their current balance or they can wait until they send money and it will automatically appear in an SMS on their screen after the transaction is completed (Safaricom, 2019d).

Deposit Cash Into Your Account

When depositing money into a M-PESA account, clients have to visit an authorised M-PESA agent along with their identification and mobile phone. After informing the agent how much one would like to top up the account with, the agents use their own phone to transfer e-money to the client in exchange for cash. Then, both the agent and the client will receive a text from M-PESA confirming the transaction. This process is free of charge (Safaricom, 2019d; M-PESA Charges, 2019).

To Send Money

M-PESA allows clients to transfer funds to any other mobile payment users, regardless if the recipient is a Safaricom user. The application is not limited to smartphones but is available to every phone with a text message function. On their phones, clients will see the Safaricom menu where M-

PESA is one of the options. Here, «send money» will be one of the alternatives. After entering the recipient's mobile number and desired amount, the user needs to sign using their PIN. A confirmation screen with details of the transaction will then appear before the money is officially transferred. Both parties in the transaction will receive a confirmation text afterwards (Chuhan-Pole & Angwafo, 2011; Jack & Suri, 2011; Safaricom, 2019a). M-PESA operates with different fees concerning the different options. For instance, it is free to do P2P transfers to other M-PESA users if the amount is below 100 Ksh. However, after this the client is charged a small transaction fee, starting at 11 Ksh which increases exponentially with the transferred amount. This rate is fairly higher for transfers completed to non-subscribers of M-PESA. The maximum transfer limit is 140.000 Ksh. daily while the maximum transfer amount is 70.000 (Chuhan-Pole & Angwaf, 2011; Safaricom, 2019e). Newly, M-PESA introduced Hakikisha, a new feature which allows clients to securely confirm who receives their money. The information will appear on the screen before carrying out a transaction. This was announced after a period of several wrongly, completed transactions. (Safaricom, 2019d).

1.7 Motivation and Relevance

As mobile payment solutions has proved itself as an effective tool to financial inclusion, we recognised the importance of a strengthened research area. For the sake of a systemic, organised justification we will breach the following section into three separate parts: the relevance for the existing academic literature, our own motivation for engaging in the research subject and a justification of why we have chosen Kenya specifically.

1.7.1 Part I. Academic Relevance

We established several incentives as to why we should carry out research in this field. First, we identified a gap in the existing literature. It is a rather new and unexplored area, compared to other traditional banking methods which is why we would like to make an actual contribution to the field.

Additionally, it corresponds well to the global nature of our degree, International Business, and will enhance our newly acquired skills through courses like «International Business in Emerging Markets» and «International Business Environment». These courses discussed development theory, emerging markets and the challenges and opportunities faced in business environments globally. Secondly, we wished to understand developing markets' payment industry and how its evolution can be so different to our own. As per now, much of the existing research is on mobile payment solutions in general or in developed markets. However, it presents an even bigger opportunity in developing countries as this is the area where the greatest allocation of the world's unbanked are located. This reveals a huge potential for not only businesses who can tap into previously unexplored markets, but also for the inhabitants in the particular country. Developed markets have followed incremental steps to arrive at the mobile payment solutions they have today, but by leapfrogging this process it can change the way we look at development. For instance, access to formal bank accounts does no longer have to be the natural association with financial inclusion. Even those who has previously been left out, for instance farmers in rural Kenya, have now the possibility to easily send and receive money.

Thirdly, mobile payment solutions are fundamentally different than traditional banking and is currently disrupting the entire financial sector. Its popularity amongst users worldwide add weight to the argument that it should, therefore, be equally important for researchers to look into and be granted it is well deserved space in literature. With the rapid development of mobile payment solutions and FinTech in general, it becomes increasingly important to have a comprehensive understanding of the subject in order to be able to make predictions for the future or to identify a pattern. Though there is already much research on the subject, we have identified a gap that we aim to fill. As will be discussed in the forthcoming literature review, the majority of existing research is centred around specific factors, e.g. female empowerment, savings, corruption etc., which mobile payments may influence. However, a truly holistic view that takes into account general enablers as well as the ramifications of mobile payments is still needed. By focusing on a specific region we will be able to deliver generalisable results, yet, within reason.

1.7.2 Part II. Personal Motivation

But, this research area is not only important in terms of our study programme or its current popularity. The area also is of personal interest to us as writers, and this curiosity and passion is essential when devoting such an extensive amount of time to a study. We have been inspired by courses that concerns similar research and theories and it was, therefore, a natural choice when deciding on our research matter. Our personal interest is rooted in our aspiration to learn more about the subject as well as try to pinpoint one or more aspects where mobile payment solutions may benefit a society. This is something we touched slightly upon in our 1st year Business Project and sparked a deeper, academic interest. At the time, we wrote about mobile payment solutions in Brazil. Though the approach and angle differed, it gave us insight into the opportunities mobile payments propose for developing markets.

1.7.3 Part III. Why Kenya?

As Kenya is considered the pioneer for mobile money in developing markets, researching their development can help map the direction for other countries in the future. 25 percent of the countries gross national product flows through the mobile money solution M-PESA, and it is used by over 28 million people (The Economist, 2015a). Due to this, Kenya has one of the highest mobile money penetration rates anywhere in the world and is considered the world's most successful mobile money market in terms of transactions volumes and uptake (The Economist, 2015; GSMA, 2017). Kenya is recognised as a country that has tremendous strides in financial inclusion, they improved FI from 19 percent in 2006 to 67 percent in 2013 and this journey would not have been possible without the mobile money solution (UNCDF, 2014). These reasons were the decisive factors as to why we chose Kenya. We believe that by looking at the leading African country and evaluate their success, we may be able to distinguish specific enablers, which again may be implemented in other, similar countries. Additionally, this study has social relevance as it can better help us understand the Sub-Saharan ways of behaving and operating, which differs from the Western culture.

2. Structure of This Thesis

This thesis will be divided into 7 central parts. Firstly, it started off with an introduction. This acquaint readers about the aim of the research with necessary background information regarding the concept, case country and case company. Secondly, academic theory will be discussed. The theories used in the thesis were chosen for their ability to get a broad understanding of the adoption of technologies, but also the possibilities that lies within the topic. Theories from the area of growth within development economics is presented, in combination with the frameworks of Technology Acceptance Model and the Technology Acceptance Life Cycle Model to get a holistic perspective of how the theory works and how technology can be implemented. Thirdly, the relevant literature will be reviewed. This is included to provide readers as well as researchers with a holistic understanding of the research field, both new and past studies, which will later be put into context with our own findings. Fourth, it will move on to the methodology part. This section focus on the particular methods and actions that have been applied during the research process. Fifth, an analysis will be carried out as a result of the data gathering process. It will start off by examining the research objectives and by investigating these, it will be possible to address the research question. Sixth, a discussion part will follow to debate the meanings and implications that follows the results. This is the part where this thesis' findings will be put into context with already existing literature and we will discuss how it answers our research question. Suggestions for future research and limitations will also be presented in this section. Lastly, the thesis will come to an end with a conclusive chapter. Here, we will sum up the most important take aways from the thesis.

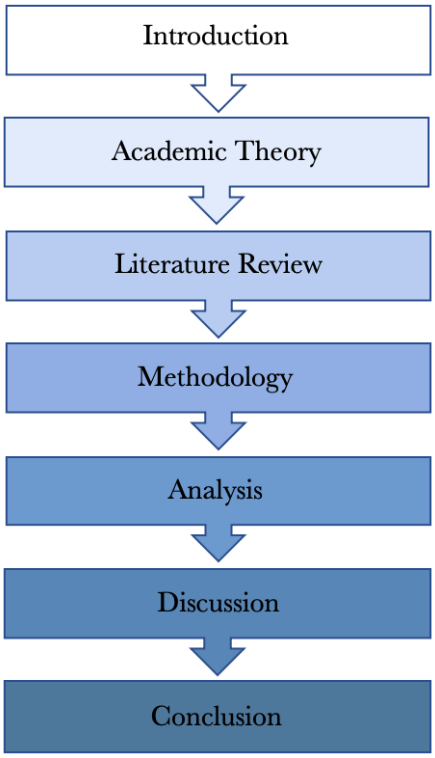

FIGURE 3: STRUCTURE

3. Conceptual Framework

This chapter will present the particular academic theories and theoretical framework that the thesis will be founded upon, which will put our collected data into a scientific perspective. The main intent for the following theories is to function as a tool in our data analysis and interpretation process.

It will be divided into two separate sections. The first section consists of concepts relevant for the thesis that needs to understood in order to later comprehend the analysis and discussion. Concepts will be clarified and distinguished in order to ensure clarity. The latter section is the academic theory part, where we will introduce three theories. Together, these provides the fundament for the analysis as they evaluate different aspects of our research question and ultimately contribute to a holistic academic perspective. The first theory is development economics. Its focal point is on understanding the environment of developing countries and how their challenges and opportunities may differ from developed ones. It is a broad economic field of research that will provide fundamental, scientific insights into the generalisation of development in Africa and mobile payments. The second theory is the Technology Adoption Life Cycle framework. This was chosen to help us easily categorise data before analysing it. The last theory is the Technology Acceptance Model. The incremental nature of the model will put the mobile payments data in context, from the beginning to the end and will ensure a clear, systematic analysis. All theories will be presented separately along with a clarification of how these will be applied in the thesis.

3.1 Concepts That Help Understand the RQ

Financial Inclusion

Financial Inclusion is the on-going process of establishing access to financial services whilst meeting the needs for all in a sustainable and responsible manner (Refera, Dhaliwal & Kaur, 2015;

Demirgüç-Kunt et al., 2018; Gates Foundation, 2019a). Financial services includes access to accounts, formal savings and transfers of funds. The concept is particularly used with respect to the poor, unbanked population who mainly rely on informal means of finance (Refera et al., 2015; Rebello, 2015).

Unbanked

An unbanked individual is one who do not have any official access to financial products or services and subsequently relies on informal, often insecure and risky means to manage their finances. Being unbanked is often closely related to poverty (Demirgüç-Kunt et al., 2018).

Mobile Banking

A digital form of banking that take place on a mobile phone app rather than a computer webpage, which is known as online banking. It is easy, convenient and simple for consumers on the move, however, it requires an official account with a financial institution (Lashitew et al., 2019).

Mobile Payments

«Usage of a mobile device» has frequently being used when defining mobile payment (Karnouskos & Fokus, 2004; Jacob, 2007; Goode, 2008; Pousttchi, 2008 Au and Kauffman, 2008) which can include laptops, tablets, and mobile phones. De Bel and Gâza (2011) have more recently defined mobile payment as «a transfer of funds in return for a good or service, where the mobile phone is involved in both the initiation and confirmation of the payment». It is also the definition that we use in the context of this study. Mobile payment is a broader concept as opposed to mobile banking, as it encompass all means of transferring funds through a mobile device. De Bel and Gaza's definition correspond with the view expressed by Contini, Crow, Merritt, Oliver & Moth (2011) who believe that there has been a shift from «enabling a mobile device to be used as a browser, accessing existing internet-based banking and retail systems to the use of an application-enabled mobile phone as a payment form, substituting for a check, cash or a card, to eventually create a mobile wallet».

Network Effects

Occurs when the value of a product or service increases exponentially with the user base. For instance, the value of mobile payment solutions increases as the user base expands due to more recipients equals a larger more valuable network for the users. This is the case for most information technology, for instance social networks, telephones, fax machines and email (Shapiro & Varian, 1999; Metcalfe, 2007; Reddy, 2018).

Herding

Also known as herd behaviour, exists when an individual is influenced by the behaviour and decisions exercised by their peers. Typically arises in everyday socioeconomic situations, for instance, restaurants or cinema choices may be based on recommendations from friends and family. However, this has also been proven to affect the adoption of new technologies (Banerjee, 1992).

Lock-In

When the costs associated with switching from one chosen product, brand or supplier to another are deemed too high, consumers face a lock-in. High switching-costs is a strategy often deployed by businesses to lock-in customers and ensure future relations (Shapiro & Varian, 1999).

Information Economy

Also known as «knowledge economy» or «post-industrial economy». It moves from an industrial view on economy to one characterised by a constant flow of information and knowledge through technology channels. However, it is not mutually exclusive with the manufacturing economy. Manuel Castells coined the term and emphasises the interrelationship at play between political, economic and social actors in the society (Castells, 2000).

3.2 Academic Theory and Framework

The aim of this section is to introduce the theories on developing economies that will be utilised to understand the development process, possibilities and obstacles as well as the frameworks of Technology Acceptance Model (TAM) and the Technology Adoption Life Cycle (TALC) model, which address the question of why such technologies has experienced success in the chosen market. Financial inclusion is a product of development and growth and the factors that determines growth are numerous and disparate, therefore one single theory is not possible to apply in such context. To understand the process of development for the mobile money sector in developing markets, the theory section will be used as a guidance part to lead the way for the analysis. There is a scant research area on the relation between mobile financial services, financial inclusion and development so this thesis will combine theories on how the users of such services perceives and utilises the technology, which again leads to a chain of events of more users and development of the products.

3.2.1 Development Economics

Development Economics is the study of why some countries are rich and some are poor, and focus on the economic aspects of the low-income state. It revolves mainly around income growth, welfare, agriculture, labour and resource economics. These topics are typically also covered in traditional economics, however, the traditional economics theories are not always applicable to developing countries due to the particular structural challenges they are facing (Taylor & Lybbert, 2015). Hence, the need for more specific research is present. Because economics is a social science, one cannot predict the ultimate outcome with any model, but it can help us understand which factors configure and shape future outcomes and why they do so. Richard Nelson and Sidney Winter (1974) argue that in economics, theory is more a set of basic premises to delineate the phenomena that needs to be explained in an acceptable way. The theory can point towards key explanatory mechanism and variables, but generally one should and must be flexible about the expected conclusion. Development economics states that there is a difference in the development pattern of

developed and developing countries, and therefore the theory aims to understand the economic aspect of the development in these low-income countries (Todaro and Smith, 2015).

The theory emphasises the importance of having an open market competition to make it possible to be competitive on a world scale and maintain an efficient economy. Excessive state involvement can result in inefficiencies of the state-planned economic systems. Some countries such as the Asian Tigers (Singapore, Hong Kong, South Korea and Taiwan) which all economies grew fast during the 1980s and maintained these high growth rates because of the rapid industrialisation, the government was involved, but opened up for competing on the world market and invested heavily in, among others, education (Page, 1994). This was also the case for Kenya in 1990s after two decades of stagnation in the economy; the government opened up for the global economy through adoption and liberalisation of interest rate regimes and an outward-oriented industrial policy (Gertz, 2008; Kinyanjui, 2014). These types of involvement showed that when markets are inefficient, economic involvement from the government can function as a stabiliser and may improve welfare. This evidence can also be proved through the market-friendly approach presented by Todaro and Smith (2015). Their approach recognises the imperfection in developing nations and thus argues that intervention from the government is an effective means of adjusting such imperfections.

Later, the relevance of micro-level factors and project evaluation perspective became important for the research. In richer countries, development is often equated with growth, which is also the ultimate aim. However, in developing countries a development economist would say that economic development is not equal to growth. Developing countries are facing so many various challenges, that projects are generally related to satisfying the basic physical needs and battles challenges like poverty, malnutrition, health and inequality as well as development of the mind through education (Taylor & Travis, 2015). A great deal of development economists' focus relates to discovering how inequality in poorer countries brings obstacles or intertwine efficiency. For instance, a common challenge is rural areas residents who are unable to get bank accounts and loans because the banks are unwilling to provide these services to the poorest. Subsequently, these residents cannot acquire insurance and is, therefore, left in an even more risky position when it comes to protection against

sickness and crop loss. Research on inequality and efficiency breaks in theory down to that a person's capacity to produce and consume depends on how the wealth is distributed to start out with, because the competitive markets' basis assumptions does not often hold for the poorest members of society (Banerjee, 2009).

Development economists perceives capital investment as the key to growth. A country's income is a main component for economic development and progressing is difficult without economic growth. The neoclassic growth model first presented by Solow in 1956 is used to generate insight about complex patterns throughout economies worldwide (Taylor & Travis, 2015). It suggests that to determine and analyse why income grow over time, one must have a model to show how income gets «produced», and hence, the production function was established. The production function aims to summarise the relationship between outputs and inputs in a market or a production. Later on, technology was added to subsidise as a factor in the formula, as it is perceived to increase productivity and hence increases the labour and capital in the economy (Taylor & Travis, 2015). Because of criticism regarding the impact of technology as only labour in the model, a new generation of growth theory was created, endogenous growth theory, to emphasise the technological change and spillover effects, while explaining the difference in income growth over time.

The most important factor of this theory is that by raising the level of technology, the country is also raising knowledge spillover effects. The knowledge spillover is new ideas that ultimately increases productiveness. The endogenous theory is a proof of how new theories emerge as existing ones occasionally prove insufficient in answering pressing matters. The theories focuses on different determinants, where the neoclassical one focuses on the physical aspects or valuable objects such as raw materials, factories or infrastructure. The endogenous theory states that the development is lagging in poor countries because the citizens do not have access to the ideas that generate economic value. Romer (1993) classifies the former as an «object gap» and the latter as an «idea gap», and to close these gaps it requires investment and saving, hereunder development of well-functioning legal institutions and good macroeconomic policies.

Development economists broadly agree that institutions matter, but disagrees to what extent as empirical evidence struggle to compare them with other potential factors for development. Biases affects the attempts to estimate its influence on growth, but it is clear that institutions shape economic development, and that economic development can enable countries to shape an even stronger institution. Though institutions should encourage innovation in order to stimulate growth, the diffusion of technology may be more effective and matter more at the early stage of development (Sachs, 2012). Eventually, as the development process advances the environment will be more suitable for innovation.

3.2.2 Technology Acceptance Model

Access is a prerequisite for adoption of mobile money, but to actually take up the system for usage also depend on the provided service quality and individuals decision (Nielsen, 2013). Adoption of the technology is a voluntary choice that will only materialise when it offers benefits compared to the alternative methods that are already present, in combination with a risk assessment and the decision of establishing trust in a new system (Mas & Rotman, 2008). Intuitively, a cost-benefit dilemma can be explained by how the attitudes towards mobile payment systems are shaped. Physiological and personal traits such as trust, knowledge, personal control and need; the customers behavioural beliefs concerning the technology; social aspects like norms, pressure and familiarity; the technology itself, hereunder transaction time, presence of attractive benefits, the level of divisibility, simplicity, cost and also the availability of more appealing mobile payment systems and the associated costs are all contributing to the choice of adaption (Douthwaite, 1999; Schuh and Stavins, 2010; Tobbin and Kuwornu, 2011; Dzokoto et al., 2016).

To assess technological use and success the thesis will use the Technology Acceptance Model (TAM) first pioneered by Davis (1989). The model predicts consumer behaviour and user acceptance of new technology by specifying relationships between beliefs and attitudes, influenced by external variables. It builds upon and expand the Theory of Reasoned Action (TRA) introduced by Fishbein and Aizen (1975). The TRA considers the consumers as rational in their behaviour and are thus,

before adapting to a given stance, able to reflect upon all possible outcomes of their actions. This theory is a straightforward perception of an individuals potential attitudes and imposes strong assumptions on their ability to make decisive attitudes. TRA suggests that a person's behavioural intention depends on that person's attitude towards the behaviour and perceptions of the behaviour. Both objective and subjective norms as «would I do this sort of thing normally?» and «would other people in the group do this?» are standards to describe the TRA model. TAM on the other hand, functions as an extension of the TRA by explaining that the adaption of new technology is caused by a behavioural intention to accept and use (Malhotra & Galletta, 1999). Below, you will find an illustration and presentation of TAM.

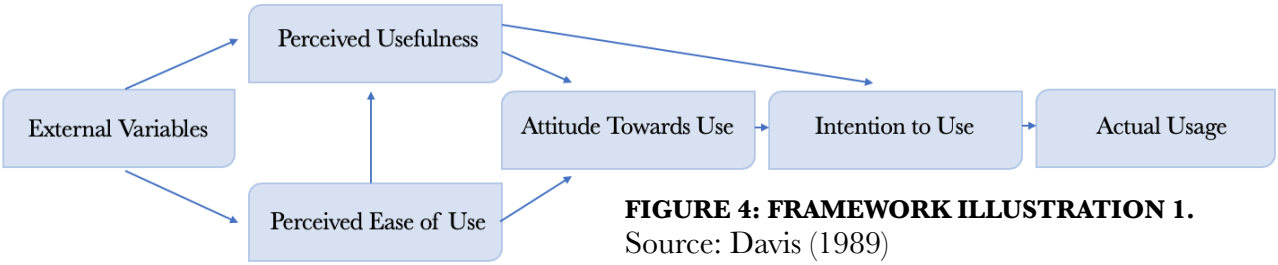

FIGURE 4: FRAMEWORK ILLUSTRATION 1.
Source: Davis (1989)

The intention behind the behavioural aspect could be explained as a binary variable between non-users and users and are defined by behavioural predictors *perceived usefulness* (PU) and *perceived ease of use* (PEOU).

External Variables

TAM suggest that the impacts from the external variables, such as development process, training and system characteristics, are used to mediate the perceived ease of use and perceived usefulness (Venkatesh, 2000). External variables are, amongst others, cultural, political, economical, environmental and social factors influencing a consumers belief regarding technological advances and the use of them. Ultimately, these factors are the drivers of actual usage (Burton-Jones & Hubona, 2006). However, factors can be extended or scaled down, it depends upon the research

question at hand and the relevant factors surrounding it. In this thesis, cultural, political and social will be assessed as they have proven the most appropriate for the purpose of this study. These were selected on the basis of scope, nature of the research question and relevance. After careful consideration, we believe these 3 will prove most influential in determining Kenya's adoption. This is rooted in the data we collected and will be discussed further in the analysis section.

Perceived Usefulness

The purpose is to explain use and pursue a better measure for predicting. Davis (1989) explains perceived usefulness as «the degree to which a person believes that using a particular system would enhance his or her performance». PU has been deemed the most decisive step in the model.

Perceived Ease of Use

PEOU is described as «the degree to which a person believes that using a particular system would be free of effort» (Davis, 1989). Heyer and Mas (2011) claims that the perceived ease of use ultimately will depend on the quality of the service and how far the ecosystem reach, hence the current demand for mobile money based on the current alternatives to such service.

Attitude Towards Use

The attitude to use is concerned with the evaluation of the user's desirability of employing a particular system application. A users attitude towards the technology will be the future reference for positive or negative behaviour for upcoming new technologies. This mindset is a function of the two beliefs, perceived usefulness and the perceived ease of use and will furthermore go on to influence the intention to use (Davis, 1989).

Intention to Use

The next phase in the model is the intention to use, which measures the likelihood that a person will employ the application. Intention to use is influenced simultaneously by the perceived usefulness and perceived ease of use. If these coincide and the user finds it valuable to his or her own perceptions, then the user will accept the new technology (Davis, 1989).

Actual Usage

This is the last step of the model and shows the extent of actual usage of technology. It is a behavioural response regarding how and how often the technology is being deployed (Davis, 1989; Burton-Jones & Hubona, 2006).

Importance of PU and PEOU

In the beginning, PU and PEOU were considered the two most important factors in the model as they are influenced by external variables and the outcome of PU and PEOU heavily influence the remaining steps of the model. By assessing the factors with impacts on PU and PEOU one can thus determine a person's attitude towards usage of a given technology. Davis (1989) conducted two studies on their roles as determinants of user acceptance. One of the most significant findings was the relative strength of the relationship between usage and usefulness, compared to the ease of use and usage. In both studies, the usefulness determinant was significantly stronger linked to usage than the ease of use determinant. In retrospect, Davis claims that the prominence of PU makes conceptual sense, because users are influenced to adopt a certain technology or application primarily for the reason that there is a certain practicality or advantage related to the production, how hard or easy the adoption is will only be a secondary concern. Davis (1989) further states that users often willingly accept obstacles to a certain extent if the system ultimately provides a critically needed function, and that no amount of ease can compensate for a system that has no value or usable function for the user.

Critics

Davis (1989) emphasises that the ease of use and perceived usefulness are users subjective assessment of effort and performance and do not necessarily reflect the objective reality. The study perceives beliefs as variables that are meaningful in their own right, that functions as determinants of behaviour that are not regarded as sufficient measures.

The TAM theory has received much support from scholars but it has also been criticised for not being exhaustive enough (Yang, 2005; Luarn and Lin, 2005; Bagozzi, 2007). Scepticism about its ability to identify the right measures that are actually robust enough to be linked to the user experience is current, but as the user reaction to technology is multifaceted and complex, the field continue to systematically investigate the drivers behind the fundamental mechanisms (Davis, 1989).

3.2.3 Technology Adoption Life Cycle

Everett Rogers (1962; 2003) introduced the Technology Adoption Life Cycle model to simplify categorisation of technological adopters. A technological advancement's innovativeness is at the centre of this model and it will measure the degree to which users adopt technology over time. The model is built on three criterions: 1. categories need be exhaustive and include all units of study 2. they must be mutually inclusive to exclude units from appearing in more than one category and 3. the set categories must be derived from one classificatory principle (Rogers, 1962). The author argues that the distribution of adaptation is close to normally distributed, which allows for mean (x) and standard deviation (sd) to divide the bell curve into categories. The model contains five different categories and can be found on the next page.

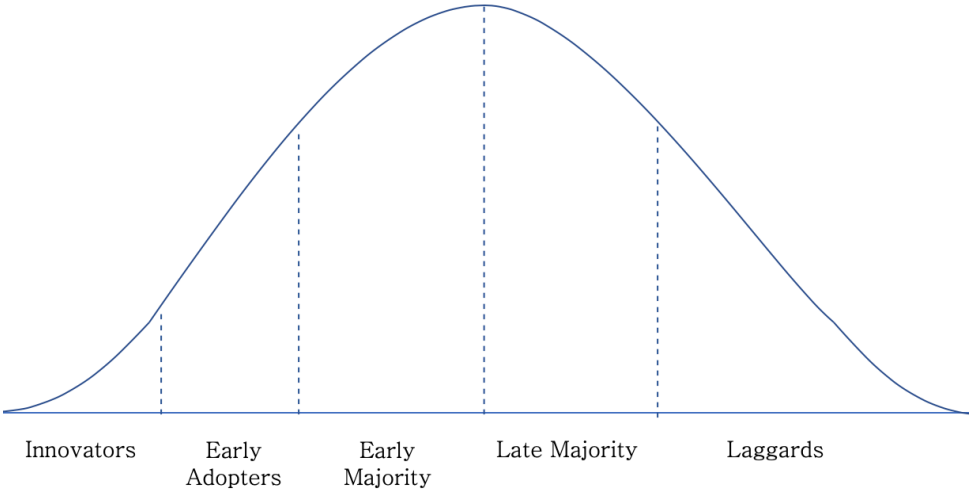

FIGURE 5: FRAMEWORK ILLUSTRATION 2.
Source: Rogers (1962)

Innovators

The first category is innovators and consist of the first users of a new technology. Users in this category is characterised by being venturesome and extremely eager to try new ideas. The innovators must be able to cope with uncertainty, as this first phase is to some degree uncertain due to early stages of adoption (Rogers, 1962).

Early Adopters

The second category are early adopters. Though they quite early on adopt to the new technology, they are more aware of risks and uncertainty than innovators. Later adopters often prefer collecting some information or advice regarding the innovation from the early adopters are recognised for its discreetness of adopting to new technology. Thus, the role of an early adopter is to evaluate and convey information to peers while decrease uncertainty (Rogers, 1962; Morawicki, 2011).

Early Majority

Users in the early majority adopts to the technology only right before the average member of a social system. Rogers identify them as an important part of the diffusion process as they hold a

unique position between the very late adopters and the relatively early. Characterised by following, not leading (Rogers, 1962; Meade & Rabelo, 2004).

Late Majority

The fourth step of adoption is the late majority. They are defined as skeptical and adopt to new innovations after the average member. The underlying reason for adoption can be economic necessity and/or the increasing pressure of networks. As they deliberately do not adopt until the majority has done so, they seek confirmation and reassurance of usefulness and favourableness of the innovation. Hence, close to all uncertainty must be removed before the late majority adopts (Rogers, 1962; Morawicki, 2011).

Laggards

The fifth and last category in the model are the laggards. They are the absolute last users to adopt to a new technology and are mainly portrayed as traditional. This traditional and resistant orientation keeps them from being up-to-date with new innovations and is the reason why they lag far behind in awareness-knowledge for new ideas (Morawicki, 2011).

These categories fulfils all three criterions for the model. The five adopter categories are exhaustive (except for nonadopters), mutually exclusive, and derived from one classification principle. The method of adopter categorisation just described is the most widely used in diffusion research today (Rogers, 1962).

The Role of Socio-Economic Status in Innovation

The earlier adopters of innovation are defined by the socioeconomic status. For instance, they are marked as educated, of high social status and wealthier. These socioeconomic ranks and innovation tend to go hand in hand. Rogers (1962; 2003) argues that there is a cause-and-effect relationship due to innovators wealthier feature, which means that they are capable of accepting the costs associated

with uncertainty in innovation, as well as absorbing the loss if the innovation fails. The greater the risks, the greater the profits. Earlier adopters have therefore not only more to loose, but also more to gain from the profits related to the innovation. Following this logic, laggards are characterised as poorer and, therefore, more likely to avoid the costs identified with innovation and risks. However, it is important to note that though economic position and innovativeness are factors that interact, these do not provide an exclusive explanation of the behavioural tendencies displayed by adopters.

Though Rogers claimed a linear relationship concerning the generalisations made of socioeconomic status and innovation, professor Frank Cancian (1967) argues that adopters of low-middle socioeconomic status are more innovative than individuals of high-middle status, at least in the early stages of innovation. When around 50 percent of all users have adopted, the high-middle adopters catch up and surpass the low-middle socioeconomic status adopters, hence, resulting in a linear relationship between the variables. Some of his later research (1976; 1977) did not provide overwhelming evidence for what is known as the «Cancian dip» of the low-middle and high-middle socioeconomic status adopters. However, it is important to recognise the importance of his work as it merely acknowledges that the relationship between socioeconomic status and innovation should not be assumed linear.

3.2.4 Relevance

This thesis will be centred around the theories and frameworks presented, which has all been deemed contributive regarding academic insights and their ability to explain, predict and understand the phenomenon and its context. Development economics will function as the groundwork supporting the thesis. It assists in understanding universal themes, for instance poverty, inequality and distribution of resources, through the lens of developing countries. This was considered crucial in order to comprehend the African context and the factors at play. The theory will make it easier to understand the process of Kenyas development and recognise challenges as well as opportunities. It will provide a deeper sense of meaning to the results after implementing the two models throughout the analysis.

Further, we acknowledged a need for more specific theory to support our analysis and comply with the research objectives. Understanding the reasons behind accepting or rejecting new technology by users has become one of the most crucial areas in the technology field. To study the adoption, acceptance and usage by individuals is important for both technology utilisation and realisation. In this thesis, the TALC and TAM provides frameworks that will help explore the mobile money adventure and its success in Kenya. These were chosen in order to achieve a systematic yet scientifically backed analysis. We will be able to establish links between external variables, consumer behaviours and attitudes in order to gain better insights to why and how M-PESA has progressed to their current position as well as evidence of actual usage. Only when understanding the links between adoption and usage will we be able to present a well-founded answer to our research question.

4. Literature Review

The aim of this literature review has been to help shape our research question and identify the gap in previous studies and determine possibilities for future research (Gall, Borg & Gall, 2006). The literature review was started early in the initial phase of the thesis, as it would assist us in defining the parameters of our research question and give us a better understanding of the existing literature. After assessing previous studies, their results and limitations, it was obvious how and where our own research would fit in the larger context (Gill & Johnson, 2002). This was greatly necessary, because we would not be able to see how this study would contribute if we did not have a clear view over the existing literature. However, the process continued throughout the entire research period as we identified the need to consistently be familiar with emerging research even though we acknowledge that it is not possible, nor efficient time management, to go through all available literature on the subject.

The following section is split into several sub-categories, as the literature is broad and entails different approaches and research themes. We decided on a funnel approach to our review. The review starts out on a general note, to assess the mobile payment industry and to establish a holistic perception of

the research area. Then, by segmenting into financial inclusion, drivers and barriers

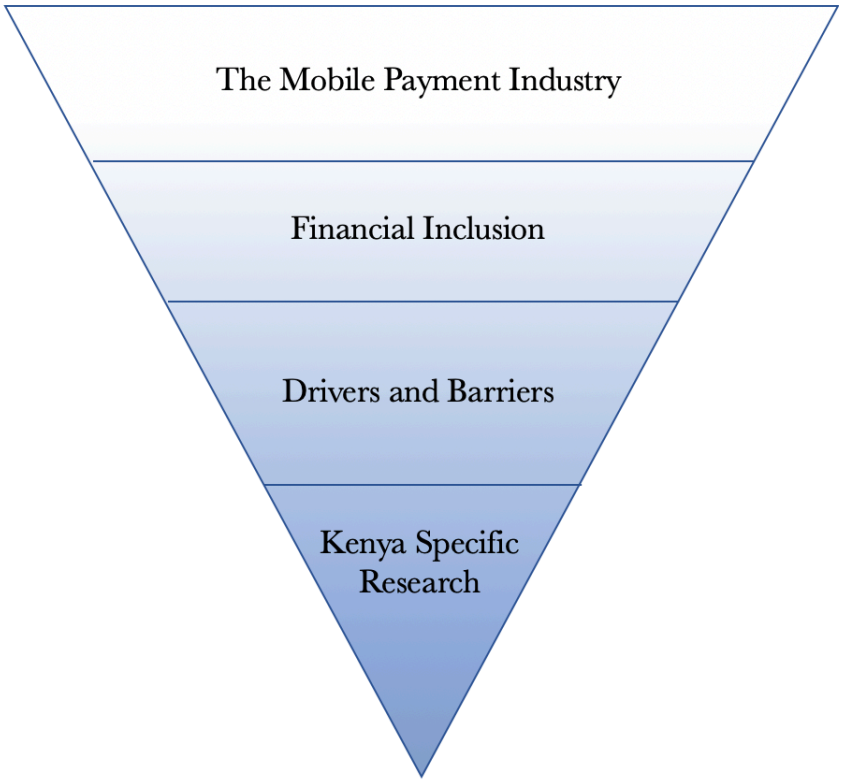

FIGURE 6: LITERATURE REVIEW STRUCTURE

and Kenya specific research we attain a better understanding of the research question from our angle, that is a financial inclusion point of view and our chosen country, Kenya. It will, therefore, start with an expansive introduction to previous studies done on the subject before we narrow it down and then we present literature on similar research questions to our own (Saunders et al., 2009). Subsequently, it will conclude with a discussion of this paper's relevance and how it wish to contribute to existing research.

4.1 The Mobile Payment Sector

The mobile payment sector in general has received increased attention from scholars in the past decade and the literature has grown accordingly. The effects of mobile payments, both from national, business and individual perspectives are areas of immense interest. There are several requirements in order for digital technology to work optimally, the idea in itself is not enough to ensure financial inclusion. Damsgaard and Staykova (2013) identify sufficient infrastructure, well developed payment systems and proper regulations as key conditions for digital platform growth and success. Further, in developing countries particularly, the system needs to be designed to the needs of the disadvantaged, more specifically the poor, women, first-timers within technology and financial services, and people who are illiterate.

New business models and expansion strategies are emerging within the traditional payment market. Innovative products are currently changing the status quo of well-defined roles and these has been analysed from a platform perspective. In order to gain competitive advantage, a digital payment platform should pursue the first-mover advantage. By launching first, a payment platform can benefit from network effects; where the value that users gain increases with the number of users on the platform (Damsgaard & Staykova, 2015). It is argued that high homing costs will keep consumers at lock-in. For example, if there are two distinct payment platforms, with user bases at respectively 70 percent and 10 percent of the population, then the homing costs for switching from platform 1 to 2 are rather high as there are less perceived benefits.

Aker and Mbiti (2010) conducted a research on the effectiveness of mobile money in emerging markets. The research identifies numerous advantages for emerging economies who implements digital payment solutions. A drastic reduction in communication costs after the general adaptation of mobile phones has resulted in several economic benefits, e.g. improved labour efficiency, consumer welfare and increased agricultural efficiency (Jensen, 2007; Aker, 2008; Aker, 2010). Research show that mobile money solutions also can serve as a general technology platform that can help create new services and help already existing services to develop further (Donovan, 2012). Mas and Radcliffe (2010) states that it represents a new way to lead financial inclusion by «building the payment rails on which broader sets of financial services can ride».

Overall, the research on mobile payments specifically is a relatively new area of research compared to related areas such as internet banking, mobile banking or commerce. The studies have increased immensely the last years (Dahlberg, Guo & Ondrus, 2015). For a greater acceptance of new technologies and to use them as a way to gain a broader financial inclusion, scholars suggested exploring trust and perceived risk, and allow mobile payment to create a distinctive value to both consumers and merchants (Lai & Chuah, 2010; Slade, Williams, Dwivedi & Piercy, 2015). These are the most critical drivers if one are to gain success in mobile commerce (Yang et al. 2012). Others suggest that the widespread adoption of mobile payment services by both merchants and consumers is largely dependent on a reliable and secure payment system which is easy to use and convenient, and hence clearly identifies the importance of security adoption (Chang, Chen & Zhou, 2009).

The mobile payment service is an evolving technology and as new technology approaches, the users can either accept or reject the product depending on several factors. Statistics presented by Lippert and Davis (2006) shows that approximately 50 percent of information technologies are falling short of meeting customers and users' expectations and are therefore considered failures and hence, rejected (Lippert & Davis, 2006). To ensure success of a mobile payment service, managers of such technology must understand and anticipate issues that would lead to adoption or rejection in an early development process. There are several models from literature explaining the question of adoption new technologies, and factors such as convenience, availability of technology, consumes need and security are in literature conceived as the main drivers for this. Researches that have been

addressing the consumers adoption have presented several models to conduct this development, and the focus in this literature review is on TAM. (Meuter, Ostrom, Roundtree and Bitner, 2000; Dapp, Stobbe and Wruuck. 2012; Lai and Zainal, 2014, 2015; Lai, 2016).

TAM suggested originally that the behavioural intention to use a new technology depends on how the ease of use and usefulness is perceived (Venkatesh, 2000). The model later extended into UTAUT – Unified Theory of Acceptance and Use of Technology, that suggests four major theoretical constructs for the use and rate of adoption: effort expectancy, social influence, facilitating conditions and performance expectancy (Venkatesh et al. 2003). The adoption rate refers to the number of individuals that actually adopts a given innovation over a period of time (Ngugi et al. 2010). The TAM and UTAUT have among other extensions of the TAM been used frequently by various researches over the years to explain the adoption of technology systems. Addressing the case of M-PESA and how they adopted this technology, it is proved in several research papers that Kenya was in a ripe position for a new approach to traditional banking (Omwansa, Waema & Lules, 2012).

The rural areas of Kenya experienced that the traditional banking sector were mostly unavailable due to the effects of structural adjustment programs that were introduced by the International Monetary Fund and World Bank in the beginning of the 1990s (Ndirangu, 2005; Rono, 2002). As a result of this, rural inhabitants were left with no access to financial services and was therefore not able to meet several critical needs (Manica & Vescovi, 2009). This in addition to other location and societal reasons combining to create a collection of needs that were not being addressed by the financial market. Furthermore, the services offered by the traditional banking sector were expensive and took a long period of time to deliver in a timelier fashion in comparison to M-PESA (Ngugi, Pelowski & Ogembo, 2010).

4.2 Financial Inclusion

Kenyoru (2013) finds that financial inclusion had a perfect correlation with agency banking and a very high correlation with mobile banking and mobile money innovations. This suggest that policies need to take advantage of the presented opportunities by financial innovations towards increasing financial inclusion within Kenya. The study concludes finally that financial development can be achieved if policies towards maintaining competitiveness in service and product innovation facilitate these developments.

Developed countries are known to have a strong financial infrastructure network as opposed to developing countries who are lagging behind. This makes it difficult for banks to deliver their services to the poor, especially those in rural and remote areas. Moreover, the accumulated savings of poor people are often too low to cover the expenses of financial service costs. This is recognised as a concern for both consumers and providers. Consumer do not hold enough capital to pay the fees that are required and the banks are not prioritising the costs of installing ATMs in the poor people's settlements or opening new bank branches. Kendall, Machoka, Veniard and Maurer (2011) perceives mobile money systems as a solution to this problem. With just the existing infrastructure, they underline that mobile money systems can reduce the cost of saving and make the banks able to facilitate credit taking and offer insurance to the low income or poor people.

Dermish, Kneiding, Leishman and Mas (2012) discussed conditions regarding the source and reliability of poor inhabitants income. It is stated that the income is not enough for daily consumption and that it is systematically unstable. Factors concerning unemployment, natural catastrophes like earthquakes and drought, and death within inner social circles are challenges that contributes to an uneven and unstable income. The authors suggest that if the ones exposed to these risks have a solution for financial access, the consequences of such risks could be downgraded and thereby improve the productivity and education. They conclude that a mobile money system is more valuable for the poor because of easy interpretation and low costs.

Therefore, through designing a simpler financial system one can fulfill the needs of the poorer population. With the flexibility of a mobile money service that attracts many, Donovan (2011) believes that it could have the potential to be vital as a transaction platform within financial services globally. He continues with arguing that the billions of people that don't have the opportunity to be a part of a financial system can draw benefits from this. He uses M-PESA as a case organisation and refers to its success with the belief that there is a great future for mobile money. Moreover, factors like effectiveness, simplicity and affordability gives the money mobile systems a considerable comparative advantage as opposed to other traditional financial tools.

Equally important, one must have and continue to gain knowledge of the current global financial inclusion status, establish indicators for monitoring progress and set goals for future financial inclusion. Demiguc-Kunt and Klapper (2013) considers this in their paper on how to analyse data from the users of financial service. They tried to explain the indicators behind the financial aspect and the customer usage of formal and informal services, all gathered from 148 countries. In numbers backed by The World Bank, they found that approximately 50 percent of all adults worldwide do not have a financial access, and they emphasise how one can use technology innovation to improve these numbers and bring forth new products in the financial system. They point out mobile money system as a solution.

Boateng's (2018) research on financial inclusion, states that financial inclusion has several important benefits, both on macro and micro levels. On the micro level, individuals can cope better with the challenges of irregular income and occasionally large bills, and henceforth cope better with the poverty. They can borrow to meet emergency cash needs, for instance to cover education or funeral bills, or to accumulate the worth through savings or invest in tangible assets like for example cars or bikes. Small and medium enterprises can benefit from secured loans offered by financial institutions to overcome current obstacles and embark on new projects and business expansions. Through the possibility of risk managing and reducing exploitation, improvement of the educational level and availability of funds, small firms, low-wage earners and farmers gets the opportunity to escape the poverty trap.

On the macro level, financial inclusion has the possibility of mobilising savings. By putting savings into system, the financial system can draw benefits from funds that normally would be unavailable, and allow them to be invested in productive areas, and thereby improve the potentials of economic growth.

4.3 Drivers and barriers

To determine what factors that could possibly lead to or prevent the usage of mobile money services it is important to assess how developing countries can implement such technologies to their market. Existing literature has identified several drivers and barriers behind the adoption of mobile services.

Burns (2018) discuss to which degree governments should participate or drive financial inclusion and introduces two different approaches to this. Top-down, or state-led, is when the government imposes restrictions and manage all banks. The other is bottom-up, or market-led, and evolves around entrepreneurs introducing innovative solutions to include the unbanked. He argues that most attempts of state-led financial inclusion has been labelled failures. This is founded on political conflict and unease, together with inefficient planning. His results demonstrate that countries who enables entrepreneurs to innovate rather than restricts and govern the financial sector has achieved much greater financial inclusion. Mobile money is presented as the best example of a market-led approach to financial inclusion. He proposes two separate actions for governments to implement. First, remove all barriers to entry. Secondly, scale back on repressive regulations that limit entrepreneurs and might hamper specialist-knowledge.

Studies by Kunt, Klapper, Singer and Oudheusden (2015) shows that people are more likely and better able to invest in education, start ups and expansion of businesses, manage risk and absorb financial shocks when they are participating in a financial system. Boer and de Boer (2009) identified key drivers and barriers for the adoption of mobile payments by conducting an analysis of mobile payments around the world. Two critical conditions suggested by the researchers were that 1. there must be offered added value for consumers, merchants, financial institutions and other participants

in the ecosystem and 2. that it must be easy to use. Barriers to participate in these initiatives and concerns are technological issues as security and interface design, the consumers and merchant's unwillingness to adopt them, lack of infrastructure concerning electricity and mobile coverage and legal framework among others (Diniz, Albuquerque and Cernev, 2016). Earlier studies have established that security concerns can become a barrier to technology adoption as mobile payment involves financial information that is personal and sensitive (Duane et al. 2014).

To address the need for financial access in Kenya, mobile money became a reality and since its introduction M-PESA has experienced rapid growth in terms of technology adoption. Ngugi, Pelowski and Ogembo conducted a study in 2010 on factors that led to the phenomenal growth of mobile money services in Kenya through the M-PESA service. Their findings presents three main barriers for the traditional banking which again gave room for M-PESA and its technology solution, which further enhanced its market position.

Illiteracy was the first barrier. 21 percent of Kenyans suffers from general illiteracy (Unesco, 2019), however, the number of people who are digital or financial illiterate is much higher. Hence, this affects their ability to complete and understand the requisite paperwork that is needed to open a traditional bank account. Due to bureaucratic procedures instituted by central bank regulations, under the concept of «know your customer», the coupling of required documentation that includes identification documents, passport and a high minimum amount of money to open and maintain an account became a barrier (Ngugi, Pelowski & Ogembo, 2010). M-PESA, however, managed to skip these bureaucratic procedures and proved them unnecessary as Safaricom incorporated the «know your customer» aspect for security but only requiring phone numbers and national identity cards. This made the micro-transaction and pay-as-you-go structure of mobile money possible. A study conducted by Refera, Dhaliwal and Kaur (2015) on financial literacy in developing countries shows that lack of financial literacy in the population can affect reduction of poverty and welfare improvement programs. The study shows that financial illiteracy is also a barrier to financial inclusion because the majority with financial illiteracy and low education are not able to use, select nor demand the improving array of financial products and services (Refera et al., 2015).

Next, Ngugi, Pelowski and Ogembo state that already existing financial institutions required a minimum amount of capital to keep and remain the account at all times, as well as charging exceptionally high fees for going under the minimum requirement. With these limitations, the results showed that activity of maintaining and operating a bank account was expensive and unattractive to people. On the other hand, M-PESA offered to open and operate accounts without need for cash nor any fee for deposits and withdrawals. When sending money there is a fee, however, compared to what the traditional banks charged, this amount is far less.

The third main barrier was the bank distribution itself. Most of bank centres were found in economically viable locations, but with close to 70 percent of the Kenyan population living in rural areas, most people had to travel long distances to the nearest centres and hence were excluded from these services as travels were too expensive and time consuming (FSD Kenya, 2009).

With the above barriers facing the unbanked and an increasing gap for the possibility of financial services and inclusion, Safaricom turned the above needs into a business opportunity. With its already wide coverage of network with phone technology the company managed to widely spread M-PESA services rapidly. The large market share of Safaricom has been presented as a critical success factor for mobile money in Kenya, as Safaricom had a market share of 79 percent in Kenya. Compared to the slower uptake of M-PESA in Tanzania, with Vodacom and its market share of 39 percent, the study argues that the rapid intake of the service is explained by this (Rasmussen, 2009). This market share allowed Safaricom to be flexible to try new services with its large customer base without the fear of migration to other networks. Prahalad (2004) suggested that Safaricom conducted a «bottom of pyramid» approach to the poor to pitch the sale of M-PESA services. By letting the majority of the population, which is generally poor, be able to share credits and the service they increased the volume of sales when allowing them to access mobile phone services and cementing the phone as an important social element in their relations. In turn, this led to a community ownership of the technology. This is also an issue driving technology adoption for M-PESA in other markets as Tanzania, because they did not feel the same ownership but rather saw the technology as foreign and «smuggled in» through Kenya.

4.4 Kenya Specific Research on Mobile Payment Solutions

Much of the research that has developed is often specific to distinct countries and what they have achieved. This section will focus on research specific to Kenya in order to gain an understanding of what has already been studied.

A study conducted in Kenya proved increased benefits as a result of digital financial services, especially for women. Households made up of women could boost their savings with more than a fifth, which led to 185,000 women being enabled to engage in business or commercial activities. The poverty amongst female households decreased by 22 percent. Further, the researchers found that when experiencing an unexpected drop in income, digital payment users did not reduce household spending whereas cash or card users reduced their overall purchases by 7 to 10 percent. Financial services in general was found to induce savings and the amounts spent on necessities, for both males and females. As Western Union's presence, the previously preferred alternative, is lacking in the rural areas of Kenya, mobile money has emerged as the reasonable option for increased financial inclusion (Mas & Morawczynski, 2009; Aker & Mbiti, 2010; Demombynes & Thegeye, 2012; Gupta, 2013). When equipped with a savings account, merchants in Kenya saved more heavily and invested up to 60 percent more in their businesses (Gichuki & Mulu-Mutuku, 2018).

A large portion of field research in respective countries is centred around women and the level of equality in the society. Gichuki and Mulu-Mutuku (2018) researched female Kenyan entrepreneurs adaptation to mobile payment services. They found that there are several factors influencing this, but education level is pinpointed as the main event to increase awareness of mobile payment solutions. Table banking groups and business training were recognised as other determinants. They conclude that mobile payment services has, indeed, contributed to financial inclusion and empowerment of women as they now are enabled more control over their resources.

The service of mobile money is particularly well-received in Africa as banks does not have the same foothold as in developed countries and are therefore unable to compete. This surge in usage has been observed both in the individual (P2P) and the professional (B2B) market. Gosavi (2015) looked

at how businesses uses mobile payments in their daily operations. The analysis found that small firms are more likely to utilise mobile money as opposed to their larger competitors. Further, old firms are more likely than younger firms as well as firms who already possess a bank account. From a business environment perspective, Kenyan firms were more inclined to adopt the service in comparison with other developing countries like Tanzania, Uganda and Zambia. Gosavi (2015) and Jack and Suri (2011) recognises the introduction of M-PESA as the main contributor to the growth.

Demombynes and Thegaya (2012) collected data in Kenya in order to research mobile money relative to savings. First, they start off by analysing the operating environment in Kenya. It has undergone a technological revolution, and during the 90's only 3 percent owned a mobile phone. Then in 2011, 93 percent of Kenyans were mobile phone users and 73 percent were mobile money users. After just two active years, M-PESA had already engaged 40 percent of Kenya's adult population. This included also a large proportion of the unbanked population, which poses as one of the largest financial challenges in developing markets (Jack & Suri, 2011). By using data from FSD Kenya, Demombynes and Thegaya investigated saving patterns and they find that, holding all else constant, those inhabitants who are registered with M-PESA are 32 percent more likely to have savings. Further, savings on mobile devices are more likely if you are a married, wealthy, educated male located in the rural areas of Kenya. This is closely related to the findings of Mbiti and Weil (2011), who found that the typical M-PESA user is educated, affluent and banked. Though it is the largest saving platform, they find that those who save with other accounts than M-PESA has overall a much higher average monthly savings amount. Therefore, they conclude that mobile money fills the a gap many poor Kenyans have longed for; a place to safely store their funds (Demombynes & Thegaya, 2012).

After its introduction, M-PESA emerged as the only viable alternative to the banking problem previously faced in Kenya. Naturally, this means it often finds itself in the focal point of current research. Mas and Radcliffe (2010) investigated how M-PESA impacts financial inclusion in Kenya. The service has already been adopted by more than 9 million people, which accounts for around 40 percent of the adult Kenyan population. Further, it processes transactions domestically on a larger scale than Western Union does globally (Mas & Radcliffe, 2010; Chuhan-Pole & Angwafo, 2011).

They attribute M-PESA's success to three different components. First, the pre-existing country factors in Kenya before M-PESA's launch that constituted a friendly operating environment and made the service well-received. Secondly, an easily adaptable service design that rapidly accumulated networking effects. Thirdly, their business strategy was critical in order to reach a significant mass of clients. Additionally, they recognise cash as a fundamental barrier to financial inclusion. They argue that as long as poor people only have access to cash or trading of physical goods, financial institutions will find it too costly to address in larger numbers. Therefore, M-PESA is concluded not to be a contributor to financial inclusion itself, but simply a very effective mean to provide it for everyone (Mas & Radcliffe, 2010).

Mbiti and Weil (2011) analyses M-PESA from several perspectives on data gathered from the FinAccess survey, Safaricom, M-PESA agents transaction data and pricing data from money transfer companies. The results find that M-PESA increases the amount of transfers and decreases the use of more formal saving mechanisms. Though participants of the FinAccess survey named savings as an important reason as to why they utilise the service, regular transfers is by far the biggest segment of M-PESA. They argue that the adaptation of M-PESA increases the demand for other bank services and is, therefore, a complementary to banks - not a substitute. Further, they find that Kenyans who had relocated to urban areas returned less frequently back to their rural homes after the introduction of M-PESA. This suggest that though travel distances really have decreased under M-PESA, it can also weaken the ties between rural and urban communities (Mbiti & Weil, 2011).

Hove and Dubus (2019) aimed to establish the characteristics of Kenyans who do not own a SIM card, those who do have but does not have an M-PESA and lastly, those who have access to M-PESA but choose not to use it for saving purposes. The results shows that those who are excluded already at during the first steps are the poorest, generally uneducated females. The phone owners who actually have the ability to save are mostly more educated but the results shows that they more often than not choose not to save. The authors argue that this contradicts other relevant literature as it dispute the usual conclusion that mobile money is the preferred way to financial inclusion. To sum up, they find that those who are left behind are usually the ones who need it the most: the poor, uneducated and women.

4.5 Relevance

The purpose of this literature review is to identify the different aspects within mobile payment solutions and the relevance of mobile payments in the advancement of developing markets. The research helps evaluate the possibilities for further research within the subject and also informs about the current state of knowledge within the area of inquiry. This research is significant, as the literature studied for the research has a highly varied methodological work. The findings within every research paper has been perceived as valid through evaluation of methodology and data used.

The literature review is necessary to develop a thorough understanding of the topic and the previous research done, which gives insight into the related work on the projects research question. The literature sets the research in context by referencing work that has been undertaken already, drawing out key points, critically discussing and presenting the arguments in a logical way.

It is clear from the research review that the idea of financial inclusion requires sufficient infrastructure, well-developed payment systems and proper regulations. To study what development opportunities and possibilities that lies within the information already presented, but also to use them as a contribution to the project research, the thesis and review will be able to contribute in the existing literature with an even greater understanding of the recent development in such areas.

Along with this, it is also clear that the field of mobile payments has still unexplored areas, as well as huge opportunities that can possibly be duplicated to markets that undergoes the same digital transformation. More research and testing are required to gain a better understanding of why those who undergo the development from unbanked to using mobile payment systems act as they do, and to what extent this has helped the financial inclusion in the areas we are looking at. The relevance drawn from the literature review will be implemented throughout this thesis and our own findings will be compared in the discussion.

5. Methodology

Methodology is the underlying theory of how an analysis should proceed and is the cornerstone of every credible study (Sachdeva, 2009). The research we have conducted and the results we will draw from this have followed incremental steps, which will be outlined in the following section. Firstly, it will discuss this thesis' topic delimitation. This will give insight into our rationale for conducting this particular study. Secondly, the research strategy will be reviewed. This includes the research approach, its consistency, choice of structure and concerns regarding the acquired data. Thirdly, our interview participants will be introduced followed by a justification of choice. Our intention throughout the methodology is to consistently substantiate our decisions step by step and reflect upon these. However, this will not only be a rationale of our choices but also a critical discussion of its shortcomings.

5.1 Topic Delimitation: The African Context

From the start, we aspired for our thesis to be centred around the effects of digital payment systems in developing markets. However, the definition of developing markets is broad and entails as much as 149 countries spread out over 6 different regions (UNDP, 2018). We recognised the need to delimit ourselves to one specific region to provide valid results. The cultural, social and economic differences between East-Asia, Latin-America and the Sub-Saharan region are too considerable for the thesis to consider, and its findings may therefore not be applied on a such a general basis. After thorough examination, we found the Sub-Saharan region most appealing due to its explosive growth and the fact that it emerged as the mobile money hub of Africa (Demirgüç-Kunt et al., 2018). After limiting it to the specific region, we found it natural to focus on only one particular country. Due to the scope and feasibility of this thesis it would not be sufficient or detailed enough if we focused on all 46 countries in the region (UNDP, 2018). Out of the 46 options, Kenya, Tanzania and Uganda were the remaining candidates left after evaluating factors such as mobile penetration rate, access to

mobile payment solutions, velocity and volume. The impressive story of Kenya's mobile money adventure and the availability and access to essential data became the decisive aspects when choosing between the three.

After choosing Kenya as our case country, we had to decide on an angle. Demirgüç-Kunt et al., (2018) suggest that the emergence of financial technology as a tool to increase financial inclusion has proven most valuable in the Sub-Saharan countries. However, they elaborate by stating that the idea in itself is not enough to ensure financial inclusion. As a result of this, we started researching the links between mobile payment solutions and financial inclusion. This point of view emerged as particularly interesting as it combined our keen interest in digitisation with a very current challenge of ensuring access to financial services to all and provided us with an opportunity to conduct original research.

5.2 Research Structure

When deciding a research structure, we first had to consider research design, research approach and research strategy. The different options available to us and our ultimate choice are depicted in the illustration below.

As this would function as the underlying structure for our analysis and research process, it was crucial that it was consistent with our research question and objectives. In the following section a systematic rationale of the structural choices made for this thesis will be presented.

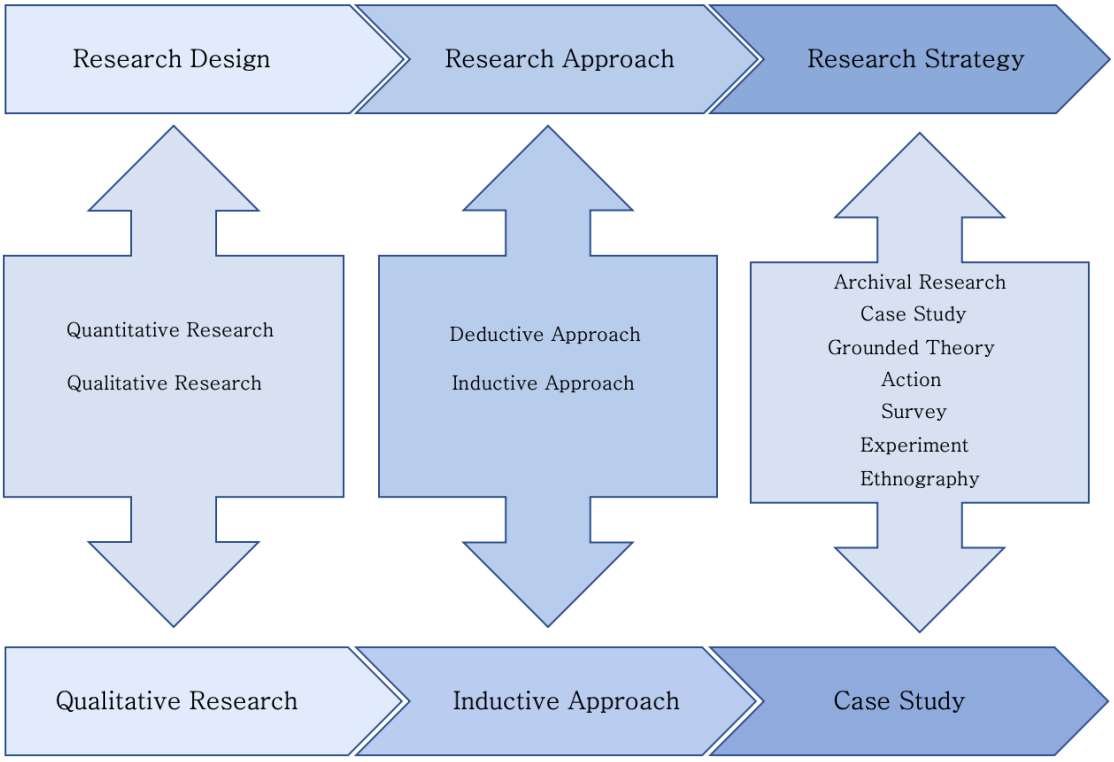

FIGURE 7: RESEARCH STRUCTURE

5.2.1 Research Design

After reflecting upon what the study should entail and investigate, we had to decide on a research strategy and whether to use quantitative or qualitative research tools. In this thesis, the need for relevant first-hand data from people with real experience in the field was necessary to answer the research question. Delbridge and Kirckpatrick (1994) stated that one cannot explain the behaviour of social actors unless we try to understand their meaning. As we sought to better understand the phenomena that is mobile payments, the socio-economic aspects of qualitative studies offered more perspective as well as answers to how, why, where and when instead of just numerical data (Leung, 2015). When the research is primarily focused on gaining an understanding and insight with great depth, Gillham (2000) and Ritchie & Lewis (2003) states that qualitative data collection may be the

most appropriate. Thereafter, we will take an exploratory approach to the analysis. We will identify relationships, patterns and our results will provide a greater understanding of the phenomenon as well as identify topics for future research. One limitation in researching developing countries is the lack of data with sufficient observations. Though we were able to locate data sets for the past 3-4 years, it was not possible to obtain a larger dataset, e.g. in terms of time period or sufficient number of observations. Those we discovered had also a large number of missing variables. Due to this, we decided on pursuing a qualitative study where we would gather the data ourselves.

5.2.2 Research Approach

The data collected, interpreted and analysed in this thesis early on prompted an inductive approach to research. This was determined by the extent to which we were clear about our theoretical context at the beginning of our study. An inductive research approach involves starting off with collecting data, then produce our theory section as a result of this. The opposite of an inductive approach is deductive. In a deductive research, theory is first developed then put to test to expose relationships between variables (Saunders et al., 2009). As social sciences and qualitative research emerged, criticism of deductive research rose. Researchers argued that a deductive approach to research only investigates cause-link effects but omits the context and understanding of how human interprets their social world. Establishing such an understanding is the main strength of an inductive approach. Due to the interpretive and pattern seeking nature of qualitative research, an inductive approach seemed natural for this study. Inductive reasoning seeks to move from observations to broader generalisation (Sachdeva, 2009; Saunders et al., 2009).

In this thesis, we intend to establish the spillover effects of mobile payment solutions in developing countries. Our purpose was to discern what is going on in order to comprehend the complex nature of the problem. Then, we interpret our collected data and theorise from this, whilst relating it back to the literature in our review. Inductive reasoning commence with some observations where we start to identify and explore patterns, then a hypothesis can be made and general conclusions can be developed (Sachdeva, 2009). In our case, this meant data collection with experts in the field of the

digital payment market in Africa. Thereafter we started to systematically analyse the data to pinpoint repeating input and explore these for the sake of generalisation and theorisation. Yet it is worth noting that an inductive and a deductive approach may both lead to the same theory eventually, however, with an inductive approach theory follows data rather than the other way around. It is more about building theory rather than testing it (Saunders et al., 2009). This was the case for this particular thesis. Our data collection started off early in the thesis process and once finished it became clear what theories should be included, implemented and analysed in order to make sense of the data gathered.

5.2.3 Research Strategy

The research strategy of this paper is a case study approach. A case study is defined by Robson (2002) as a research strategy involving empirical investigation of a contemporary phenomenon within a real life context. This was deemed appropriate as this thesis' focal point is the mobile payment phenomenon within the Sub-Saharan context. Morris and Wood (1991) argues that a case study approach will be particularly interesting for researchers wishing to pursue a deep understanding of the context and the processes which are being executed. Much like the outcomes of a qualitative study, it has the capability to deliver answers to questions such as «why?», «what?» and «how?». That is a necessity in this thesis in order to be able to provide a meaningful answer for the research question and became a critical factor when deciding on a research strategy.

Flyvbjerg (2006) identifies several case study approaches. This thesis utilises the «information-oriented» approach, which concerns the maximisation of information from smaller samples where the sample cases are selected on the basis of what knowledge is expected to be obtained. This is fully compatible with interviews, which is the main data collection technique employed in this thesis and serve as a tool to explore and challenge existing theory. Triangulation is exploited to assure validity and to integrate all dimensions and perspectives of the phenomenon. It is defined as the use of different data collection techniques to ensure a more correct data interpretation (Saunders et al., 2009). Apart from interviews, written documents has been thoroughly explored and analysed. To

determine the impacts of mobile payments, this study will confer with key actors in the field on the Kenyan market's challenges, evolvement and future prospects.

5.2.4 Consistency

In order to achieve a coherent study from start to finish, consistency was considered fundamental in our research strategy. Therefore, the research question must align with the objectives and the strategy we employ must be compatible with the methods of data collection (Saunders et al., 2009). As the aim of this research is to explore the adoption rate and spillover effects of mobile money in developing countries, we identified the three objectives that will aid and assist us in completing the study.

1. Assess the rate of adaptation of mobile money services.
2. Assess differences between gender, location and age.
3. Assess risks and concerns with utilising mobile payments in developing economies.

These three objectives can be seen as guidelines for the direction the analysis will take. As the concept of financial inclusion and mobile payment solutions is broad, the objectives will support us in maintaining a manageable scope with an in-depth analysis. By consistently reinforcing the objectives throughout the study we believe we are better equipped to answer our research question. These were identified after determining our research question and provides specific actions that

needed to be included in our research strategy for our end product to imply legitimacy. Additionally, they appear reasonable to achieve within our set timeframe and scope.

5.3 Data Collection

5.3.1 Semi-Structured Interviews

After assessing different data collection methods compatible with qualitative research, we narrowed it down to conducting semi-structured interviews. Other options, like participant observation was deemed unfeasible, as all relevant parties to observe are located in Kenya whereas we are located and bound in Copenhagen due to responsibilities outside of our master thesis. Likewise, questionnaires would only provide us with answers where participants would all answer a standard collection of questions set in a predetermined order. This lacked flexibility and the opportunity to dig deeper into interesting perspectives arising throughout the exchange and conclusively this was deemed an insufficient, depthless method of conducting the research.

The purpose of using non-standardised qualitative interviews as a method to gather data can be assessed through four elements. These first is the purpose of the research, as to why this can be a more efficient means of data collection because of the possibilities the flexibility provides. Second, the importance of establishing personal contact with the interview objects because of the opportunity to reflect upon the answers and reasons behind them. Third, the importance of the questions asked and their nature in being open-ended to obtain extensive explanations and opinions. Last, the importance of the interviews length to obtain the necessary data to answer the research questions.

1. The purpose of research strategy

There are three critical reasons as to why we chose to conduct interviews. First, we identified a need for flexible input of data, which only semi-structured or non-standardised interviews could provide (King, 2004). As we wished to interview several key actors with contrasting knowledge of the market

we chose a strategy that is neither non-directive nor structured, as it is proven that this can fit each case specific context (Bryman, 2012). This is often the most effective and convenient mean of gathering information because it is capable of disclosing important and often hidden facts of organisational and human behaviour (Kvale & Brinkmann, 2009). In this thesis, we decided on a semi-structured approach where the purpose of the interviews is to investigate, not conclude.

Second, semi-structured interviews ability to collect broad, empirical knowledge as opposed to simply testing a theory was regarded crucial (Kvale, 1996). Compared to structured interviews that are used to collect quantifiable data, semi-structured interviews are more flexible to cover different themes. Given the specific context which involves Sub-Saharan Africa and the socioeconomic conditions that may apply, it is through the a more flexible approach this thesis will explore the research question and objectives (Saunders et al., 2009).

Third, Kvale & Brinkmann's (2009) research on semi-structured interviews shows that by steering the conversation towards specific themes, one ensures room for new information and provide reliable, comparable qualitative data. This strategy made it possible to use the pre-existing knowledge from research and theories to create new questions that arises along the conversation, combined with the already planned questionnaire to achieve relevant data. By using an interview guide, we as interviewers were allowed to prepare essential questions and themes, but at the same time have the flexibility and ability to steer the conversation with follow-up questions. As the interview went along, we were able to probe until we were satisfied with the answers depth and level of detail.

Cooper and Schindler (2008) explains that when undertaking an exploratory study, it is most likely that one will utilise non-standardised questions. For this particular study, this was necessary to understand the underlying reasons for the decisions the research participants have taken, or to understand the reasoning behind their opinions and attitudes (Saunders et al., 2009)

2. The significance of establishing personal contact

Establishing personal contact was regarded important to obtain detailed data as the chosen participants all are directly involved in roles regarding mobile payment solutions. These have, therefore, a personal interest in the outcome of the thesis, which may be positive for the amount of data shared. According to Saunders et al. (2009), participants that holds manager positions are more likely to participate and agree to being interviewed, rather than completing a questionnaire, when the topic is relevant for their work. As interviews with managers is desirable due to the position they hold and the experiences they may have, we contacted several managers. Ultimately, we interviewed three managers: a Deputy Director at Gates Foundation, the Head of Knowledge at Well Told Story and Head of Innovation at Better Than Cash. Overall, one-to-one interviews provide the opportunity for participants to receive feedback throughout and questions may go both ways. Every interview started off with an informal chat about the thesis, an introduction and a short discussion of how the information will be used later on, to provide the interviewee with personal assurance and to build trust.

3. The nature of the data collection questions

Easterby-Smith et al. (2008) and Jankowicz (2005) explained that interviews are undeniably the most beneficial approach to obtain data when the amount of questions to be answered is extensive, these are complex or open-ended and when the order of the question could pose a need for variation. For the latter two, a semi-structured interview is the most logic choice. Our proposed research strategy ticked off all three options.

Probing is perhaps the main advantage of semi-structured interviews and proved extremely helpful as it allowed us follow-up questions for the interviewees to build upon their initial answer. The opportunity to probe or examine the meanings behind the words or ideas the interviewee uses in a particular way, will add significance and depth to the data (Saunders et al., 2009). Whenever an interviewee touched upon a different angle or perspective, we had the opportunity to explore it further through probing. It happened that research participants lead the discussion into new areas that was originally not part of the interview guide, but which proved significant to understand the

data or perform a valid analysis. However, the end result should be a collection of a detailed and rich set of data (Saunders et al., 2009). We conducted interviews up until the point where interviews did not supply new information. This was the point we felt our data collection had equipped us with the sufficient data needed to perform a valid analysis.

The interview guide for this study were concerned around two themes, mobile payments in general and the mobile payment market in Kenya. However, because of differences in backgrounds, expertise, work and context, some of the questions were removed, added or changed, all depending on the purpose of the each interview respectively. This also applies for the order in which the questions were asked (Saunders et al., 2009). The interview guide in its entirety can be found in the appendices, more specifically appendix 10.3. In order to review all follow-up or probing questions, please check the transcripts from each individual interview.

4. Length of time required and completeness of the process

Difficulties may arise when scheduling interviews with relevant participants. The time needed from each participant to fully complete the interview, as well as the personal motivation and opportunity to participate can lead to obstacles in the data collection process. To make sure every participant was informed of the circumstances, expectations were clearly established about time, length and scope. We scheduled one-hour interviews with all participants quite early on. Interviews were organised in January but they did not take place until March. This was done in order to make sure every desired interviewee had the time to participate. To ensure enough time to go through the interview guide, conduct probing and assure there was time to answer any questions the interviewee had for us, the interviews length was set to one hour. The thesis experienced that the participants was more willing to participate when this was clarified in advance. During this step we also had to examine whether the answers and data we obtained would actually help answer the research question first outlined. Silverman (2007) emphasises that your choice of questions should depend on how the research question best could be answered, and hence was this a priority in the process of both designing and conduction the interviews.

Preparation and Execution of the Data Collection Process

Saunders et al. (2009) recommended to always keep the five P's in mind: prior planning prevents poor performance. Hence, preparation was naturally a critical part of the interview process from start to end. To appear professional all while gaining the interviewee's confidence, certain precautions were taken to make sure we would demonstrate credibility. Saunders et al. presented a framework of eleven factors that should be considered in the preparation phase. This is visualised in the illustration below.

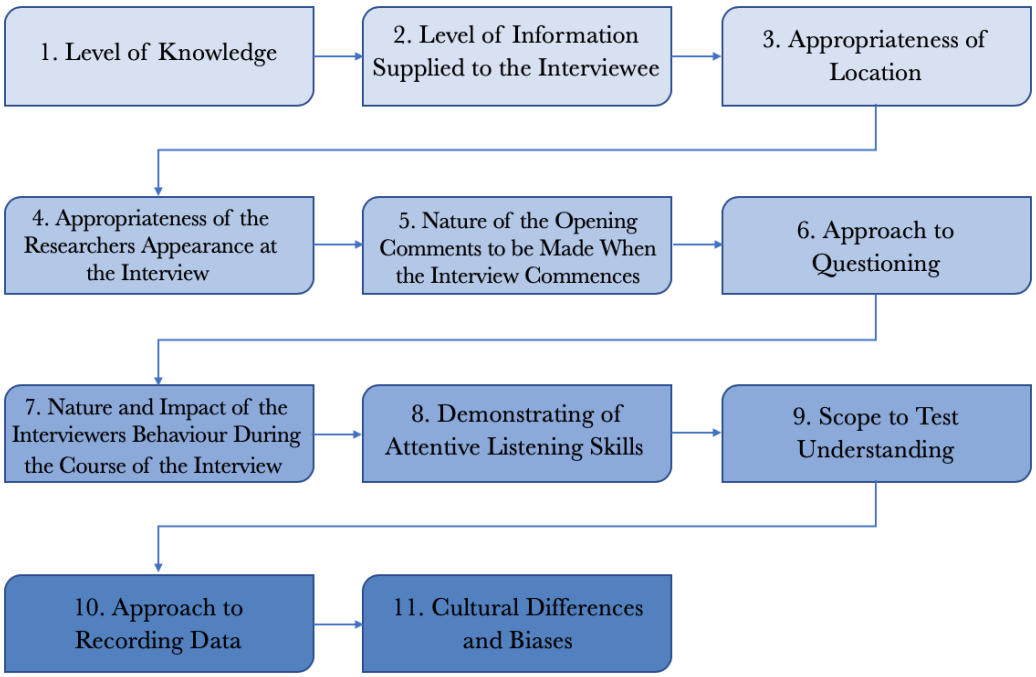

FIGURE 8: INTERVIEW FRAMEWORK

If these were to be prioritised, poor performance related to the interview could be avoided. These factors were carefully considered before commencing the interview process, and the interviewers gained a clearer understanding of how to reduce biases when taking the checkpoints into account. The preparation theory was first analysed, then applied to determine how this could influence the interview process and lastly assessed to see how it could influence our study.

1. Level of Knowledge

Knowledge about the organisational context, interview object and topic is important when the interview takes place. This makes one more able to draw on the information presented throughout the interview, which again helps create credibility and encourages the interviewee to present a more detailed response on the topic (Saunders et al., 2009). First, we spent 6 weeks in the initial phase to read relevant literature regarding the subject. This included academic journals, consulting reports, annual reports, relevant books and news articles. The intended effect of this was to become familiar with the complete context of our research field and be able to inquire appropriate follow up questions during interviews. Second, a background check of the firm and a study of the participant was completed to comprehend his or her work situation and determine whether or not he or she was a suitable candidate for the study.

2. Level of Information Supplied to the Interviewee

Through supplying the participants with information that is relevant before the interview, one can gain a greater credibility (Saunders et al., 2009). As a result of this, we made sure that the interviewee had received proper information about the thesis and its desired outcome in advance. Our interview guide was sent out 3 to 4 days prior to the interview, to ensure adequate preparation time for the interviewee and allow them to reflect a bit upon the themes we would later discuss. We firmly believe this would lead to informative interviews and a more deliberate data collection.

3. Appropriateness of Location

The place one conducts the interviews may influence the data collection and as a result we had to consider the location. As our interviewees were located across large geographical distances, the natural choice was to conduct electronic interviews. This refers to real-time, or synchronous, interviews organised through digital channels (Morgan & Symon, 2004). In our case, this meant Skype and WebEx. To guarantee audio recordings with minimal background noise and disturbances, we were sat in our own dining room when conducting interviews. The interviewees were mainly sat in their own offices, which also ensured a quiet environment. However, some

problems were experienced throughout the interviews with the participants being interrupted by colleagues at their location but they were quick to return to the discussion.

4. Appropriateness of the Researchers Appearance at the Interview

Appearance may affect the interviewees perception of the project, and therefore it was a priority to make sure that the presentation of the interviewers were smart. As many interviews were not conducted face-to-face but through audio channels, the importance of voice control, tone and mood were a higher priority to create an appropriate appearance.

5. Nature of the Opening Comments to be Made When the Interview Commences

At the initial stage of the interview, our main purpose was to establish a relaxed and easy going environment. This was done by restating a brief introduction to the research as well as having both the interviewee and the interviewers introduce themselves and their current position. Ghauri and Grønhaug (2005) finds that demonstrating interest in the interviewee is an advantageous start to the interview.

6. Approach to Questioning

To avoid biases during the interview, the questions must be phrased clearly so they are not misunderstood and presented with a natural tone of voice (Saunders et al., 2009). The usage of open questions is an important factor to sort out biases, according to Easterby-Smith et al (2008). We made good use of open questions as we felt this would be the best way for participants to talk freely and provide extensive answers. Further, we used probing questions. This was to gain more detailed explanations to specific scenarios, such as «what do you believe is the cause for the considerable amount of mobile money users in Kenya, as opposed to other countries?». The interview guide for this project focused on avoiding answers where one seeks to guide the participants in a certain direction, but rather ask the questions in a matter that one must reflect. This helps creating a fuller account to explore the topic to a greater extent and to not create biases on our own existing perceptions of the situation.

Robson (2002) stresses that long questions and questions that are made up of two or more should be avoided, which was taken into consideration during the creation phase. One of the questions in the interview guide was quite extensive, however, in order to provide the interviewee with the information needed to answer the question it was not viable to shorten it any further. This resulted in some reformulation throughout the interviews, as it occasionally arose some confusion. We made use of the critical incident technique during our interviews, where the interviewee gave a detailed description of own key experiences closely related to our research question. This technique is defined by Keaveney (1995) as an activity where the consequence were so apparent that the participant had a clear idea about the effects. This provided us not only with the desired data but also real-life examples, which supported the data they supplied.

7. Nature and Impact of the Interviewers Behaviour During the Course of the Interview

If the researcher behaves appropriately during the interview, then the scope of biases could be reduced. A neutral yet interested response to avoid guiding in any direction that may result in biases should be attained (Saunders et al., 2009). Tone of voice and affirmative response was a particularly important factor when carrying out the interviews, because of the natural limitation of gestures and body language over telephone.

8. Demonstrating Attentive Listening Skills

Though it is fundamental to investigate and explore in semi-structured interviews, it is equally important to test clarifications and implications with the participants. Yet, one should still give the interviewee sensible time to build up their responses and refrain from interrupting when possible (Ghauri and Granhaug, 2005; Easterby-Smith et al. 2008). The advantage of this interview structure is that by asking related follow-up questions and engaging in the conversation beyond the interview guide, we demonstrate active listening and full attention.

9. Scope to Test Understanding

One essential technique that was adapted throughout the process was re-reading our summary of a participants answer back to them. This way, we would be able to verify their answers yet give them

the opportunity to reformulate themselves or expand their reflections. This was dealt with through various approaches. During interviews we experienced that some participants answered several questions and touched upon other topics that was going to be discussed at a later time. It was therefore notably helpful to make sure we did not read in between the lines or misinterpreted answers, to let the participant verify our understanding or correct us.

10. Approach to Recording Data

As mentioned previously, all interviews were conducted through electronic devices. We decided to audio-record our interview using at least two separate devices, as a means of security. After finishing the interviews, the electronic files were uploaded to email to make sure both interviewers had access to the file. Immediately after the interview the transcription process began, while the data and impressions were still fresh in mind. The beginning of each interview contained the interviewees own presentation of name and title, so it would be possible to link them to the data if problems should occur. There are several advantages as to why we chose to audio-record the interviews as opposed to, for instance, just take notes. Audio-recording allows us, as interviewers to sit and concentrate on the task at hand: the interview. It give us the opportunity to later re-listen as much as we want, allows for direct quotes and is a permanent record (Saunders et al., 2009).

However, audio-recording also poses some disadvantages. For us, the one that influenced our process the most was the time consuming nature of transcribing (Healy & Rawlinson, 1994; Ghauri & Grønhaug, 2005; Easterby-Smith et al., 2008; Saunders et al., 2009). After careful considerations, we recognised that the advantages of audio-recorded outweighed the disadvantages and that our main mission was to be able to listen carefully and probe. This was only realistic to achieve by using audio-recording. Moreover, permission was always sought and acquired before recording an interview. Healey and Rawlinson (1994) argued that an interviewer should explain why one would like to audio-record rather than simply just request permission. Subsequently, we explained that it was for transcribing purposes and that the audio-file and transcript were available if desired.

11. Cultural Differences and Biases

Saunders et al. (2009) closes the discussion on biases with the note that one cannot simply control for all biases, as other uncontrolled factors may be significant. For instance, cultural differences between the interviewer and the interviewee (Marshall and Rossman, 1999). This is related to a number of data collection methods, not just particularly interviews. Therefore, a more detailed assessment regarding biases will be found in the following section.

Obstacles During the Execution of Interviews

Due to unforeseen personal reasons, one of our interview participants, Respondent 6, was not able finish the interview with us. It was not possible to find a fitting time for both parties when trying to reschedule to complete the interview. As a result of this we had to include asynchronous interviews in our research strategy. Asynchronous interviews refers to offline interviews, mainly conducted via email or the by the use of internet forums (Saunders et al., 2009). Though real-time interviews clearly posses the advantages of probing and interactivity we concluded that email correspondence would be favourable to no correspondence at all. When emailing back and forth, communication was mainly defined by clarification, elaboration and attempts of probing. However, it is not as easy to achieve a spontaneous conversation over email as it would be in an interview but it does give the interviewee some time reflect over the questions and the answers to give (Morgan & Symon, 2004; Saunders et al., 2009).

Another obstacle during the execution was related to online connection problems. As the interviewees were located geographically far away from our seat in Copenhagen, we experienced challenges with phone connections and signals. This challenge led to some communication difficulties, but not to the extent that it had any severe effect on the mutual understanding or the data gathering.

5.3.2 Written Documents

The other data collection method employed was the use of written documents. Using this to triangulate our own results would increase validity in the findings of this study. This section will be split into three parts: peer reviewed journals, reports and research released by this study's interview organisations and online documents, e.g. newspapers. By breaching it into three, the rationale will be systematic and with a clear overview of the different sources.

First, a deep-dive into the existing literature was undertaken to provide a proper literature review. The literature review's purpose is not only to inform about the research field but also to be a link between our own findings, previous findings and future areas of interest. This will be an integral part of the upcoming discussion. Various academics claim that for researchers to ensure a transparent review process, it is vital that the literature search strategy is accurately clarified. For instance, by disclosing the databases and keywords that has been utilised (Tranfield, Denyer & Smart, 2013). In our study, literature sources has mainly been obtained from the CBS library search engine. Additionally, Google Scholar has been utilised as a complementary source in the information gathering process to ensure a complete examination of all relevant research. These were chosen as they are trusted academic sources.

By using keywords to find relevant academic journals, we managed to limit our search. Financial inclusion, technological development, mobile payments, mobile money, technological adoption, M-PESA, Kenya and spillover effects are the keywords we have used. Then, we scanned the literature in order to select and include only the most relevant pieces of peer-reviewed studies in regards to our own research. When encountering acclaimed theories or research, we examined their sources to get an even more extensive understanding. Our motive has been to get inspiration and insights of research approaches that may be applicable to our own thesis. As our research question relates to the «how» and «why» of mobile payment services in developing markets we identified several necessary components in order to provide a critical literature review and determine appropriateness of the written documents. First, key literature needed to relate to our own field of study and be linked with our objectives. Secondly, it must include not only the most significant theories but also

make sure the revised literature is up-to-date. Thirdly, it must assure the selected literature is of proper academic weight as it will be referred to in our own analysis (Saunders et al., 2009).

Second, reports and research from the interview organisations were considered. These are mainly primary research containing data specifically on this thesis field of interest. Though they do not focus on the theoretical or academic element, they are the experts in the field and their experiences from real-life situations are deemed invaluable. World Bank, Better Than Cash Alliance and the Gates Foundation have consistently conducted research on financial inclusion in terms of mobile money over the last decade and have provided insights into current challenges, progress and changes. These will be debated in the upcoming discussion chapter, to put our findings in a long-term perspective and to assess the development of mobile payments in Kenya. By evaluating their preexisting research we were able to better perform probing during our interviews and discuss their particular choice of research approaches and angles.

Thirdly, acclaimed newspapers contributed to some extent to the data collection process. Though peer-reviewed research is the favourable option, it does not always allow for up-to-date information or the story-telling perspective of current states. We identified the need for such an outlook, in order to rightly inform about mobile payments, its history and its current circumstances. Though it did not contribute with academic theory per se, it provided facts and insights peer-reviewed journals might omit due to its theoretical and academic nature. This was elemental in the introduction when we wanted to present the whole picture.

Thereupon, the discussion chapter will combine theoretical knowledge from peer-reviewed journals, knowledge from experts and current facts from news outlets with our own findings to discuss limitations, conformity and possible new insights.

5.4 Concerns and Measures to Ensure the Quality of our Data

Related to semi-structured interviews, several issues concerning data quality have been identified to avoid being mislead in the analysis process. Reliability, biases and validity are raised as factors of concern (Saunders et al., 2009). Saunders et al. stress the responsibility regarding reliability and biases in semi-structured interviews, due to its lack of standardisation. Lastly, the concern of generalisation will be addressed.

Reliability

When assessing reliability, a researcher should have one important question in mind: would other researchers arrive at similar information? (Silverman, 2007; Easterby-Smith et al., 2008). This is increasingly hard for a qualitative study as opposed to a quantitative one, which relies on set statistical results. Hence, this study's reliability relies on the consistency of the research (Leung, 2015). Silverman (2010) proposed three approaches to increase reliability of a study: refutation analysis, constant data comparison and data as comprehensive as qualitative studies allow. The upcoming analysis will focus on comparing our own results with previous research and refute if appropriate and allowed by the results. In the following section, the comprehensiveness of data will be discussed and outlined where we will provide a justification for our interview sample.

Interviewer Bias

Firstly, the interviewer bias must be considered and assessed by regulating our tone and use of words to not influence the interviewee. Research has proven that it is in fact, possible to convey one's own beliefs in the questions asked or in the way one interpret the answers and it is, therefore, particularly important to appear neutral (Saunders et al., 2009). This issue was attempted solved through informing the participant about the questions that would be discussed in advance so they could

gather their thoughts without the pressure of presenting, but rather make up their mind and hence be able to ask questions related to eventual misunderstandings and the like.

Interviewee Bias

Secondly, there is the interviewee bias, rooted in reluctancy by the interviewee to discuss certain aspects of particular topics. This can be due to several reasons, e.g. information they will not or simply cannot reveal. Therefore, the interviewee can present an incomplete picture of the events, maybe even portray themselves or the organisation in a more positive or socially desirable manner. Biases may also induce from the time-consuming nature of an interview, as interviewees can willingly withhold information in order to, for instance, minimise the time frame (Robson, 2002; Saunders et al., 2009). This issue presented itself as the biggest problem initially and many of our potential interview candidates had to decline the offer due to hectic schedules. Further, for the participating interviewees, we feared their willingness would wear off during the interview because of standardised questions and prolonged conversations. This was adjusted for by leading the interview in a bigger context and focusing on not asking too many related questions if the topic had been discussed and elaborated for previously in the conversation.

Validity

Thirdly, the issue of validity also needs to be addressed. In this case, validity relates to the extent we as researchers are able to gather insights from the interviewees knowledge and experience. If we failed to achieve this, the legitimacy and quality of our results could be questioned, and rightly so. Therefore, we had to make sure questions were clear and precise, ask for elaborations and follow up questions when appropriate and discuss the topic from several angles in order to gain a holistic view of the subject (Saunders et al., 2009). The interview process was concluded when there was no new insights provided and the data implied a holistic perspective.

Generalisability

Fourthly and last, the generalisability of the study. This is a common concern when undertaking qualitative studies (Saunders et al., 2009). It was, therefore, important for us to assure an appropriate number of interview participants so we would attain the full and representative picture. Marshall and Rossman (1999) argued that if we are able to relate our research to already existing theory, we would be capable to demonstrate that our findings possess a more general theoretical significance in the literature than just our chosen case. Our aim throughout the thesis was, therefore, to be able to present our results in a way that also would be applicable to other countries of similar context. Kvale and Brinkmann (2009) argues for an analytical approach to generalisability in regards to qualitative research. This entails deciding whether the findings can be generalised in terms of similarities in time, place, people and other social contexts. Our study involve countries on the same continent and in the same region, which also share proximity in time, people and other social and cultural contexts and this approach is, therefore, regarded appropriate to use.

5.5 Data Cleaning

The process of carefully and accurately transcribing the data for any transcription errors, regardless of the means, is known as data cleaning. Though some researchers might have made a routine out of always sending transcripts to research participants after finalising it, it is important to beware of the issues that might arise from this. The interviewees may rather comment and correct grammar and their ways of expression than approve of their factual accuracy. Oral language being quite different from the written, which becomes very apparent in any transcription, might bother participants (Saunders et al., 2009). We therefore decided against sending out the transcript file routinely unless the participant requested it.

Saunders et al. (2009) offered several transcription techniques: hire a professional, use a foot pedal, utilise voice recognition and dictate our audio-recordings or just transcribe the vital part of the interview. There were several potential problems regarding all of these, for instance lack of funds,

efficient use of time, research of fitting voice recognition programmes or important parts being excluded. After a little research, we decided on an online transcription tool called Trint. This was cheaper than hiring a professional or a foot pedal as well as less time consuming than manual transcription. After uploading the file the programme used an average of 15 minutes on transcribing the entire interview. Thereafter, we double checked the file for grammatical errors, punctuation and its wording. Coughs, «eh»'s and stuttering or double words have been left out of the transcription file due to readability considerations. After initially including it, the readability of the text was drastically compromised. We therefore decided against including it, as we determined it would not affect the validity of the analysis or the message conveyed by the interviewee. More information regarding the interviews and transcriptions can be found in appendix 10.3.

5.6 Selection of the Research Organisations

For our research, we chose five different organisations to ensure diverse insight on the topic. In the initial phase of this thesis, we contacted key organisations and professionals with direct involvement in either financial development in Kenya or those with experience from mobile payment solutions in developing markets. This section aims to address the sampling of the participating organisations. The organisations that participated in the study were The World Bank, Well Told Story, iHub, Better Than Cash and two representatives from the Bill and Melinda Gates Foundation. These participants are engaged in research projects and field-studies on the subject and have several publications that relates to the thesis, some which have been addressed in the literature review. For more general information regarding the specific organisations, please go to appendix 10.1.

Through the diversity of the chosen participants, the thesis managed to get a wholesome understanding by gaining knowledge from their professional experiences and previous research. This gives the study a range of perspectives within the desired context.

The sample size is considered sufficient for representativeness for several reasons. First, Creswell (2014) recommends to incorporate at least four to five interview participants in a qualitative case study. Therefore, five different organisations with six participants are considered appropriate to give valuable insights into the role of mobile money systems. Previous research also supports this view by suggesting to purposefully select organisations and individuals "that will best help the researcher understand the problem and the research question" (Creswell, 2014). The chosen objects were carefully considered and chosen on behalf of their expertise, knowledge and reputation of the situation and issues related to the topic. We were open to conducting an unspecified number of interviews, as our aim was to gain comprehensive data and a holistic view we decided to continue the process until no new information was retrieved from the interviews. After 6 interviews, we felt had acquired sufficient information in regards to the topic and that further interviews would be repetitive with little or no new insights.

The World Bank

The World Bank was chosen as an important contributor to data access for the thesis, because of its support of the Kenyan government as well as all the projects they are involved in the country. The interviewee was perceived as a relevant contributor for the involvement in coordination of projects regarding financial aspects in the region, and hence thorough knowledge of the situation. The World Bank are involved in projects in more than 170 countries, working together with government and public and private sectors in their efforts to end poverty and tackle the development challenges. Overall, they are the largest financial organisation in the world and its reputation precedes them. In Kenya they work specifically on the Vision 2030, which aims to reduce inequality, manage resource scarcity and accelerate sustainable growth (The World Bank, 2019b) as a project between The World Bank and the Kenyan government. Already over seven million Kenyans benefitted directly from the project through investments done by the World Bank organisation International Development Association which works for the poorest countries in the world. Its influence and renowned status globally is one reason we regard World Bank as one of the most important contributors to this thesis.

Well Told Story

Well Told Story works with young people, specifically defined as people between 15 and 24 years in East Africa, with the goal of improving their living standard and well-being (Well Told Story, 2019). The organisation was suggested as a relevant contributor to the thesis by an interview participant from Bill and Melinda Gates Foundation, because of Well Told Story's work on youth development in Kenya. Their insights was necessary to get information from a source performing research specifically on youth development, as age is one component this thesis will evaluate. Initially, most of the information obtained from other interviewees regarded adults and their utilisation of mobile payments. In order to get the seize the whole picture, we recognised the need for data concerning all ages.

iHub

More than two hundred startups can trace their roots back to iHub. As one of 442 tech hubs in Africa, they support and assist technology innovation and entrepreneurial projects in Kenya. A tech hub is considered a physical space that help technology startup companies succeed. As the entrepreneurial environment in Kenya is flourishing, the thesis acknowledged the importance of acquiring insights from relevant contributors that works close with the development of such services locally. Through iHub the thesis would be introduced to a point of view other organisations could not provide. A perspective from someone who is not an economist, has worked on development or the purpose of financial inclusion for inhabitants in developing areas directly. Rather, iHub gave insights from the works of developing the country through FinTech solutions that are arising and the technological possibilities. Even more, iHub is the only Kenyan organisation and participant in the sample. Therefore, first-hand experiences with mobile payment solutions was presented from a consumer perspective and not only the provider perspective. Through working with knowledge creating through support of the community, iHub were perceived as a relevant contributor in the questions regarding entrepreneurialism in the Kenyan market.

Bill and Melinda Gates Foundation

The Gates Foundation's relevance to the thesis was discovered through the search for databases in developing countries. Yearly, they provide comprehensive data on development in regards to households, inequality, the status of financial exclusion and inclusion and has worked actively to support private and public investments in the digital payment infrastructure to ensure progress towards the promise of financial inclusion (Gates Foundation, 2019b). The foundation has driven change within developing countries on a global scale for years. Because of their involvement in such areas, we believed that it would contribute with a holistic understanding to our research, and help us address the challenges people in such areas struggles with everyday. If we managed to assess these challenges, we could be able to determine some of the possibilities that lies within the technology of mobile payment solutions.

Better Than Cash Alliance at the UN

Better Than Cash alliance, an organisation of the UN, was considered relevant for this research because of its extensive work on cash substitutes in economically challenged areas. They are present in over 70 different countries, most of them developing and emerging economies, and their absolute focus in on the transformation from cash-based economies to digital ones (Better Than Cash, 2019c). The government of Kenya is a member of the alliance and due the fact that their involvement corresponds perfectly with the scope of this thesis, Better Than Cash Alliance was perceived an important contributor to the thesis. Better Than Cash Alliance is a crucial organisation to consult when it comes to discussing the impacts of mobile payments. Due to their immense knowledge and resources in the field they are considered the forefront experts and their inputs are invaluable.

6. Analysis

The following analysis section is centred around the 6 separate interviews that was conducted. This serves as the primary source of data. Written documents will triangulate our own data collection. These will assist our analysis by backing up and challenging our findings based on previous scientific research. The upcoming chapter will be divided into three sub-parts one for each research objective, which can be found in the box below. By systematically answering each objective separately, we aim to achieve in-depth evidence that will later assist in answering the research question. In appendix 10.1 you will find a clarification of the different respondents and the organisations they represent.

1. Assess the rate of adaptation of mobile money services.

2. Assess differences between gender, location and age.

3. Assess risks and concerns with utilising mobile payments in developing economies.

6.1 Part 1: Assess the Rate of Adaptation of Mobile Money Services

When assessing the rate of adoption, we must evaluate the external conditions influencing why it has experienced such success in Kenya as well as distinguish the different stages of the adoption process. TALC will be used to pinpoint Kenya and its neighbouring countries advancement over the

last years, and theoretically establish the differences. Further, the TAM will analyse how and why Kenyans have implemented mobile payments into their life to the extent that they have.

6.1.1 Technology Adoption Life Cycle

This section will utilise the data gathered from interviews and from World Bank's Findex database. The illustrated data below depicts the percentage increase of mobile money users in Sub-Saharan Africa and the pre-existing categories will be exploited and help put the data into context (Demirgüç-Kunt et al., 2018). Evidently, the mobile money use in Africa has increased heavily over the three-year period from 2014 to 2017.

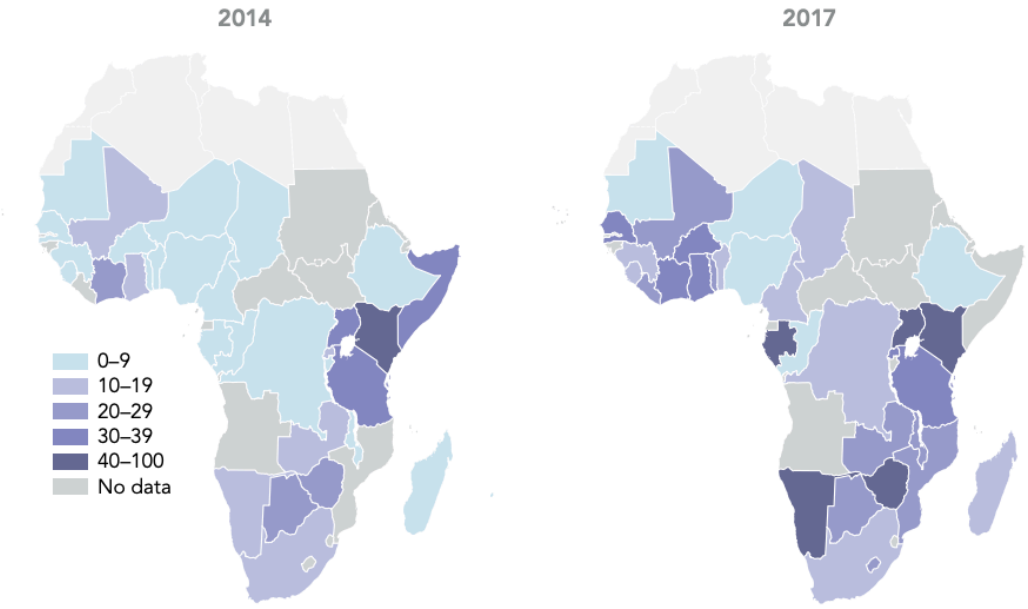

FIGURE 9: MOBILE MONEY USERS IN SUB-SAHARA
Source: Demirgüç-Kunt et al. (2018)

Previously, Kenya has been the obvious mobile-hub of Africa but the rest of the continent is expanding rapidly, with Kenya, Senegal, Côte d'Ivoire, Ghana, Gabon, Namibia, Zimbabwe and Uganda at the forefront of Africas FinTech revolution, as of 2017.

The TALC will be applied to the five different categories; 0-9, 10-19, 20-29, 30-39 and 40-100, and is found in the illustration below. The countries located in the «no data» section will not be evaluated due to missing information.

The first illustration is built using only the 2014 data.

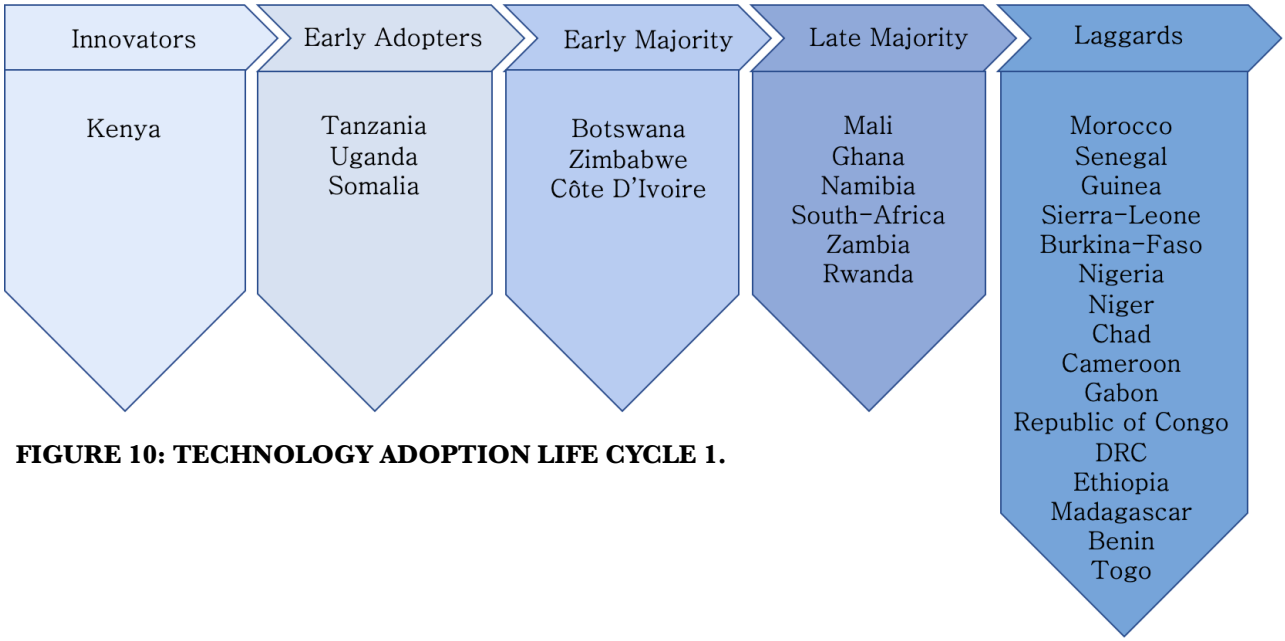

FIGURE 10: TECHNOLOGY ADOPTION LIFE CYCLE 1.

As seen, Kenya is the leading country when it comes to mobile technology. This edge puts them in the «innovators» category. Innovators are known for being eager first users of new technology, often at the cost of uncertainty. Respondent 2 from Better Than Cash argued that «*Kenyans are very entrepreneurial, in general. I think they are known as open to new technologies*». This is founded on the country's historical setting as the British colonial headquarter. Education, amongst others, is a service that has been more well developed in Kenya as opposed to other Sub-Saharan countries because of this. Though such generalisations are hard to make, the interview participant believes that the level of education has influenced the Kenyan entrepreneurial spirit and is partly responsible for Kenyans embracing new technologies as they come along. This was supported by respondent 5 at iHub, who characterises Kenya as a place with «a million opportunities» as opposed to neighbouring Tanzania

and respondent 6 at Well Told Story who have seen a surge in young entrepreneurs over the last years.

«Majority of Kenyans tend to be entrepreneurial. If you ask a Kenyan what you plan do it in five or six years, one of those things will definitely be started business. They might not be sure where, but they definitely want to get into it, and those who got into it look for where it is that they can make their lives easier». (Respondent 5)

This corresponds to a similar research conducted by Gosavi (2015), who found that, overall, Kenyan businesses are more likely to adopt to mobile services than businesses from other Sub-Saharan countries. Kenya's infrastructure and educational system has been considered as above average, compared to its neighbours. Davis (1989) proposed a relationship between innovators and socioeconomic status, who argues that a higher education level implies a higher adoption rate to new technologies, which is applicable to the case of Kenya.

Uganda, Tanzania and Somalia are categorised as early adopters. It is interesting to note that they are all neighbouring countries to Kenya. One underlying reason for this can the geographic proximity between the countries. After its launch, M-PESA experienced steep growth. After immense success in the Kenyan market, Safaricom aspired to expand to other countries. Tanzania was the first on the list, much because of its location and familiarity (Vodafone, 2008). Previous research have shown that Kenya has had a business environment advantage, whereas Tanzanian, Ugandan and Somalian firms have been less inclined to adopt to mobile technologies. This is supported by Respondent 2, who believes that particularly Tanzania ultimately learned the lessons of development after looking to the Kenyan market. However, the competitive environment in Tanzania is more extensive and their market consists of two or three even operators, as opposed to M-PESAs monopoly. Moreover, the countries faced somewhat tougher regulations than Kenya, which has been pinpointed as one factor to hinder them from the absolute earliest adoption (Respondent, 2). This corresponds well with the role of early adopters, who are one of the earliest to adopt, however, refrain from the first-adopter role and takes instead responsibility for gathering information and to some extent decrease uncertainty.

The third category assess the early majority. In this phase, we argue that Zimbabwe, Botswana and Côte d'Ivoire are located. They are positioned in the middle and does not adopt technology until it has proven its value worth. This cluster is described as conservative and risk averse because their limited resources must be used wisely. By following the argumentation of the model, one possible explanation may be the developing level of the countries. As economic situation and overall level of development is higher than the majority of African countries, they may be better equipped to accept the cost associated with new technologies (HDI, 2018). All Sub-Saharan countries' HDI ratings can be found in a table in appendix 10.4. However, this is not a conclusive explanation seeing as there will always be outliers. For instance, Botswana is ranked higher than Kenya, which is placed in the 'innovator' category. There are multiple reasons influencing adoption rates that needs to be addressed in order to define adoption across Sub-Sahara, but this in-depth analysis is not feasible to determine within this study.

The two remaining categories, late majority and laggards, will be combined into one paragraph. The scope of this analysis is not to conduct an exhaustive analysis of Sub-Sahara as a whole, but rather look at how Kenya is positioned opposed to the other countries. Countries positioned in these two categories correlate well with the latest World Bank index report, where the vast majority of the late majority and laggards are placed near the bottom of the ranking in terms of development (HDI, 2018). As Staykova and Damsgaard (2013) proved, adequate infrastructure and regulations are amongst others underlying conditions for mobile payments to succeed. This can, therefore, have hampered the development of tech adoption in these particular countries. Their economic situation and positioning in the cycle correspond well with Rogers (2003) argument regarding socioeconomic status' importance. As he believes there is a causal relationship between accepting technologies and wealth, it makes theoretically sense as the countries are the least developed according to HDI (2018), which may imply that they are more likely to avoid the costs and risk recognised with mobile money services. Therefore, one explanation may be these countries can find it beneficial to wait until uncertainty is controlled for and the technology has proven its worth. Moreover, this distribution amongst the variables do not fit the model, theoretically.

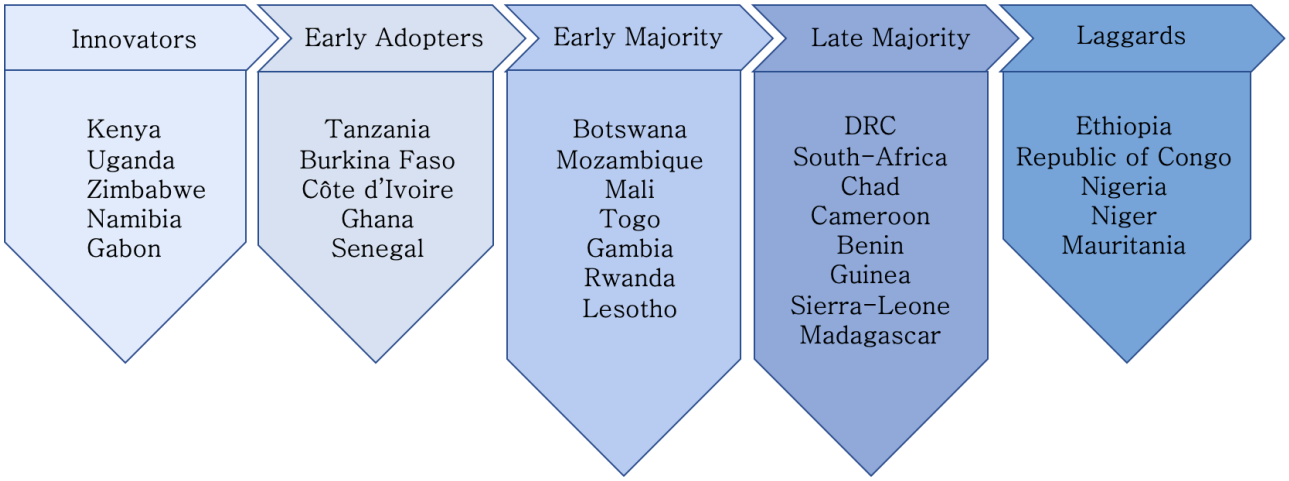

FIGURE 11: TECHNOLOGY ADOPTION LIFE CYCLE 2.

When adjusting the model to the 2017 data, we find that it is more accurate according to its underlying conditions. The TALC model is bell shaped, which represents normal distribution amongst the categories. For the 2017 model, the categories are essentially normally distributed. One reason for this may be the circumstances surrounding the early adoption stages. The FinTech revolution in Africa has been rapid and expansive, however, when the 2014 data was collected it may have been too early for most of the countries to achieve any meaningful acceleration. This is evident in the considerable changes seen in the data from 2014 to 2017, where the tech adoption has boosted then evened out. We found it important to include both illustrations of the model, though the first one is not academically correct. This is of relevance for Kenya as it accurately depicts the situation, both according to previous research and our own data collection. They are and have been, at the forefront of technological adoption when it comes to mobile payments though the remaining Sub-Saharan countries have started to catch up. It is also important to emphasise that this is not a conclusive list, but a suggestion that will be used later in the analysis when explaining Kenya's position in relation to other Sub-Saharan countries.

6.1.2 Technology Acceptance Model

It is important to evaluate not only *how* many people or countries who adapts a technology, but also *why*. This will be determined by employing the TAM. Each step of the model will be analysed, respectively. As the PU is determined as the most critical part of the model, this will be given significant emphasis throughout the analysis. Moreover, as the external variables are what directly influences the PU, we believe it is necessary with an extensive reasoning to genuinely comprehend their underlying characteristics. Thereafter, we will assess the last three steps of the model and investigate why and how it is being used.

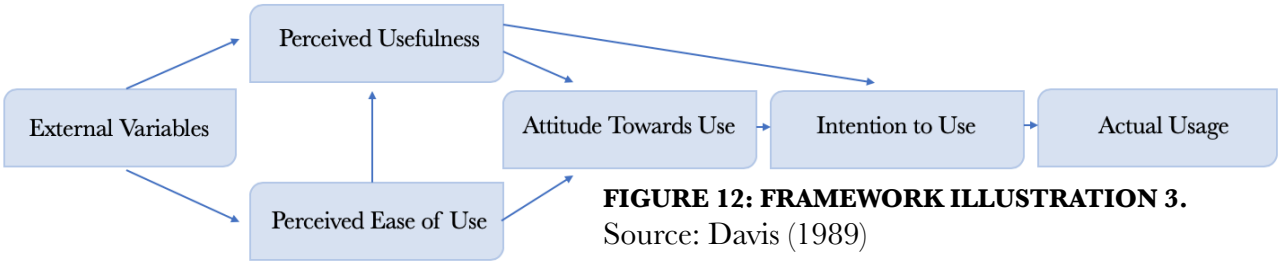

FIGURE 12: FRAMEWORK ILLUSTRATION 3.
Source: Davis (1989)

External Variables

The external variables examined in this analysis will be cultural, political and social. Succeeding our interviews, these stood out as the crucial factors in influencing Kenyan's when it comes to technology adoption. These will be evaluated separately before determining their impact on usefulness and ease of use.

1. Cultural

Multiple cultural aspects has been identified as substantial in regards to Kenyan adoption to new technologies. As previously discussed, Kenyan's are perceived more entrepreneurial than their African peers. Our research objects implies that this directly correlates with being open to new technologies (Respondent 2, 4). This mindset in itself is a contributing factor towards adopting mobile money technologies. Moreover, we found that Kenyan mobile penetration rates are extremely high. «Everyone» has a phone (Respondent 2, 5). However, this is not synonymous with

everyone having a smart phone. Regular mobile phones can be as cheap as 19 dollars, so the barriers for acquiring a phone are low, much lower than those of acquiring a bank account (Respondent 5). A bank account requires ID, documentation, showing up at an actual branch usually over great distances, paying fees for being a customer whereas mobile money requires access to a phone and ID. iHub recognises an average interest on loans from banks to be 14 percent, which is twice the rate M-Shwari demands for their mobile loan service. This alone is enough to discourage people from opening an official account (Respondent 5). Therefore, conveniently eliminating barriers was a critical step for Safaricom when introducing mobile financial services.

Generally, skepticism in the financial system is rooted into the Kenyan culture. Two specific reasons has been determined. First, the interest rates are unreasonably high. Two, a general distrust in the financial institutions and its ways of operating has resulted in people avoiding using the banks. «Chama» has become the solution to counteract the presence, or lack off, banks. Chama's are informal investment tools, a collective existing of friends, relatives and/or colleagues pooling their resources together. When needed, the resources are granted as loans in return for a small interest, naturally much lower than what is offered at the bank. Though these are now evident across Africa, they hold a particular important position in Kenya: «chama is everywhere, and people have different ones» (Respondent 5). With the introduction of mobile payments, chama's experienced increased agility whereas banks became even more pointless in the eyes of Kenyans.

Another important part of Kenyan culture is sharing. Respondent 6 states that in African culture, «*you basically cannot say no*». When cash prevailed the primary form of financial exchange, there was a distinct visibility pertained to it. As the bus driver delivered cash to a Kenyan home, portioning was inevitable. The husband would claim a certain percentage and neighbours would come over for a loan. So, the introduction of mobile money also introduced female, financial autonomy. When visibility ceased, the obligation to share decreased with it. Capital now arrives directly within a mobile money account and sharing has become a more voluntary action for the receiver.

2. Political

The political and regulative environment in Kenya has been discussed widely during our interviews. All participants believe that the regulatory environment set by the Kenyan government and Central Bank of Kenya is a major reason for the success of mobile payments. Respondent 2 stated that «*the Kenyan government allowed for the technology to flourish, as they did not impose tight regulations*» and embraced a laissez faire approach. This lead to a liberal environment for Safaricom to develop their service. This is supported by Respondent 4 and 5, who argued for a very liberal political system where entrepreneurs in general are allowed to explore without heavy regulations or restrictions. Respondent 2 further states that other Sub-Saharan countries operate with tighter regulations, which could be a reason for why they are currently lagging behind. This is also supported by the World Bank which emphasises CBKs important role as they did not oppose the entry of the telecom operator into the financial sector, and hence allowed for «experimentation in order to foster innovation» (Demirgüç-Kunt et al., 2018). Overall, this was recognised as a critical factor for Kenya's rapid adoption. This is an important feature in development economics, which states that the market must be efficient and without too heavy governmental regulations to experience successful growth.

3. Social

The social aspect is the last external variable to consider. Social codes of conduct and interactions are important parts of Kenyans everyday life and has contributed largely to the grand embrace of mobile payment technologies.

Herd behaviour is identified as one of the main drivers in the adoption of M-PESA. The psychological phenomenon arise when individuals are acting together collectively as a group rather than taking individualised decisions. In Kenya's case, this was displayed in their attitudes toward new technologies: one by one, they adopted to M-PESA and friends and relatives influenced each other to utilise the app. Respondent 5 explained how the registration process evolved in Kenya: *«You can now just walk into any restaurant, have your meal and they give you a Airtel number and that's it. You pay, you leave. I think for me it is those kind of transactions. And I think it also really contributed to people using it because if*

every restaurant has a Airtel number where you go you're seeing one, then people who don't use it go like "I think I should get it". And once you start using mobile money, you're done. It's complete. You no longer need cash, you realise».

The aftermath of herding resulted in network effects. To some extent, the mobile payment adventure in Kenya is a result of extreme network effects. Though the industrial economy has been characterised by oligopolies and a few large, dominant players, the information economy is recognised for its temporary monopolies. Technological firms and channels dominates until the inevitable superior solution enters the market and temporarily takes over (Castells, 2000). Safaricom held an extremely favourable position in the Kenyan market when M-PESA was launched, with a marketshare of 84 percent. This was utilised to exploit network effects. Network effects is a typical consequence for firms exploiting first-mover advantage (Damsgard & Staykova, 2015). The more people who acquired M-PESA, the greater the value of the service and the larger the effects grew. According to M-PESAs own annual reports they had registered over 2 million users in their first year of operating (Safaricom, 2008). This suggests an extensive market need that Safaricom successfully managed to meet.

Perceived Usefulness

Perceived usefulness is decided by an individuals perception of the benefits relating to the new technology. In Kenya, evidence shows that mobile money has been a long awaited solution. The amount of users of mobile money far exceeds the amount of individuals with an official bank account (Demirgüç-Kunt et al., 2018). We identify two conditions for mobile payments to appear acutely useful in Kenya: the need for a safer option to carrying cash and the need for a cheaper option to having a bank account (Respondent 1, 2, 3, 4, 5, 6).

Kenya has long been a cash driven society, however, there are certain liabilities associated with this. First, theft. When leaving your cash in a box with a bus driver, you do not really know whether or not the full amount arrives to the receiver or if it arrives at all. This is recognised as a common yet accepted risk (Respondent 1). M-PESA managed to eliminate this uncertainty, the only money forfeited using the service is the transaction fees. However, our data shows that paying a small pre-

established fee is a sacrifice worth making knowing the money will arrive safely (Respondent 1, 2). Second, time and efficiency. We recognise these two cause-and-effect factors as the disruptive ones for the Kenyan everyday life. As most financial institutions are located in more economically viable urban areas and 70 percent of Kenyans live in rural areas, distances between the institutions are vast (Mbiti & Weil, 2011, 2013; Demirgüç-Kunt et al., 2018). Mobile money eliminates this need by providing real-time transactions anytime, anyplace. It «*basically brings the financial system to your hand which obviously reduces the distance*», according to Better Than Cash (Respondent 2). When time spent travelling to a financial institution and the transfer time is reduced, efficiency was increased. Kenyans now have more time to focus on more essential activities, like work, starting their own business or taking care of the family. Now, the only time-consuming aspect of transfers is the time it takes to complete the transaction over their phone (Respondent 1, 2, 5). To sum up, the mixture of time, distances, risks and uncertainty created the need for a secure and accessible solution.

Perceived Ease of Use

The degree of effort associated with adoption to a new technology will influence the rate and extent of adoption. For M-PESA, the perceived ease of use will vary. Kenya's population range from illiterate to highly educated, which is particularly visible looking at it from a generation point of view. For the younger literate generation, phones and technology have become a natural and integral part of the everyday life. However, the older generation as well as the rural population are less comfortable with technology in general and often tend to prefer cash payments (Respondent 2, 3). iHub highlights this issue by stating that users who do not know how to read or write are dependent on family members who can teach them the application (Respondent 5). This is emphasised by Well Told Story who states that «*in general, simple access to financial tools can have a limited contribution to wellbeing unless it is accompanied with at least some level of financial and digital literacy*» (Respondent 6). The tradeoff between carrying cash and learning to use the application is leaning in favour of the latter, as most Kenyans recognise the value of the service in terms of safety and conveniency. Both old and young Kenyans have to some extent learned to navigate the service, however, the issue of literacy still remains a concern. As Davis (1989) argues, consumers will adopt

to the technology regardless of its ease as the advantages relating to the service is the primary concern. Gates Foundation (Respondent 3, 4) highlights the importance of preexisting conditions in order for mobile payment services to work, which is necessary in developing countries where infrastructure frequently is below par and often under-prioritised. The product of M-PESA can be reviewed through the lens of frugal innovation. Instead of focusing on new, groundbreaking technology, Safaricom opted to target inclusion by utilising existing technology in an innovative way: all kinds of mobile phones, with or without smartphone features.

«The beauty of the mobile banking is that it really is piggybacking on top of existing infrastructure that are in people's hands already» (Respondent 4)

This is highlighted in development economics, which argues that diffusion of technology will initially be more important than the innovation itself (Taylor & Lybbert, 2015). By utilising and spreading the existent technology, Safaricom allowed for a quick and easy adoption of the technology which later endorsed a favourable environment for tech innovation.

Attitude Towards Use

This has been touched upon earlier in the analysis, but our results shows that Kenyans are perceived more entrepreneurial and more open to new technologies than in other Sub-Saharan countries. This curiosity will, therefore, serve as a future reference for upcoming technology adoptions. One reason established for their positivity towards mobile payment services in particular is the large proportion of inhabitants being unbanked. Gates Foundation (Respondent 4) believes that it is easier for Kenyans to be open to mobile payments as they have not conformed to a bank- or card-based society yet, whereas Western countries already feel rather content with the ease of card use. Complementary, the idea of herd behaviour touched upon earlier can be presented as a motive. Potential users see relatives and acquaintances adopting the technology with success and the familiarity and trust make the application appear more credible and necessary than perhaps if an M-PESA agent or advertising tried to encourage registration.

Intention to Use

Kenyans intention to use is a combination of the external factors affecting their decisions, their attitude towards new technology and its perceived usefulness and value. As we previously have determined, both value and usefulness have been recognised as remarkable. If these coincide with the external factors, mobile payment services are, theoretically, highly likely to be adopted. In this study, the social, political and cultural factors positively correlate well with the perceptions and attitudes of Kenyans and is, therefore, the underlying reason for the overall adoption of the service. The decisive external factors are specifically regulation, lack of safety, efficiency and conveniency. When these are put into context with the entrepreneurial spirit Kenyans display, the likelihood of accepting the technology is significant.

Actual Usage

Actual usage analyse the extent of behavioural responses concerning the service. World Bank provided insights into the process of Safaricom and how they have developed M-PESA over the years. Consistently, they have been observing user behaviour and patterns in order to try to convert these into actual products. For instance, this was how M-Shwari initiated. Kenyans sought for a place to easily save money in the short-term, and M-PESA answered by developing a micro savings product to deal with the demand (Respondent 1).

«*It is a huge income generate that for Safaricom. It's a fantastic product that works really well for daily traders. So these are kind of the user generated cases where you can say «Well, we meant the product for this, but it actually is doing that and that's fine because it still brings us money back, maybe we can create something new out of it»* (Respondent 6 on the emergence of M-Shwari).

Generally in Kenya, mobile money services has transformed from a simple means of transferring and receiving money to become a tool which aids all financial activity. Kenyans now pay their electricity bills, school fees, grocery shopping, buy government bonds as well as transfer funds to friends and family through the service. Another example of actual user behaviour is the eluding of age limits. In Kenya, inhabitants do not receive national ID cards until they are eighteen. These are

required in order to create a mobile money account. However, M-PESA allows every adult citizen the opportunity to open a maximum of three mobile payments accounts. A regular usage pattern in Kenya is parents opening up accounts in their own name, for their kids to dispose. This is mainly used to pay school fees, buy books, cheap snacks etc. Then, when the kids turn eighteen the parents transfer the account into their kids name (Respondent 1, 6).

6.2 Part 2: Assess the Differences and Impacts on Gender, Location and Age

To be able to assess the spillover effects that is part of the RQ and what other developing countries can learn from the case in Kenya, the three subcategories gender, location and age are assessed and will be analysed, respectively. These were the three recurring factors that were discussed throughout all interviews in regards of the impact of mobile money services. Given the weight these are given in the collected data, the second part of the analysis will be centred around these.

6.2.1 Gender

Historically, women are under-represented in developing countries when it comes to decision-making positions, which is also the case in Kenya. The inequality is particularly present in rural areas, where women tend to have less access to education, training and credit than men (UN, 2019). Traditional ideas about roles that restrict their contributions in the society holds women back from contributing to reach the important development goals Kenya has put forward. Our data implies that especially the impact on female empowerment has changed after the introduction of mobile money. By increasing female participation in policy- and decision-making across all levels, women can easier exercise their rights and contribute to make the communities stronger (Respondent 1). Males have typically controlled household assets and the income they have generated which again has led to male dominance in terms of financial decisions (Respondent 6). Our research shows that

mobile money has contributed to change this pattern (Respondent 1, 6). Earlier, women with responsibility for the household had troubles with generating income because of their locked position. Now, through mobile payment solutions and digital services they can create ecosystems of new opportunities through technology, e.g. digital sales and services. Respondent 6 stated that even though a woman spends 90 percent of her time at home, it is still possible to generate income by using the mobile tools, and these opportunities were not present before. As shown in the literature review, the research from Gichuki and Mulu-Mutuku (2018) on mobile service adaption by female Kenyan entrepreneurs concluded that mobile payment solutions have enabled women to have more control over their resources and also contributed to financial inclusion. This is backed by another study presented in the literature review section, on the effects of digital banking. It proves increased living conditions for women as women can boost their savings with more than one fifth, which contributed to get more women engaged in commercial or business activities. This is also stated by Suri and Jack (2016) who conducted a research on the long-run impacts mobile money has on gender and poverty, more specifically M-PESAs impact on the economic life of Kenyans. The research was conducted over a 6-year period and based on data from 1608 households. The findings in the study shows that the mobile money systems lead to more financial inclusion, and that financial inclusion on a basic level is a route out of poverty for many women.

«The gender gap has been significantly reduced after the entrance of M-PESA» (Respondent 1).

Another factor that is influencing the gender gap, is that the Kenyan market is observing an increase in SME (small medium enterprises) transactions as a result of the mobile money systems. Women experience lower barriers when commencing their own projects and businesses. An example of female empowerment within SMEs was presented by respondent 4 during the interview. «*A woman is a vegetable seller, the lady wakes up early to request a small loan trough the mobile money system. She gets the loan, and first she sends 60 percent of the money to her supplier of vegetables, and 15 percent to the transporter. When she again sells the groceries, she gets back money, puts it in her phone and then again repays the loan».* This is an example of how women that used to have difficulties in participating in the economy because of liquidity and effectiveness, now has the possibility to run their own business for the reason that these factors are not an obstacle anymore.

This is supported by Demirgüç-Kunt et al. (2018) who argues that mobile money systems help close the gender gaps, as the embracing of such services have created new opportunities to better serve women and poor people – the ones that traditionally have been excluded from the financial system. More and more women have experienced a greater level of financial inclusion after the introduction of mobile money, and female households have seen more financial autonomy. This is a result of receiving their funds directly on their mobile money account instead of collecting physical cash form the bus driver off from the man of the household. With less people involved in the decision making process, women have more power to take independent financial choices. But, the digital technology and mobile money platforms is not alone enough to increase financial inclusion, other factors such as appropriate regulations, well-developed payment systems and consumer protection requires to be implemented to achieve this (Demirgüç-Kunt et al., 2018).

6.2.2 Location

«Obviously, the role of M-PESA has been critical. People used to give a box of money to the bus driver to send it to relatives that lived in the village, with all the risks that included» (Respondent 2).

Respondent 4 states that «the beauty of mobile payments» is the exploitation of the already existing infrastructure that are in people's hands. It makes you able to complete transactions regardless of where you are, both direct and remote transactions. Equivalent to our results, FSD Kenya conducted an analysis on the members of society in rural and urban areas, and this shows that the ones located in the urban areas needed an reliable but inexpensive method of sending money to their relatives in rural areas (Manica & Vescovi, 2009; FDS Kenya 2009). A large percentage of the poor, young adults, the unemployed and seniors depended on the employed sector of society for financial support (Respondent 1, 3, 4). Just before the launch of M-PESA, 14.3 percentage of the Kenyan population depended on money transfer from relatives and friends as their main source of income (FSD Kenya, 2009). Mobile payments can create a portal to the broader economy, not merely through financial services, credit savings and infrastructure, but through enabling you to pay bills, connect with businesses, and use it as a tool for a better livelihood (Respondent 1, 5).

The mobile money systems have made a tremendous difference in regards to location and the daily life of Kenyans has changed a lot after the introduction of mobile money. With easier access to funds, remittances and an access to easy payment solutions the mobile money systems contributed to an easier flow of money (Respondent 2). To assess the impact on location, the section will look at the factors influencing change in rural and urban areas. As the term «location» is vaguely defined and Demirgüç-Kunt et al. (2018) uses different approaches across countries to account for country-specific characteristics, it is proved difficult to create a consistent definition of the urban-rural divide at the global and regional level. However, in this thesis it will depend on the density of the population, whether it is a city or a village and its development level. In urban areas, people are usually more educated, have higher income and have access to financial services whereas in rural areas people are more likely to work in agriculture, be illiterate and poor. Thus, the following section will be divided into rural and urban areas in order to provide a consistent analysis and cater for the differences experienced across the country.

1. Rural Areas

One of the most evident changes for citizens located in more rural areas of Kenya, is the ease mobile money provides for conducting financial transactions. This is in regards of safety throughout the whole payment process, but also that there are no other option or substitute to digital solutions for the unbanked. Rural citizens often lack the initial income needed to start up an official bank account. Therefore, the transaction fee associated with M-PESA are feasible compared to the alternative (Respondent 5). In Kenya there is a norm that if relatives lives and works in the urban areas they send money home to the ones that live in rural areas. This was also M-PESAs core goal and corporate slogan from the establishment, «Send Money Home» (Mas and Ng'weno, 2010). Before mobile money services were available, people used to send money with informal transport services such as the bus driver or a taxi to get them delivered (Respondent 2, 4, 6). This approach is expensive and risky, and the client would never know if the whole amount would be delivered, or if the money would be delivered at all. The use of M-PESA has provided a safe way of doing transactions in exchange for a small transaction fee, which people willingly pay to eliminate uncertainty (Respondent 2). Another important contributor is the time expenditure that is avoided

by utilising such a service. If the rural area citizens reinvest the time saved on travels in work or education, the whole society can experience a chain reaction in regards of a greater workforce and productive allocation of labor, and hence increase productivity (Dawson, 2017).

«All of a sudden you have access to a financial system through your phone, that means that if you live in rural areas, you don't have to travel a day on the bus to get to a bank branch. This obviously reduces costs and increase efficiency» (Respondent 2).

The mobile money service also helps the providers of financial services to save costs. Banks do not necessarily undertake projects of building branches in rural areas, as this is both costly and likely to generate insufficient income due to too few customers. By providing opportunities through mobile money, they can generate money and increase the circulation of finances in a much more efficient way (Respondent 2). This is also evident for businesses in Kenya, as they now have a platform for efficient collection of money and an efficient way of managing their finances (Respondent 1). For farmers in rural areas of Kenya, the mobile money systems has proven important to secure a connectivity with the suppliers for equipment, fertilisers and seeds, and hence improve efficiency in producing and coping with unforeseeable shocks (Respondent 1). By using mobile money systems they are more agile in meeting unexpected expenditures that follows unstable climate incidents.

2. Urban Areas

In urban areas, mobile money is not the only option for safe transactions and functions rather as a complimentary service to cards. People in urban areas generally tends to be more banked, hence have access to banks and bank cards (Demirgüç-Kunt et al., 2018). Respondent 5 argued that because of the transaction fees associated with each and every transaction, it is more normal to use bank cards instead of the mobile money when paying for groceries and services and other everyday services. This is explained by higher income levels in urban Kenya, where people have enough money to maintain a bank account and can, therefore, easily avoid transaction fees. However, whenever the need for transferring funds to relatives in the rural areas arise, they no longer have to spend hours at a bank branch or travel for days as they now can send the funds directly through the mobile money systems. Nonetheless, M-PESA's presence is still massive even in urban areas. Every

grocery store, restaurant or service provider has a payment option for M-PESA as this is an easy and efficient method of paying through mobile money (Respondent 2, 5). But, opposed to rural areas, the benefits and safety that comes with transaction in urban areas are not significant enough to make up for the high transaction fees. (Respondent 5). Therefore, we argue that the regional differences within Kenya constitute two distinct purposes for M-PESA: a complimentary service to bank cards in urban areas whereas in rural areas it operates as the sole alternative.

6.2.3 Age

We identify age as a determinant important to assess in order to address all aspects of mobile adoption in Kenya. This section will differentiate adults from youths and to specify distinct characteristics relating to age. To structure this section, the data on youths, defined as the age between 15 to 24, will be addressed as one cluster, and adults, all ages over 25, will be the other. The reason for this division is that the data gathered through interviews are focused on the youth-sector 15-24 years, and the data for ages above 25 are determined mostly by reports. One interesting aspect that will be analysed is the opportunity provided to the entrepreneurial segment of the citizens. Data has been obtained from both an organisation that works with startups and entrepreneurialism in Kenya, as well as an organisation that works actively with and for youth engagement, which will form the foundation for this part of the analysis. The forthcoming section will determiner if there are significant differences across age and whether or not there are certain advantages pertained to these.

The first recognised difference regarding age or the generation gap is that youths tends to be more entrepreneurial, and they are looking to entrepreneurship to secure their future (Bonnici, 2015). Kenya is perceived as a more entrepreneurial state opposed to its neighbouring countries (Respondent 2), and according to interview participants, there are several factors leading to this. Social factors such as history and government policies contribute, but a main factor that repeately came up, was the stagnating rate of job creation. Though primary school is free in Kenya, it must be stressed that mobile money solutions have no direct impact on the numbers of youths taking

education (Respondent 6). Primary school is elementary in order to combat all forms of illiteracy, however, Kenya experience a very real challenge with too many youths completing higher education. This is considered a problem as the economy of Kenya does not produce nearly enough jobs.

> *«What currently is happening in Kenya it is that there is a crisis over the educational system, in terms that the educational system kind of constantly churns new graduates».* (Respondent 6).

With graduation every six months and an economy that merely generates 100,000 jobs for a work force of 1,000,000, obstacles occur, and Kenyas youth unemployment rates are currently at 18.4 percent (World Bank, 2019g). Mobile money contributes to alleviate the current pressure on the job market as it is considerably reduces the barriers for Kenyans to start businesses of their own. The flourishing start-up environment causally boost the Kenyan employment sector as there exist an inverted relationship between the challenge of job creation and entrepreneurial self-employment.

The importance of creating solutions and systems that makes everyday life easier is a focus within the entrepreneurial sector of Kenya. The ease of receiving, sending and borrowing money is one of the reasons that almost every single innovative FinTech product in Kenya rides on the M-PESA platform (Respondent 1). M-PESA already offers efficient transactions at low cost, but it also provides small loans to people who previously had no means of obtaining liquidity. Now, Kenyans, especially youths, are able to secure start up capital and create their own businesses (Respondent 6). As explained through the theory of development economics, *knowledge spillover* is an idea that makes people more productive. By easing the way of creating new businesses and increasing the knowledge levels, the whole society can draw benefits from it and correspondingly increase the level of productivity.

On average, developing countries have a larger gap in bank account ownership between the poorer and richer adults (Demirgüç-Kunt et al., 2018). This is also evident in Kenya, but mobile money systems have contracted it. Respondents 1, 2 and 3 distinguish the introduction of M-PESA as the main contributor to closing this gap. Poorer adults are actually more likely than the wealthier ones to have merely a mobile money account (Demirgüç-Kunt et al., 2018). M-PESA was never a service

targeted to the unbanked but it has been highly adopted by them, as it is the only financial service with adequately low barriers. One explanation for this is that the poorer part of the population does not have the minimum capital required to maintain a bank account nor a branch to visit if needed. However, the small transaction fee per transaction is manageable compared to the large amount of funds that gets locked into an account. For the richer part of the population, they are able to avoid transaction fees as they possess enough capital to over hold the minimum amount without economic difficulties.

The age of those who holds mobile money accounts differ in countries, and it is a tendency that young people are more likely to hold such accounts because they are more open to technology. However, this is not proven evident in Kenya, as there is no significant difference in mobile money account ownership between the two age groups (Demirgüç-Kunt et al., 2018).

6.3 Part 3: Assess Risks and Concerns with Utilising Mobile Payments

Though mobile payments have brought financial inclusion and efficiency to Kenya, the data revealed multiple risks and concerns. These will be divided into two groups: user risks and provider risks. User risks concern all the risks a user of such systems could experience when utilising the service whereas provider risk is all the risk and concerns the provider of such service may encounter. With technology implementation and usage, certain risks always follow. Risk is the exposure to damage, injury or loss that may be caused by both internal and external factors. To be risk avoiding, the users and providers have to manage preemptive actions.

6.3.1 Risks for Consumers

First, the consumer side risk of identity theft. A user with a legitimate ID can have up to three different user accounts. If anyone gets a hold of your ID it could result in an exploitation of your accounts and name. They can use the ID to create an account in your name, use it for illegal

purposes and criminal services without anyone finding out and without the possibility for tracing it back to the wirepuller.

«The whole lack of clear regulation and consumer protection on mobile money is what I would say to be the biggest concern that we have right now» (Respondent 6).

Second, transaction fees. This is not a risk but rather a common concern that has been widely discussed through the interview sessions (Respondent 1, 4, 5). There are split perceptions on this, as the transaction fees are by some regarded as a necessary evil, as the alternatives are highly undesirable. On the other hand, these transaction fees may cause for some to avoid mobile payments or reduce usage frequency. Particularly for inhabitants located in urban areas supersede mobile services with bank cards on day-to-day transactions, as they are likely located within reasonable distance to branches and possess enough capital for a bank account. Therefore, these may prefer bank cards as those are free of charge (Respondent 5).

Third, consumer protection. The usage of M-PESA has expanded rapidly in rural areas, perhaps explicitly amongst groups who evidently may not hold the general knowledge of such technologies. Information and knowledge about payment accounts, understanding the concept of interests or savings may be a challenge and those who lack this awareness are considered financially illiterate. Those who do not fully understand the possibilities and limitations that lies within the technology, may be exposed to situations and decisions they do not necessarily fathom the consequences off. Even more, for some it may even eliminate the desire to use as they do not have the necessary understanding of the service (Respondent 2). The ease of borrowing money and getting funds has consistently been portrayed as the greatest advantage of M-PESA, however, it also pose a potential challenge. A growing problem in Kenya is the act of gambling, and the conveniency of mobile money services may be a contributor to a greater deal of this problem (Respondent 5).

«There's a lot of behaviour that isn't optimal, you know, gambling and potentially effective borrowing» (Respondent 5).

It is easier to send, receive and withdraw, and without the right knowledge about appropriate usage, it could lead to harm of the user and unhealthy financial decisions. Another risk in regards of customer protection, is the level of application security that is provided. If an M-PESA user is bereaved of his or her device, there is no operational protection regarding a pin lock. Therefore, there is no limitation to how many times they can try to unlock a user account. Statistically speaking, there will always be the possibility of misusage as there is only a finite number of combinations available.

6.3.2 Risks for Providers

Fourth, the risk of fraud and money laundering from a supplier side perspective. Mobile money systems are vulnerable to money launderers, especially in developing countries as the software together with regulation tend to be weaker (Respondent 1, 2, 4). M-PESA works with The Central Bank of Kenya to review their regulations and systems to prevent this, through monitoring all transactions to report and detect suspicions activity (M-PESA, 2019). However, the US State Department point out that the system makes it hard to track the payments, which again leads to an increased risk for such activities to occur (Masinde, 2017). By ensuring transparency in the process, government can contribute to decrease the level of fraud and money laundering in such services as well as reduce mobile payment platforms susceptibility to fraud. Kenya is decentralising the government, by providing more power to division and equity among counties. This will boost control and expectantly contribute to the fight against illegal activities currently operating using mobile payments (World Bank, 2012).

Fifth and last, systemic risk and application shut down. As almost every single Kenyan individual and business rely and base their payment structure on M-PESA, a considerable risk is the case of an M-PESA application shut down (Respondent 5). The payment service has already experienced down time for some hours earlier, which resulted in an effective standstill in Kenyan economy. If the system were to break down for an extended period of time it would cause huge losses for both

business and government depending on their revenue coming through the platform as well as consumers who hinge on the service for paying bills, getting groceries and receiving daily loans.

7. Discussion

The upcoming section will be divided into several sub-parts. First, it will recap the findings from the previous analysis and identify the key reasons for why mobile money services have experienced such success. These will be assessed, respectively. Second, it will put these into the larger context of Sub-Sahara in order to answer the RQ. Third, the limitations of this thesis will be addressed and last, we will propose some suggestions for future research based on our findings and limitations.

7.1 Key findings

Infrastructure

The first significant key finding in our research is the importance of infrastructure in the implementation of the mobile money system. Utilisation of existing infrastructure is also a key finding in Kendall et al.'s (2011) study on how to financially include in developing countries. The success of M-PESA hinges on the fact that Kenyans already had a phone and that the mobile connection was built out to the extent it was. Safaricom boasted a marketshare of 84 percent and the extent of network effects they could exploit already had customers locked-in for future product releases. As pinpointed in the analysis, consumers already held the infrastructure in their hands. Network effects and herding behaviour increased access and use of the software and people only needed to create an account to participate in the new «wave» of possibilities that mobile money services brought.

The Unbanked

The situation and proportion of unbanked is identified as the underlying reason mobile money systems experienced such a hold in the market. People that previously had to resort to unsafe and expensive means to transfer money are now efficiently participating in the economy through their mobile device. During the interview process, one interview participant provided relevant backing for

this: *«I think if, if Kenya had a 70 percent Bank population, I am not sure that Mobile Money would have taken off, because people would have said, I'm doing fine, 70 percent of the population would have said "I'm doing fine with my card" point of sale terminal or a branch. Why do I need to learn this new app?»* (Respondent 4). Hence, the decisive adoption factor in the TAM, PU, would lose all plausibility. What really determined Safaricom's success was that the overwhelming need for conveniency. The barriers and advantages of having a phone is considerably lower than having a bank account in the country, and this is mainly because of cost and distance, which Safaricom contracted by launching their service.

Government and Regulative Structure

M-PESAs introduction is partly a result of The Central Bank of Kenyas regulatory stance. They took a rather relaxed approach from the beginning, supporting the experiments and the inception of the ideas. With the government and CBK laying the foundation and regulating in a laizzes faire manner, Safaricom managed to launch their system with necessary support from the regulators. Even more, the tougher regulation faced in neighbouring countries has been identified as a barrier for the initial booming of mobile payments. This could be a lesson for other emerging markets and how government should involve themselves in questions of technology, development and regulations as the analysis showed that stricter regulations across Africa resulted in slower mobile money adaptation rates.

Female Empowerment

Over the last couple of years Kenya has experienced a surge in women breaking the cycle of poverty. By using already existing research as a fundament, our collected data looked at to what extent mobile money has led to a change in the gender roles, and it is evident that the usage of mobile money systems have clearly led to empowerment for women. Female empowerment transpire in two particular situations: financial autonomy and employment. Most African developing countries have patriarchal societies where men are earning money and women is in charge of the household, but now they clear roles are starting to dissolve. When removing the visibility feature of bearing cash, women have more autonomy over their own financials. Financial freedom has resulted

in women engaging in business development or entrepreneurial activities to a greater extent, where women utilise mobile money services to acquire loans for their merchant activities. Across all of Sub-Sahara, women are less likely to hold a bank account compared to men. The results from Kenya has been encouraging, implying that mobile money may help to close the gender gap previously seen in Kenya as well as lift female households out of poverty (Demirgüç-Kunt et al., 2018). Therefore, these gender gaps represent a critical opportunity to include women who formerly have been financially excluded.

Efficiency

The analysis revealed the essential reduction in travel time and distances, which is considered one of the most important side effects of mobile money services. Distance has previously been identified as a predominant reason why people remain unbanked (Demirgüç-Kunt et al., 2018). By eliminating distance, mobile money allows for transactions to happen efficiently. People spend less time travelling back and forth between urban and rural areas or between home and a branch. This extra accumulated time is rather spent on work and education.

Safety

Mobile payments have provided safety for users as well as institutions. By securing payments through digital devices, the concern regarding money laundering and fraud can be handled to a greater extent. Physical cash can play a large role in crime, hereunder laundering, counterfeiting, tax evasion and bribery, and digital payments will leave traceable records which makes it harder to perform such transactions. As the payment market transform from physical cash into digital money, the need for carrying cash around also dissolves, which eliminates the risk for direct theft, violence and disappearance of funds. Another means of safety is the new possibilities for farmers in rural areas. We find an increased safety for production and unexpected incidents like drought and floods, as the mobile money systems contribute with giving access to loans and saving, which enables farmers to connect with their supply chain to a greater extent.

7.2 The Meanings and Importance of These Findings in Context With the RQ

The ultimate aim of this study has been to determine the drivers behind mobile money services and what impacts they can produce. All relevant key findings from the analysis has been discussed from a Kenyan perspective, however, they have yet to be put into the wider context of our RQ. The following section will highlight the importance these can have for other emerging markets.

The importance of this study can be evaluated by comparing the relevant reports available with our own findings. The rapid expansion evident in the data from 2014 to 2017 of the Findex report shows the extreme evolution of mobile technology and proves the importance of the research area. It is of course discussable to what extent the scope of this thesis could add further relevance to the research field, but due to its rapid growth and the popularity of mobile money technology throughout developing countries, we believe the thesis clearly contributes with relevant insights to the area of interest. By comparing and contrasting our study to the research introduced in the literature review, we help to support the overall understanding of the research area.

The main takeaway of this thesis is the know-how that other emerging markets can draw from an already successful story. The question as to why Kenya experienced such success in the implementation has been answered and the tasks for other markets will be to determinate what they can replicate from this exact example. Of course, some of the factors may not be imitated due to natural circumstances, but a holistic view of the situation and development of M-PESA can be of inspiration for countries that are presently lagging behind.

Looking at the 2014-2017 data from World Bank it is clear that mobile penetration rates are high, not only in Kenya but throughout all of Africa. The statistics of account ownership coincide as well, with somewhat identical features. It is a common characteristic of a developing country, however, this does not limit its importance. As the analysis showed, targeting the unbanked has been essential when making a mobile payment service succeed. As approximately 66 percent of Sub-Saharan

Africa is unbanked, the need for an inclusive solution in regards to financial transactions is urgent in order for them to realise their potential. Being unbanked and having adequate infrastructure in place, seemed to be the ultimate enablers in Kenya in order for M-PESA to succeed. Therefore, due to the similarities of the circumstances, the findings based on Kenya are therefore possible to to replicate in the remainder of the Sub-Saharan countries. Even more, the identified spillover effects from the key findings are directly applicable to the countries who wish to adapt to mobile payment services. As Kvale and Brinkmann (2009) argued, generalisability is feasible for developing markets of similar conditions, particularly in proximity to the case country. We acknowledge the fact that the differences are wide even amongst developing markets, however, African countries do possess similarities. This is bound by the historical setting, culture, norms and business environment. As discussed, similarities also exist in mobile penetration, unbanked and technology acceptance rates. Due to the extent of these resemblances, this thesis' findings do have generalisable value. A cluster of African markets already have adopted to mobile payment services. Some still awaits the impact of spillover effects to commence whereas some are already arriving at the Kenyan state. The results of this thesis are, therefore, mainly relevant for developing countries who are lagging behind in technology acceptance. Moreover, reliability is founded on the condition that other researchers will arrive at similar information. Though small divergences will occur due to the subjective interpretation of data, we believe that other researchers would reach the overall same conclusions as this study. This is rooted in the undeniable relationship between mobile money and the findings as well as the unanimous data we have collected. Even more, previous literature already supports much of this thesis findings, which implies a certain accuracy.

Overall, for mobile payment services to be initially adopted and implemented into peoples everyday life it must simply fulfil the prerequisite of perceived usefulness. In Africa, its usefulness is backed by two preliminary conditions: 1. high mobile penetration rates, which equals an existent infrastructure and 2. being unbanked. These are the utmost important conditions for the success mobile services has and will continue to experience throughout Africa. Without the current infrastructure and unbanked population, the initial need for the service would be eliminated. However, with these

conditions present there is a need to discuss the sub-conditions at play, which may influence the level of adoption.

Demirgüç-Kunt et al. (2018) found that there are three characteristics of those who lack general account ownership in Africa: younger adults, the less educated and the unemployed. In the following section all three will be addressed, respectively. Throughout Sub-Sahara, populations are rather young compared to the world average. Our data suggested that the younger generation are more inclined at utilising and adopting to technology in general, even though there was no evident age difference in the use of M-PESA. Whether this is the «exception that proves the rule» or a testimony to the critical need faced in Africa is yet to be determined. The extent of the mobile penetration rate and the indicated relationship between age and technology acceptance causes us to reach the conclusion that mobile payment services faces a favourable start-up environment in Sub-Sahara. Though the historical setting may not provide an exclusive explanation as to why Kenyans are perceived more entrepreneurial, our data still suggest that it does influence to some degree.

As highlighted in the analysis, the education level amongst youth in Kenya is rising which implies that the tendency of younger adults and the less educated being unbanked may be stagnating. However, one explanation for the low account ownership amongst the less educated can be rooted in the matter of literacy. In Kenya, the users who struggled most with the application were less educated, hence more likely general, digital or financial illiterate. We believe that some degree of digital or financial literacy will be a pillar in achieving financial inclusion, especially through mobile payments. Though the guidance and support from relatives have proven convenient in Kenya, the need for increased national attention across Sub-Sahara will accelerate the process of financial inclusion and digital adoption further.

Moreover, we find that the correlation between unemployment and lack of account ownership is reasonable. Those who are unemployed are naturally less prone to opening up an account as it is generally a mean to receive wages. This thesis results argue for a causal relationship between access to mobile payment services and employment rates. People utilise mobile money services to request micro loans. By having access to a mobile payment service, it increases the possibility of self

employment as they now have the equity to start up their own businesses. However, countries that do not provide free formal education and has a lower number of inhabitants completing education may experience that the knowledge and skills for making successful start ups are not present.

Though there are many beneficial spillover effects with respect to mobile money, Sub-Saharan countries must also be aware of the potential challenges that may arise with adoption. Soft regulation has been identified as a main contributor for M-PESAs growth, however, the extreme adoption has lead to new challenges previously unknown to the regulators. Governments need to be inclined to deal with transparency issues in order to tackle fraud, money laundering and other illegal activities. The extent of criminal activity through mobile payments in Kenya is yet to be determined, but it is highly likely that it will mature to an increasingly pressing issue over the coming years where government role will become progressively vital. Moreover, the case of consumer protection is expected to gain priority. When consumers basic need for financial services is met, demands in terms of protection, security and increased convenience are inclined to follow. Being aware of these may reduce future impediment in development.

7.3 Our Study in the Context of Existing Literature

One important feature of relevant research is having a natural place in existing literature. New, contributing research should fill an existing gap. As addressed earlier in the literature review, the research area of mobile payment services is extensive. If applying the same funnel perspective used in the review, our research is located in the narrowest part as it does not concern the mobile payment industry in general. The field of country-specific research is wide and extensive, however, our study deviates as it does not focus solely on a certain aspect. We realised early that an extensive amount of literature focuses on China and India, as they are 1. the largest of all emerging markets and have fast-paced growth 2. digital economies who relies heavily on e-commerce 3. the home of some of the worlds largest mobile payment services (Lavin, 2017). One divergence is therefore the

choice of Kenya. The existing literature that we have identified regarding Kenya is mainly centred around specific aspects. For instance, mobile payments impact on gender equality or saving patterns. Though these exhaustive investigations are undoubtedly of high academic relevance, we believe our study generally provides a more complete picture of mobile payments position in the Kenyan market. Our study fills an existing research gap by exploring why adoption has occurred, what induced this and what the effects may be. Saying there is a gap is not the same as saying there is no literature on the subject at all, however, it appears less explored than certain other areas. Besides, by exploring the back history as to why the service has seen such immense success it can perchance function as an introduction or fundament to other, more specific, studies in the research area.

The results obtained in this study broadly agrees with the findings of similar studies. However, small deviations exists. These are generally not contradicting to the key findings, rather alternative explanations of the underlying reasons behind them or their impacts. For instance, we identified mobile payment services as a mean to increase the possibility of self employment, howbeit, we acknowledge that without any education there may be a lack of fundamental skills needed in order to run a successful start up. Kunt et al. (2015) agrees with the employment view, but does not put as much focus particular skills as a requirement for success. They found in their study that mobile payments services in itself will be enough for people to start and expand their businesses. The findings of Refera et al. (2015) and Ngugi et al. (2010) conforms with ours regarding the importance of digital and financial literacy in order to not only achieve financial inclusion, but also consistent use of mobile payment services. This congruency is vital for this study's validity. Field studies by Demirgüç-Kunt et al. (2018) and research by Mas and Morawczynski (2009), Gichuki and Mulu-Mutuku (2018) and Aker and Mbiti (2010) confirms the accredited female benefits seen after the introduction of mobile payments. Though these studies are conducted in various developing countries, we identify a consistent pattern. This implies that female empowerment is a substantial spillover effect that is widely applicable across developing countries adopting to mobile payments.

When reevaluating the literature review, we find that it is not merely the key findings that are overall consistent with previous research on similar subjects. The barriers and drivers behind financial inclusion reflects what can only be termed general hindrances faced by unbanked in developing

countries. Literacy, distances, cost and distrust in financial systems are not distinguished features of Kenya as they also are recognised by Duane et al. (2014), Ngugi et al. (2014), Refera et al. (2015), Diniz et al. (2016) and Burns (2018) in research concluded on various developing economies. The importance of presenting results coherent with existing research is rooted in the question of validity and reliability of the findings. With somewhat consistent results, the value of our findings are strengthened.

7.4 Limitations

This section will focus on the limitations and constraints of the study. Though we have previously reviewed the delimitation process, the importance of discussing the findings and their potential shortcomings is recognised. First, we will discuss generalisability. Some researchers claim that generalisability is a consistent issue for qualitative analysis. Though such an inquiring study may attempt to establish the «why» of a situation, it is very often limited to a specific location, ethnic group or behaviour as it is less systematic opposed to quantitative research (Francisco, Butterfoss & Capwell, 2001; Sachdeva, 2009; Flick, 2011; Leung, 2015). By applying a pragmatic approach, we have tried to assess generalisability by adopting the same criteria as for quantitative studies' validity. For instance, this involves constant comparison, appropriate documentation and multi dimensional theory (Leung, 2015). To increase validity, we back up our analysis with academic journals, previous research and up-to-date reports. We acknowledge that proximity will be a limitation of this study, as is it is likely that its general abilities may only pertain to countries close in proximity or similar socio-economic aspects. The regional differences between e.g. Asia-Pacific and Sub-Sahara are large and the scope of this study is not extensive enough to take into account every factor needed for a conclusive study. Further, the focal point of this study is from a developing country perspective and will, therefore, likely differ to how mobile payment services operate in developed countries. The longitudinal of our thesis has also limited us to a certain extent, as we do not have indefinite amount of time to gather information, conduct interviews and do tests.

Secondly, we need to re-address the concern of biases and subjectivity in qualitative research. Though it has been discussed in the methodology section, we believe it is of importance to acknowledge that it is, in fact, a limitation. Human errors in interpretation can be reduced but not fully controlled for, and ultimately it is us as researchers who are responsible for interpretation of the collected data (Sachdeva, 2009). Though we have taken precautions both in the preparation process and during the analysis, we cannot guarantee an unbiased study free of human errors. Ultimately, biases affects the outcome and validity of our analysis. To some extent biases will be inevitable, particularly in quantitative research, however, we are aware of its influence and have throughout the writing process attempted to reduce it to our best ability.

Thirdly, the appropriateness of sources. The use of news articles or information sources that are non peer-reviewed may arise some questions regarding validity and quality of the data collection process. Though peer-reviewed usually is a control measure when it comes to the legitimacy of research, it is not always feasible to solely base a study off of it. In our case, we were unable to tell the full story only by utilising peer-reviewed articles. For all theoretical and academic sections peer-reviewed was prioritised, however, in order to provide a holistic understanding of mobile payment services we had to supplement with news articles and reports when peer-reviewed were deemed inadequate.

Lastly, it is important to bear in mind that even though our data indicate that mobile payment services have driven the development in Kenya and is likely to continue doing so in Sub-Sahara, there may be other significant factors not considered in this study. For instance, we have not addressed the impact of globalisation, structural reforms or macroeconomic performance in this study. This study is, therefore, not definite or absolute as we believe that there are additional drivers behind the growth in Kenya beyond the scope of this thesis.

7.5 Future Research

The purpose of this study has been to take a holistic approach to the subject of mobile payments services in emerging markets. It has assessed the rate of adoption and discussed the aftermath of embracing the technology, which has provided a foundation for eventual research in this field. We hope this thesis can enter the series of papers that can be further developed to understand the importance and possibilities of such innovations. However, this study is only preliminary and we have identified several research gaps and areas of interest that may be pursued more concentrated by future researchers.

Though we identified several factors that may have affected adoption rate, more in-depth research on each respective factor may be of significance. We only identified the factors, however, not to what extent. In the future, researchers can build on this thesis by assessing factor by factor instead of aiming at a holistic approach. Thereupon, one may be able to distinguish which factors are more critical for success. This would be advantageous for countries wishing to emulate Kenya's process who would then be able to prioritise actions properly. One example can be to assess specifically how mobile payment services have changed the political scene. Previous research has slightly touched upon this subject, and evidence from India shows amongst others a decrease in corruption (Blumenstock, Callen, Ghani & Koepke, 2015). However, we believe it can be expanded and focus solely on the effects on the black economy. Is mobile money services making bribery, tax evasion, and money laundering harder to accomplish? Does it expand the tax base, generally? Interrelated, scholars may also focus solely on the change in female financial autonomy. After the introduction of mobile money there has been a shift in countries previously characterised by less gender equality. Women has experienced a rise in business opportunities, increased financial inclusion, boost in savings and generally more authority over financial decisions without interference from family or neighbours. By discussing how mobile payment services can empower women it can partake in tackling inequality. As mentioned in the previous section, we have only determined a few factors and analysed these. We believe it will be necessary to assess all possible aspects of Kenya's growth, both exhaustive analysis of the factors we already identified as well as those outside this thesis, as it may

unveil causality and bring previously unexplored factors into the light. Another interesting aspect of mobile adoption rates may be to study adoption rates across all of Sub-Sahara in order to establish differences. As mentioned, this thesis has only evaluated Kenya and tried to offer possible explanations as to why some Sub-Saharan countries are lagging behind. A holistic study of Sub-Sahara as a whole to determine adoption rates and challenges can be of value to increase mobile money adoption throughout the continent.

We addressed the obstacle of different kinds of literary in our study; digital, financial and the traditional sense of reading and writing. These are mainly restricted to the rural areas, which is the home of the poorest of the poor. Average adoption rates in Kenya may be biased from Nairobi and other gentrified areas. A study should, therefore, be carried out on how digital and financial literacy can be battled. This particular field of study would be especially necessary as this group is perhaps the hardest to reach and include financially. As Demirgüç-Kunt et al. (2018) predicts, financial inclusion will be one of the utmost important tool to eradicate poverty so to study how these can be included and what barriers they are currently facing may accelerate the process.

As we touched upon in the analysis, one underlying element of success for M-PESA is the low bank rate. However, looking at it from the opposing perspective would be of interest for mobile money providers. Will mobile money thrive in markets with high bank rates and how will its growth pattern transpire? This can evolve further by including another aspect we did not address in our thesis. Conducting an empirical study on the difference between payments in developing and developed market can provide crucial insights into user habits, behavioural reasons for adoption and feature requirements. This may help providers tailor the service to the specific market, as they work and function in very different ways.

8. Conclusion

Developing countries have consistently experienced barriers that has hindered growth and advancement in all socioeconomic aspects. Mobile payment services have been identified as a simple, efficient tool to battle stagnating growth, inequality and poverty. This study has created an understanding of why mobile money systems have been adopted as well as pinpointed spillover effects. A combination of existing literature, academic frameworks and primary data collection have contributed to a thorough examination of the phenomenon. The study aimed to answer the following research question:

> The Case of Financial Inclusion: What can developing countries learn from the mobile money success in Kenya, and what spillover effects can this lead to?

To better answer the RQ three research objectives was established, which provided the foundation for the analysis. They aimed to assess the rate of adoption of mobile money systems, assess differences between age, location and gender and lastly assess the risks and concerns with utilising mobile payments in developing economies. To understand the rate of adoption of mobile money systems, we analysed factors using the framework of TAM and TALC. In order to understand the latter two in the light of domestic differences within Kenya we connected the key data from interviews and reports with relevant theoretical input from development economics. Governance, regulations, education and infrastructure are all relevant factors that have been addressed in order to consider future challenges and opportunities for growth and development. This study's case country

Kenya has over the last decade implemented the mobile money payment service M-PESA with great success. Going from a cash based society with low rates of financial inclusion, to triple the inclusion rate and be the forefront in mobile payment systems in a continent shows the important role of such services for developing countries.

In regards to the RQ, we established several reasons as to why Kenya adopted this technology. The reason for adoption spins out from three external variables that are namely cultural, political and social factors. The cultural section presents the importance of Kenya's inhabitants as entrepreneurial, with a skepticism for the financial system that is associated with high interest rates and transaction fees. Analysing the political climate, the data showed that the government and the CBK supported the establishment of M-PESA and regulated using a laizzes faire approach. The importance of the social aspect is rooted in the phenomena of herd behaviour. This initiated a chain reaction that resulted in extensive network effects, culminating in Safaricom and M-PESA market dominance. Further, the thesis examined the differences within Kenya, where gender, location and age emerged as the factors of significance. The analysis motivated the discussion of spillover effects from mobile payment systems. The identified implications as well as opportunities led to the examination of generalisable aspects for other developing markets. Key findings included female empowerment, increased equality and efficiency, reduced travel distances and, contrary to the usual tendency where young people are more implied to adapt to technology, there was no differences in relation to age in Kenya. These were then discussed in light of concerns and risk, because these factors are perceived important in the question of implementation and usage as well as future adoption in other markets.

To sum up, this thesis have assessed the success factors and spillover effects of mobile payment services in emerging market, by examining the situation in Kenya. Though it was unfeasible in terms of scope to assess each factor individually, the underlying reasons for mobile adoption and its impact has been determined and addressed. Conclusively, this study contributes to the holistic understanding of the phenomenon which has been carried out through an international business perspective.

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10. Appendices

10.1 Interviewee Organisations

Organisation	Mission	The Interviewee	Interviewee ID
World Bank	Their number one goal is to end poverty and promote shared prosperity. They believe that by increasing the income of the poorest countries, the entire world will benefit. (World Bank, 2019).	A former behavioural economist who now works as a financial consultant in the World Bank office in Nairobi. She specialises in financial competition and innovation in Kenya, where one of her areas of expertise is digital finance.	Respondent 1.
Better Than Cash	Better Than Cash is an UN organisation specialised in the transformation from a cash based society to one based on digital finance. (Better Than Cash, 2019).	Interviewee is currently the Head of Research and Innovation. His role consists of identifying the research gaps in terms of payments, and inquire for studies to be undertaken	Respondent 2.
Gates Foundation	Foundation set up by Bill and Melinda Gates. Their vision is that all lives have equal value and that all people should be able to live healthy and productive lives (Gates Foundation, 2019)	Two separate interview participants. One programme officer and one deputy director in Financial Services for the Poor. Main responsibilities are digital financial inclusion in Africa	Respondent 3: Programme Officer. Respondent 4: Deputy Director.
iHub	iHub is an incubator located in Nairobi, Kenya. They operate as a support system for entrepreneurs who desire to make a difference in Africa.	The main responsible for the community at iHub. As there are many different people; innovators, entrepreneurs etc., he makes sure they have the guidance and support needed in order to succeed.	Respondent 5.
Well Told Story	The organisation aims to create social and economic value for youth across Africa. They provide motivation and ideas to how they can improve their lives for the better.	The Head of Knowledge and Learning at Well Told Story. The regional director for Kenya and is the main responsible for research conducted on the field of youth and financial inclusion.	Respondent 6.

10.2 Interview Guide

Interview Guide

This is a semi-structured questionnaire developed for the Business Project and regarding digital payment solutions in Kenya. The questions should be considered as an overall frame for the interviews. If something interesting arises during the interviews, we will ask questions about that topic as well.

The purpose of the interviews is to gather first-hand knowledge and insights from professionals in the field and to have an informal discussion regarding mobile payment solutions future in Kenya and its possible impacts.

Interviewee data:
Name:
Title:

1. General Information

a. Tell us a little about your work position.
b. In what way have you worked with digital payment solutions? Please elaborate on your knowledge in the field as well as relevant experience.
c. What do you believe would be the next step in the advancement of mobile payment solutions?
d. In what way has mobile payments changed the way we think of money?
e. How does mobile payment solutions position itself against traditional banking? Is the ATM and cash payments threatened from the new, digital way of finance?

2. The Payment Market in Kenya

a. How familiar are you with the payment market in Kenya? You are welcome to reflect on the current banking environment.
b. What are your thoughts on the significance of mobile payment solutions for the Kenyan economy? More specifically, the introduction of M-PESA?
c. How has this influenced the everyday life of Kenyans over the past decade?
d. How do you anticipate mobile payments to affect financial inclusion in Kenya in the coming years?
e. What do you believe is the cause for the considerable amount of mobile money users in Kenya, as opposed to other countries? Do you see a difference between the mobile payment users in Africa?

f. If you have to pinpoint some distinct factors, what would you say has been the greatest difference after the introduction of mobile money?
g. From an operational or business perspective, what do you recognise as the biggest concerns or risks regarding mobile payments?
h. From a consumer perspective, what do you believe clients recognise as their biggest concern? How can M-PESA tackle this?
i. What do you recognise is the biggest advantage or potential spillover effects regarding mobile payments for the future?
j. The Global Findex report of 2017 included a question to unbanked people as to why their situation is like it is. The answers offered three central reasons. The most frequent one was that they did not have enough money to have an account. Cost and distance was named the other. Distrust in financial institutions and lack of documentation was the last. How do you believe mobile payment systems can influence these factors? And what does this mean for M-PESA?
k. Even though most people are using M-PESA, do you know if there is any plans or actions for instance by the government, to get more people banked?
l. How is the competitive environment in Kenya? Do you think more competition would serve the society well?

10.3 Transcript Order

The interview transcripts can be found on the enclosed USB drive that comes with the assignment. These are structured in the following order and corresponds to the respondent number in the thesis:

File 1. Audio Interview Number 1: World Bank

File 2. Audio Interview Number 2: Better Than Cash

File 3. Audio Interview Number 3: Gates Foundation

File 4. Audio Interview Number 4: Gates Foundation

File 5. Audio Interview Number 5: iHub

File 6. Audio Interview Number 6: Well Told Story

File 7: Written Interview: Well Told Story

10.4 Sub-Saharan HDI Rankings

Country	Ranking
Botswana	108
Gabon	110
South-Africa	113
Morocco	123
Namibia	129
Republic of Congo	137
Ghana	140
Kenya	142
Zambia	144
Cameroon	151
Tanzania	154
Zimbabwe	156
Nigeria	157
Rwanda	158
Madagascar	161
Uganda	162
Benin	163
Senegal	164
Togo	165
Côte d'Ivoire	170
Ethiopia	173
Guinea	175
Democratic Republic of Congo	176

Country	Ranking
Mali	182
Burkina Faso	183
Sierra-Leone	184
Chad	186
Niger	189
Somalia	No Data

Source: HDI (2018)