BUSINESS OPPORTUNITIES FOR THE POOR: HOW M-PESA AND PRIVATE COMPANIES ARE BRINGING DEVELOPMENT TO KENYA

Master Thesis in International Business and Politics

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ABSTRACT

This thesis argues that private companies using the Kenyan mobile money technology, M-PESA, can drive development forward by creating business opportunities for their low-income customers. Thus, as opposed to the focus of prevalent M-PESA studies, the thesis view the engagement of private sector companies as crucial for extending the benefits of M-PESA to the poorest. Companies can leverage the technology and provide low-income Kenyans with access to products and services that were previously unavailable to them, which in turn creates business opportunities. Business opportunities are defined as an opportunity to start a new business venture or the opportunity to improve an already established business. The research is conducted by applying Jenkins’ (2008) notions of mobile money ecosystems and an adapted version of the Osterwalder et. al (2010) business model canvas. Based primarily on field research in Kenya, three cases show that companies using M-PESA can reduce their operational costs and offer flexible financing options, thereby allowing the low-income customers to buy products and services in new and improved ways. The business opportunities created are associated with the different companies’ value propositions and target groups. Examples of business opportunities include: moving from subsistence to commercial farming via the KickStart pump, the Lifelink water station creating water entrepreneurs and improving the business environment by reducing the risk of corruption, and Kopo Kopo helping merchants reach more customers and obtain loans. Insights in the thesis contribute to the knowledge of how private companies can drive development forward by using mobile money and we hope it inspires further research, as well as points Kenyan companies considering the use of M-PESA in a useful direction. Finally, the thesis points to three issues which can potentially distort the developmental impact of M-PESA in Kenya.
ACKNOWLEDGEMENTS

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Nikolaj Levy                     Johan Julin

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## GLOSSARY

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<tr>
<td>AFI</td>
<td>Alliance for Financial Inclusion</td>
</tr>
<tr>
<td>B2B</td>
<td>Business to business transaction</td>
</tr>
<tr>
<td>B2C</td>
<td>Business to consumer transaction</td>
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<tr>
<td>BoP</td>
<td>Base of the pyramid, represents the idea that billions of people, living on only a few US-Dollars a day, form a large and growing market</td>
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<tr>
<td>Business Model</td>
<td>The business model of a company is a simplified representation of its business logic</td>
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<td>Business opportunity</td>
<td>Business opportunities are defined as an opportunity to start a new business venture or the opportunity to improve an already established business</td>
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<tr>
<td>CBK</td>
<td>Central Bank of Kenya</td>
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<tr>
<td>CGAP</td>
<td>Consultative Group to Assist the Poor</td>
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<tr>
<td>CGDEV</td>
<td>Centre for Global Development</td>
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<tr>
<td>GSMA</td>
<td>Groupe Speciale Mobile Association</td>
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<tr>
<td>ICT</td>
<td>Information and Communications Technology</td>
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<tr>
<td>IFC</td>
<td>International Finance Corporation, part of the World Bank Group</td>
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Jerrycans 20 liter plastic jug

KES Kenya Shillings (exchange rate to USD 0.010)

Lipa na M-PESA In-store merchant payments

Low-income Kenyans Largely living in an informal economy with limited possibilities for formal wage employment, relates to a need for business opportunities

M-PESA Mobile money, an e-money transfer system established and pioneered by Safaricom in Kenya, allowing Kenyans to store and transfer their money using only a simple mobile phone

M-PESA ecosystem The networks of organizations and individuals that must be in place for mobile money services to take root, proliferate, and gain scale

M-SHWARI M-PESA banking, including credit and interest on deposits

Spillover effects A positive or negative impact on a party not involved in an act; the effects that accrue to low-income customers due to businesses’ use of M-PESA

UNDP United Nations Development Programme

USD United States Dollars
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1. INTRODUCTION

Over the last decade, Kenya’s Information and Communications Technology (ICT) sector has grown phenomenally, attracting global attention, especially after the introduction of mobile money. Despite being a developing country, Kenya has the largest mobile money platform in the world, M-PESA (World Bank, 2010). M-PESA is a SMS-based platform that enables users to deposit, send, and withdraw funds using their mobile phone. With the ability to facilitate fast and cheap transfers, M-PESA has changed the Kenyan society and is widely considered to be an opportunity for growth and social inclusion (World Bank, 2010). The overarching theme for this thesis is whether M-PESA can bring sustainable development to Kenya.

The idea that a technology can serve as a catalyst for development is interesting and the developmental impacts of M-PESA already appear to be substantial (Sullivan and Omwansa, 2013, Haas and Nagarajan, 2011, Kendall et al, 2012). However, as opposed to the focus of previous studies, this thesis views the engagement of private companies as crucial for extending the benefits of M-PESA to the poorest. In other words, companies can leverage the technology and provide low-income Kenyans with access to products and services that were previously unavailable to them. According to Yunus (2005), the most important step to ending poverty is to create employment and income opportunities for the poor, and self-employment is the quickest and easiest way to do so. Thus in an original manner, the thesis investigates how companies are creating opportunities for their customers to start a business or expand an existing one, captured by the term business opportunity.

1.1 RESEARCH QUESTION

This thesis will depart from the following research question:

“To what extent are private companies, by using M-PESA, able to create business opportunities for their low-income customers?”

The debate about ICT and development is a subsection of a larger debate about how society and technology relates to each other. As Misa (2009: 362) notes, the approach to
such a study is often divided between those who look at “broad causal patterns” (macro) and those who examine a “tightly focused story [of] complexity and diversity” (micro). Misa (2009) argues that understanding the complicated interplay between technology and society requires moving between the macro and the micro framings. The thesis investigates business opportunities for low-income Kenyans through the use of M-PESA by private companies. Inspired by Misa (2009), three levels of analysis are applied to answer the research question: first, it is relevant to understand M-PESA and the Kenyan context. Second, it is relevant to address companies’ involvement in M-PESA and the reasons behind. Third, the business opportunities created must be put to test.

The three level analysis takes the form of a funnel and is captured by the subquestions below:

1. What is behind the growth of M-PESA?

2. Why are companies using M-PESA?

3. What kind of business opportunities can companies create for their low-income customers by using M-PESA?

Low-income customers live in a mostly informal economy, which means it is not monitored or taxed by any governmental entity (African Development Bank, 2013). This makes it difficult to measure outcomes, which is why the thesis investigates business opportunities and not the number of new businesses started. However, business opportunities are not quantifiable or easily detected. The approach of this thesis has been to focus on the company level and from there deduct justified business opportunities created for the low-income customers. In other words, the thesis is not addressing the actual business outcomes for low-income customers, but the potential opportunities created for them. The empirical data used in the thesis especially comes from published research on the topic of mobile money as well as qualitative data collected through case focused field research in Kenya.
Theoretically, we will draw on Jenkins’ (2008) foundations for mobile money ecosystem development to account for the conditions, which have made Kenyan companies use M-PESA. This will then lead to an analysis of the specific business opportunities created for low-income customers by businesses using M-PESA, using the analytical lenses of the Osterwalder et al. (2010) business model canvas. We define *business opportunities* as an opportunity to start a new business venture or the opportunity to improve an already established business.

### 1.2 INTRODUCING M-PESA

M-PESA was launched by the Kenyan telecom, Safaricom, in March 2007 and has since then grown remarkably. The product is called M-PESA since “Pesa” is the Swahili word for money and the “M” is short for mobile. It consists of a number of interconnected systems that form the M-PESA platform. The software application resides on the SIM card, a chip that identifies the subscriber’s phone number, and allows users to access various functions through the M-PESA menu, without access to the internet. The M-PESA application connects to the Safaricom network and uses the SMS protocol to communicate with the central servers (that record transactions) and other phones (such as for a peer-to-peer value transfer). A user registers for M-PESA at any one of the 80,000 licensed agents (Safaricom, 2015). The process is free and only requires the customer’s name, government ID number, date of birth, occupation, and mobile phone number (Mas and Radcliffe, 2010).

![The M-PESA Menu works on all phones that can send/receive SMS, and does not require internet access](Source: Safaricom)
When launched, M-PESA had three features: users could deposit or withdraw cash at agents, transfer money to another M-PESA account, or buy prepaid airtime (see figure 1 below). Deposited cash goes into the digital M-PESA account and customers can always check the balance on the mobile phone. Safaricom charges for cash withdrawals and for sending money via SMS to another user or non-user, with the fee increasing for larger value transactions. Transaction values are typically small, ranging from USD 5 to USD 30 (IFC, 2010) However, because of its speed, safety, and its price relative to transaction alternatives, the total value of transactions made by mobile phone in 2013 in Kenya was around USD 24 billion, more than half the country’s GDP (Economist, 2014). Out of a Kenyan population of around 45 million there are approximately 17 million active M-PESA users in Kenya (Safaricom, 2015).

**FIGURE 1: HOW M-PESA WORKS**

![Diagram showing how M-PESA works](image-url)

Source: Kenya Economic Update World Bank, 2011
1.3 STRUCTURE OF THE THESIS

The thesis consists of seven chapters:

The first chapter is an introductory chapter, which outline the direction and focus of the thesis and makes certain delimitations.

The second chapter is about the theoretical framework developed for the thesis, including meta theory and applied theory. It accounts for the analytical language used in the thesis, including Jenkins’ (2008) theory on mobile money ecosystems and make a case for applying an analytical framework based on Osterwalder el al (2010) business model canvas. The canvas is the tool used to investigate business opportunities for poor M-PESA customers, as it examines the customers, the use of M-PESA, and the business opportunities created. The chapter also account for our use of the notion of business opportunities as key for development.

The third chapter is about the actual methods and choices made to establish the research design, and the validity and reliability of the analyses. In other words, it deals with how empirical data is used to measure business opportunities for low-income customers.

The fourth chapter will account for what is behind the growth of M-PESA to understand the phenomenon. In particular, contextual factors that have shaped the growth of M-PESA and the benefits of M-PESA, including fast transfers, savings and trust are accounted for. Finally, the products available in the M-PESA platform are outlined. This paves the foundation for understanding why companies use M-PESA. The chapter is largely built on prevailing literature on M-PESA’s impact on a community level.

Chapter five examines why companies are using M-PESA applying Jenkins’ theory on mobile money ecosystems. The analysis is based on three factors required to sustain mobile money development: utility, capacity and an enabling environment.

Chapter six investigates how companies’ use of M-PESA enhances business opportunities for their low-income customers using empirical data from case studies (KickStart, Grundfos Lifelink and Kopo Kopo). The lenses of Osterwalder el al (2010)
adapted business model canvas are applied by asking three questions (who, how, what) that enable us to get insights on business opportunities.

Chapter seven is based on findings from previous sections and we conclude on our research questions and thesis approach. We also place our findings in a macro perspective to understand the circumstances that might threaten the growth of M-PESA and the Kenyan society.

The figure below outlines the relationships between the individual chapters.

**FIGURE 2: CHAPTER RELATIONSHIPS**
1.4 DELIMITATIONS

M-PESA is a multifaceted phenomenon with a large number of potentially interesting angles for analysis. Consequently, to produce a coherent and in-depth analysis of how businesses influence business opportunities for their low-income customers, certain delimitations are necessary.

M-PESA has established itself as the Kenyan mobile money system of choice and is now the largest mobile money ecosystem in the world. We are aware that Kenyan competitors, such as Yu (YuCash), Orange (Orange Money), and Zain (Zap) have launched mobile money services similar to Safaricom’s M-PESA. However, compared to M-PESA they are considered minor players and thus beyond the scope of this thesis. The issue of establishing interoperability between the services to provide convenience for customers and reduce costs for operators is also not discussed in the thesis. Additionally, M-PESA is partly owned by UK based telecommunications company Vodafone, but the possible relevance of foreign ownership is not considered in this thesis.

A key factor to allow the M-PESA ecosystem to function is the 80,000 agents located all over Kenya. These 80,000 agents have been playing a vital role in the spread of the M-PESA platform, acting as a point of entry for new and existing customers. This thesis investigates how companies create business opportunities for low-income Kenyans and it is undisputed that M-PESA’s founder, Safaricom, has been part in creating opportunities for low-income people working as agents. However, we are not looking at the direct effect caused by Safaricom, but the indirect effects associated with other companies using M-PESA. Thus, Safaricom as a case, including the business opportunities created for agents, is beyond the scope of this thesis.

International remittances are one of the largest sources of external financing in developing countries and often serve as a lifeline to the low-income population. Easing and improving international remittances could have significant development impacts, however, we do not discuss M-PESA as a means of international remittances.

Over the last decade, the notion that the private sector can stimulate much-needed development in the world’s poorest regions - at the base of the pyramid (BoP) - has
gained increased prominence. Businesses are cast as the engine of development, one that can deliver win-win outcomes for the world’s poor while supporting the financial bottom line of those businesses. This thesis takes its starting premise from the BoP idea that businesses can be the engine of development. However, applying BoP theory is beyond the scope of the thesis. We use business opportunity, which we define in the next chapter, to signify the link between businesses and development. However, we do not seek to answer to what extent the business opportunities are actually utilized and to what effects.

An analysis introducing mobile technology in the 21st century will typically depart from ICT and Internet discussions, however, in line with the subject under investigation, our narrow focus has been on what can be performed on the mobile phone, even without access to the internet.
2. THEORETICAL FRAMEWORK

Following the introduction, this chapter will present the theoretical framework applied in the thesis. The chapter begins with a discussion of meta-theory, then justifies our choice of theories, including Jenkins’ (2008) theory on mobile money ecosystems and Osterwalder et al (2010) business model canvas. The chapter also account for our use of the notion of business opportunities as a key for poverty alleviation.

2.1 META-THEORY

Ontology is the study of nature of being and reality and their relations. It deals with questions relating to what exists and how entities can be coupled and related within a given hierarchy. The term ontology has its origin in philosophy and denotes the philosophical discipline that deals with the nature and the organization of reality, contrasting with Epistemology, which deals with the nature and sources of our knowledge (Moses and Knutzen, 2007).

In this thesis we want to investigate how companies create business opportunities for their customers by adopting the M-PESA technology and using it in their operations. Although M-PESA has been examined a number of different angles, we are aware that our analysis will take us into uncharted waters and we need to be equipped for such a task.

Positivism/naturalism is a philosophy of science that claims that information derived from logical and mathematical treatments and reports of sensory experience is the exclusive source of all authoritative knowledge, and that there is valid knowledge only in this derived knowledge (Moses and Knutzen, 2007). In the constructivist approach
reality is not externally given, but is internal and based on the individual’s subjective understanding. Reality is created through human actions, experiences and understanding. According to Moses and Knutzen (2007), critical realism “offer a fully fledged metaphysical position by blending some of the most attractive features of both the naturalist and constructivist approaches” (Moses and Knutsen, 2007: 13). Critical realists believe that reality exists independently of our being, which is in accordance with the naturalist view. However, while naturalists consider the world to be permanent, critical realists take the opposite stance, as they believe the world is stratified and changeable. Critical realism makes the ontological assumption that there is a reality but that it is usually difficult to apprehend. It distinguishes between the real world, the actual events that are created by the real world and the empirical events, which we can actually capture, and record. Thus we will always be guessing about the nature of the real (Easton, 2009: 128).

The epistemology of this paper is also attached to the critical realist reasoning. We seek to generate true explanations, but due to incomplete knowledge we cannot uncover the whole truth or any nomothetic laws or patterns. This thesis should be viewed as a step in the process of uncovering the many stratified layers of reality in order to come within reach of the truth. Accordingly, the aim of this thesis is not to produce any new theories, it is rather to produce knowledge of relevance in understanding the larger M-PESA phenomenon and in particular, how companies using M-PESA create business opportunities for their low-income customers.

Easton (2009), on his workings on critical realism in case studies, claims that “the fundamental tenet of critical realism is that we can use causal language to describe the world”. He claims that when using a case study approach, the ideas of positivism and constructivism fall short. In positivism, “the defining feature is its epistemological stance which implies that there exist regularities or law-like generalizations in material or social settings that provide the basis for both explanation and prediction” (Easton, 2009: 118). As such, if two events occur in sequence regularly then one is said to explain the other. However, according to Easton (2009) this simple and elegant formulation has a number of problems, which makes its use in any research situation problematic. The most crucial problem is that constant combination of elements is not a causal explanation or indeed an explanation of any kind. “It is simply an atheoretical statement about the world and it doesn't answer the question why” (Easton, 2009: 118).
On the other hand, constructivism, which often is used as the defender of case studies, is limited by their general stance, acknowledging that they do not know what is real and “reject the possibility of discerning causality” (Easton, 2009: 118). As such they can only provide their own interpretation and Easton (2009) stresses that it is not clear in the constructivist approach by what standards one interpretation is judged to be better than another. Thus, in constructivism it becomes “even more problematic when interpretations are particularistic since this would appear to rule out not just regularity as a criterion but also any form of comparison” (Easton, 2009: 119). Critical realism provides the opportunity to avoid the narrow confines of naturalism as well as the open-ended conclusions of constructivism. It has also allowed us to combine information largely built on quantitative data and story-telling from established literature with self-acquired qualitative insights from case studies.

2.2 APPLIED THEORY

Over the course of the thesis, we use two main theories to address our research question, namely Jenkins (2008) and Osterwalder et al. (2010). Additionally, to supplement these theories, a multitude of scholars will be applied on a lesser scale to supplement theoretical and empirical arguments. This section is devoted to explaining the academic language we apply in our thesis. Firstly, we will explain how the thesis applies Jenkins’ (2008) theory of optimal foundations for a mobile money ecosystem to develop. We use Jenkins (2008) to examine why companies use M-PESA. Secondly, we account for Osterwalder et al. (2010) business model canvas and explain how we have adapted it to fit our research purpose. We use Osterwalder et al. to analyze and discuss how companies use M-PESA and how this affects business opportunities for their low-income customers.

2.2.1 MOBILE MONEY ECOSYSTEM THEORY APPLIED

Jenkins (2008, 2011) has done extensive work on documenting mobile money ecosystems, and the findings on the optimal foundations for ecosystem development suit our examination of why companies use M-PESA well. In other words, if the optimal foundation for an M-PESA ecosystem is present in Kenya, it makes sense that companies are using it.
We are aware of Kendall et al. (2012), who have also been influential within mobile money ecosystems and have coined typologies of companies emerging on mobile money platforms. They call these companies integrators, innovators and bridge builders (Kendall et al., 2012), referring to the uptake and function in which they use mobile money. However, the focus of Kendall et al. (2012) is limited to financial institutions and how they bring about financial inclusion for the low-income population. The focus of our thesis is on the relationship between companies and their low-income customers and how the former enables business opportunities for the latter. Jenkins (2008) stresses that private companies are key in driving mobile money ecosystems forward and is for the purposes of this thesis considered more applicable than Kendall et al. (2012).

According to Jenkins (2008), mobile money ecosystems are the networks of organizations and individuals that must be in place for mobile money services to take root, proliferate, and grow. Jenkins stresses that besides the structural foundations, businesses are the actors shaping the ecosystem. Derived from James Moore (1996), Jenkins (2008: 7) defines a business ecosystem as follows:

“an economic community supported by a foundation of interacting organizations and individuals – the organisms of the business world. This economic community produces goods and services of value to customers, who are themselves members of the ecosystem. The member organisms also include suppliers, lead producers, competitors, and other stakeholders [who,] over time, […] coevolve their capabilities and roles.”

Jenkins (2008) identifies three key factors for businesses in developing and growing a mobile money ecosystem: utility, capacity and an enabling environment.

Firstly, utility refers to “the ability of a good or service to satisfy some human want or need. For mobile money, utility is a function of the number of ways and places in which it is possible to use it” (Jenkins, 2008: 12). As such, providing utility to as many people as possible will allow the ecosystem to grow because it is being integrated into consumers’ economic lives. This requires that the speed of transactions and security is high.
Secondly, capacity refers to the capabilities necessary for companies to leverage the technology. This includes integrating it in their business model and being aware of training target customers to understand the value, including revisiting customer segments, which were previously ignored because there was no market for it (Jenkins, 2008).

Thirdly, an enabling environment and regulation is essential for businesses to utilize mobile money. According to Jenkins (2008), the role of the government in developing mobile money ecosystems cannot be overstated. Government regulators are responsible for providing environments that enable ecosystem development to take place. Regulators can create the space for experimentation and, as experience accumulates, build the policy frameworks needed to sustain further growth. The most important aspect of this is to “take a relaxed, mature approach and let the channels emerge” (Jenkins, 2008: 22). In other words, too much regulation and arbitrary policies on e.g. taxation can destroy an ecosystem, as businesses cannot operate under a high degree of uncertainty. Additionally, inclusion will require innovation and competition among players in the ecosystem, and it is the responsibility of the regulator to guide and facilitate this (Jenkins, 2008).

In this thesis, Jenkins (2008) is used as a tool to analyze why companies use M-PESA by deploying the notions of utility, capacity and enabling environment as factors that determine the development of a ecosystem, making it part of the theoretical language of the thesis.

2.2.2 ADAPTED BUSINESS MODEL CANVAS

We use Osterwalder et al. (2010) to investigate how companies use M-PESA and how this affects business opportunities for their low-income customers. However, before we explain how we have adapted Osterwalder et al. (2010) business model canvas to fit our research question, it is relevant to explain the basics of the model.

Osterwalder (2004, 2005, 2010) has contributed with tremendous work to the business model literature. Since his dissertation from 2004, Osterwalder has continued to work with business models in order to develop a “conceptual tool containing a set of objects, concepts and their relationships with the objective to express the business logic of a
specific firm” (Osterwalder et. al (2005: 3). In sum, the business model of a company is a simplified representation of its business logic. It describes what a company offers its customers, how it reaches them and relates to them, through which resources, activities and partners it achieves this and finally, how it earns money (Osterwalder, 2010).

Based on the initial workings alongside Rossi and Dong in 2001, which focuses on business modeling in developing countries, Osterwalder (2004) conceptualizes and defines a foundation for the business model canvas and identifies four main pillars that constitute the essential business model issues of a company. These include Product, Customer Interface, Infrastructure Management and Financial aspects.

In the latter part of his business model development, Osterwalder breaks the four pillars down into a set of nine interrelated building blocks that allow one to conceive a business model. As Osterwalder himself puts it “I do not want to stay at this level of low granularity and description and want to move towards something more detailed and formal (Osterwalder, 2004: 43)”. These added elements presented in Box 1 are a synthesis of the four main areas of the business model ideas described above and consist of value proposition, target customer, distribution channel, relationship, value configuration, capability, partnership, cost structure and revenue model.

**BOX 1: NINE BUSINESS MODEL BUILDING BLOCKS**

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Business Model Building Block</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Value Proposition</td>
<td>Gives an overall view of a company’s bundle of products and services.</td>
</tr>
<tr>
<td>Customer Interface</td>
<td>Target Customer</td>
<td>Describes the segments of customers a company wants to offer value to.</td>
</tr>
<tr>
<td></td>
<td>Distribution Channel</td>
<td>Describes the various means of the company to get in touch with its customers.</td>
</tr>
<tr>
<td></td>
<td>Relationship</td>
<td>Explains the kind of links a company establishes between itself and its different customer segments.</td>
</tr>
<tr>
<td>Infrastructure Management</td>
<td>Value Configuration</td>
<td>Outlines the competencies necessary to execute the company’s business model.</td>
</tr>
<tr>
<td></td>
<td>Core Competency</td>
<td>Portrays the network of cooperative agreements with other companies necessary to efficiently offer and commercialize value.</td>
</tr>
<tr>
<td></td>
<td>Partner Network</td>
<td></td>
</tr>
<tr>
<td>Financial Aspects</td>
<td>Cost Structure</td>
<td>Sums up the monetary consequences of the means employed in the business model.</td>
</tr>
<tr>
<td></td>
<td>Revenue Model</td>
<td>Describes the way a company makes money through a variety of revenue flows.</td>
</tr>
</tbody>
</table>

The building blocks make up the business model canvas. Proposed in 2004, it was finally transformed into its current visual structure in 2010 (see figure 3). In that time span, it was undergoing rigorous testing by Osterwalder et al. and 470 practitioners from 45 countries and was documented as the business model canvas in 2010.

**FIGURE 3: TRADITIONAL BUSINESS MODEL CANVAS**

![Business Model Canvas](Source: Osterwalder et al (2010))

The business model canvas is holistic in nature. It encapsulates all the activities of the firm in a simplistic manner. And it is precisely this holistic lens that makes it relevant to the analysis of this thesis, as it allows a comprehensive investigation of how businesses in the M-PESA ecosystem create business opportunities for their low-income customers. Osterwalder’s Business Model Canvas (2010) is formed of nine building blocks, however, because this paper’s analysis has a clear focal point, it makes sense to shape the analytical backcloth so it is suited to highlight the insights we are interested in. This means that we are not interested in knowing all parts of the company in question, but the effects of their use of M-PESA on the business opportunities for their low-income customers. For that we apply an adapted version of the business model canvas.
We are interested in businesses that have customers with low incomes and how these businesses have used M-PESA in their activities. Thus we are looking into the effects of the relation between the company and their low-income customers in terms of business opportunities. For this, the business model canvas is a highly applicable tool. We pose three questions in our cases analyses, which encompass a total of four building blocks of the traditional business model canvas. By asking ‘WHO?’ we use Osterwalder et al. (2010) notion of Customer Segment to confirm that we are in fact dealing with a company with low-income customers. By asking ‘HOW?’ we look into how the company is using M-PESA. The building blocks of Distribution Channels and Customer Relationships are used to analyze how M-PESA is used towards the customer segment and how the relationship with the customer segment is influenced by M-PESA (Osterwalder et al., 2010). Finally, we ask ‘WHAT?’ to examine what business opportunities the company can create for their low-income customers. This part is derived from Osterwalder et. al (2010) Value Proposition and investigates the business opportunities created from the products and services of the company. Thus, it is the top right corner of Osterwalder’s business model canvas and the relationships between the building blocks that are applied for the purposes of our case analyses.

**FIGURE 4: ADAPTED BUSINESS MODEL CANVAS**

![Adapted business model canvas diagram]

*Source: Authors’ sketch*
2.3 BUSINESS OPPORTUNITIES

This section will explain how we perceive the notion of business opportunities as a key for poverty alleviation.

When researching business opportunities for the low-income population a popular topic in both scholarly articles and news media the typical debate revolves around external structures as prerequisites for facilitating opportunities for the world’s poor to start a business (Arrighi et al, 2003, Zhang, 2005). For instance, in UNDP’s (United Nations Development Programme, 2013) extensive report on building businesses in Africa, they point to policies and financial/legal frameworks that are essential to optimize the private sector in Africa.

The notion of how a prosperous business environment should look, with capacity-building entities and strong infrastructure, is based on blueprints found in the developed hemisphere (World Bank, 2004). However, for the poor man in the streets of Nairobi, or the subsistence farmer in the remote northern region of Kenya, the idea of overarching legal structures, incentivized investment schemes and global value chains are far from
the reality that they know. They live in a mostly informal economy, which means it is not monitored or taxed by any governmental entity. This thesis presents a two-way perception of a business opportunity. In Kenya, the issue of unemployment remains one of the major challenges for governments and development partners alike (Chigunta et al., 2005). With limited possibilities for formal employment, it can be necessary for people to start a business in the informal sector. According to the founder of Grameen Bank, Muhammad Yunus, the most important step to ending poverty is to create employment and income opportunities for the poor, and self-employment is the quickest and easiest way to do so (Yunus, 2005). We define *business opportunities* as an opportunity to start a new business venture or the opportunity to improve an already established business. Thus, this thesis looks at how companies are creating opportunities for their customers to start a business or expand an existing one.

Having defined the academic language of the paper, including the ecosystem theory of Jenkins used to analyze why companies use M-PESA, and the business model canvas by Osterwalder used to analyze the business opportunities created for customers, the next chapter will discuss the methods applied in the paper.
3. METHODS

Having established the academic language applied in the thesis, this section will discuss the methods applied in the paper. The chapter is written retrospectively to account for the thought process we have been through - we open the door to our tool shed so to speak.

3.1 EMPIRICAL DATA

Given the limited level of knowledge about M-PESA and business opportunities we deliberately opted for an inclusive data approach. First, we used published reports and articles and internet sources. These data helped us to identify patterns and direct our research. This includes quantitative data on M-PESA use and Kenyan demographics and qualitative data from reading secondary sources on the field of mobile money. However, the main source of empirical data comes from qualitative interviews performed during field research in Kenya.

3.1.1 SELECTION OF RESPONDENTS

Based on literature and an informant interview (Andersen, 2013) with Charles Kinga, a Kenyan living in Denmark with deep knowledge of the Kenyan society, we decided which type of respondents it would be relevant to interview.

First, it seemed relevant to interview persons with insights into M-PESA. Thus, we initiated an email correspondence with the World Bank office in Nairobi. Furthermore, Safaricom is the largest telecom provider in Kenya and the parent of M-PESA so we interviewed a key representative from Safaricom’s M-PESA team to understand the characteristics of M-PESA. We also discussed M-PESA with an economics PhD. student at the University of Nairobi.
Second, with the purpose of exploring businesses using M-PESA and their potential effects on business opportunities for their low-income customers, we visited local innovation hubs around the Nairobi city centre, benefiting from their nuanced understanding of the local business community, and their ability to point us in the right direction for further insights. Out of all the businesses mentioned to us, three very different cases were chosen for their ability to provide a broad spectrum of insights. We placed a strong focus on researching companies that already successfully leveraged M-PESA. We also decided to focus on businesses with a clear focus on the low-income segment, but not necessarily with them as an exclusive target group. Because of this approach, the businesses included in the case study span a range of different sectors and customers, including B2B (business to business) and B2C (business to consumer). The businesses we selected are: KickStart, Grundfos Lifelink, and Kopo Kopo. The case businesses are all headquartered in the country’s capital, Nairobi, which made it possible for us to visit their offices. While headquartered in Nairobi, the cases provide a broad customer base which gave us the chance to discover very diverse business opportunities. As such KickStart’s customers are farmers in rural parts of Kenya; Kopo Kopo’s customers are merchants mostly in larger urban settings around Kenya; and Grundfos Lifelink’s customers are rural communities in need of water.

**FIGURE 5: GEOGRAPHICAL LOCATION OF INTERVIEWEES IN NAIROBI**

![Map of Nairobi showing the locations of interviewees](image)

Source: Authors’ sketch
**BOX 3: LIST OF KEY INTERVIEWEES**

| Interview conducted on Thursday, February 12, 2015 | Mehnaz Safavian, Senior Economics, Finance and Private Sector Department, World Bank |
| Interview conducted on Thursday, March 19, 2015 | Dennis Orina, iHub, Community Engagement Manager |
| Interview conducted on Thursday, March 19, 2015 | Isabel Wayaki, Ph.D. Student at University of Nairobi |
| Interview conducted on Friday, March 20, 2015 | Anthony Gitau Githii, Field Technician, Grundfos. Included a visit to the KMC Lifelink Station |
| Interview conducted on Tuesday, March 24, 2015 | John Kihia, Country Director, Kenya, KickStart International |
| Interview conducted on Tuesday, March 24, 2015 | David Musau, Merchant Engagement Executive, Kopo Kopo |
| Interview conducted on Wednesday, March 25, 2015 | George Gacheche, M-PESA Team Leader, Safaricom |
3.1.2 INTERVIEW GUIDE

To ensure the usefulness of our interviews we developed an individual research guide for each of the interviews (see appendices). The length of the interviews varied between one hour to half a day depending on the availability of the interviewee. We taped all interviews and have included the interviews in the appendix to the thesis. We made the interview guide structure our interviews, but otherwise allowed for our interviewees to talk freely, also regarding information we already possessed. We did that to ensure the interviewees felt comfortable talking and often our patience resulted in useful insights.

3.1.3 PRIOR STUDIES OF CASE BUSINESSES

The businesses we selected for our the case studies had all been previously described and documented in one form or another. We have decided to include information found in these other documentations if deemed relevant. For example, Sullivan and Omwansa (2013) used KickStart to analyze how the emergence of mobile money set the foundation for what they term “pay-as-you-go” business models. As they describe, “Pay-as-you-go” models replace old-fashioned cash saving, and allow customers to pay down what they can afford in increments until the full purchase is finalized. This gives customers flexibility, while giving businesses an opportunity to reach customers that would otherwise not be able to save up the required amount for their products. Zollmann (2014), used Kopo Kopo to crack the nut of converting retail payments to mobile money form in Kenya, including how Kopo Kopo’s value proposition might be made more attractive to merchants. Finally, Haas and Nagarajan (2011) have discussed the strengths and limitations of a water system built on the M-PESA platform using Grundfos Lifelink’s project as case.

3.1.4 OBSERVATIONS

We have used on-the-ground observations from our field trip to Kenya in March 2015. For example, when seeing M-PESA in use we realized that it was not as technologically advanced as we had expected. For instance, waiting for the SMS to confirm the transaction could take minutes, and the M-PESA menu was much more basic than what we were accustomed to from the mobile money products we see in Europe, e.g. Danske Bank’s MobilePay. These were important observations, which made us understand the
relevance of the thesis in a broader scale. For example, we realized that we would not be able to draw lessons from M-PESA and apply it directly to, e.g., a Danish mobile money context.

3.1.5 CRITICAL REALISM AND EMPIRICAL DATA

In line with our critical realist approach, we acknowledge the limitations of our sampling and data analysis approach. We are aware that bias from interviewees is likely to exist, however, our reason for choosing a case based approach, compared with a more quantitative based analysis, has been to retain the contextual and in-depth information that quantitative analysis strips from its multitude of cases. This thesis should thereby be viewed as a step in the process of uncovering the many stratified layers of M-PESA's impact for development in Kenya.

3.2 HOW TO READ THIS THESIS

As the final part of our chapter on method it is relevant to address the target group for the thesis and the premises for reading it.

3.3.1 TARGET GROUP AND PREMISES

The thesis is written for readers with an interest in the fields of mobile money and business opportunities for the low-income customers of private companies. We assume that the reader has knowledge within these fields, but we take measures to ensure that the reader has a basic understanding of M-PESA, as the phenomenon is still relatively new.

Throughout the thesis we use different theories and terms, which makes it optimal to read the thesis in a chronological order. Reading smaller portions of the thesis will potentially leave theories and terms unaccounted for. Furthermore, reading the thesis should be considered a process with a coherent argument throughout, giving the reader an opportunity to reflect over the steps along the way.
The thesis is written with a sole focus on M-PESA in Kenya and the conclusion can only be directly applied to Kenya. However, the theoretical reflections and adapted Osterwalder business model can be applied to other studies of mobile money and business opportunities for customers.

3.3.2 TEXT BOXES

Trying to provide answers to our research questions, we have travelled far in the academic and practical sphere. Towards the end of our research we have realized that some of our gathered data is not strictly necessary for the argument of our thesis. For that reason we have chosen to include some of our “excess” knowledge in light blue text boxes. That way the reader gets an idea of how we have worked with our research as well as a better appreciation of what has inspired us along the way. The light blue boxes thereby provide a new perspective on the matter discussed in the section and allow the reader to reflect. They also provide a break in the text, which makes the thesis lighter and easier to read. It is important to note that all other boxes, figures, and tables are necessary components for fully understanding the thesis.

After opening the door to our tool shed and discussing the methods we have applied, the next chapter will account for the growth of M-PESA in Kenya, thereby providing a background understanding of M-PESA and the context our knowledge is situated in.
4. WHAT IS BEHIND THE GROWTH OF M-PESA?

To understand the growth of M-PESA it is not sufficient to only look at the product components. It is instead a mix of the product, the Kenyan conditions, the behaviour of Safaricom, and a multitude of other factors that account for the comprehensive story of M-PESA. This chapter will provide useful background accounts on how M-PESA was born and has developed into a phenomenon of increasing impact for the Kenyan society.

“Kenya continues to be the global success story for mobile money to which the rest of the world looks. Two thirds of the population are active mobile money users and this allows for an unparalleled level of experimentation and innovation ranging from tiny start-ups to Safaricom-led innovations”

Interview with Mehnaz Safavian, World Bank, 2015

We explore M-PESA’s growth from three angles. First, we examine the contextual factors in Kenya that set the scene for a successful mobile money deployment. The examination is made from an account of country data on poverty in Kenya and the spread of mobile phones. Then, we examine the benefits M-PESA has provided in Kenya following its introduction in 2007. This part is largely informed by qualitative community level studies. Finally, we examine the services that have developed from the M-PESA platform to increase those benefits. A concluding section will sum-up the main points in the chapter.
4.1 THE KENYAN CONTEXT

The total value of Kenyan M-PESA transactions accumulate to approximately 60% of the country’s GDP (the Economist, 2014). However, before examining the benefits M-PESA has provided, it is relevant to examine some of the key contextual factors making the deployment possible.

4.1.1 RURAL POVERTY AND URBAN MIGRATION

It is a well-known fact that many people in Kenya are poor. In fact, according to RuralPovertyPortal (2015), nearly half of the country’s 44 million people live below the poverty line or are unable to meet their daily nutritional requirements.

According to the World Bank (2015), more than three quarters of the Kenyan population live in rural areas, and rural households rely on agriculture for most of their income. The rural economy, in turn, depends mainly on smallholder farming. However, Kenya’s farmers are struggling with lack of rain and Kenya's natural water resources generally do not provide an equitable delivery of water to the various regions of the country. The rural struggles have created a common practice amongst urban migrant workers to send money back to their families in the villages. In fact, in Kenya 17% of households depend on remittances as their primary income source (Mas and Radcliffe, 2011).

4.1.2 MOBILE PHONE PENETRATION

M-PESA’s deployment would not have been possible without the high level of mobile phone penetration in Kenya. The ICT sector in Kenya continues to grow at great speed, with the mobile penetration rate hitting 80.5%, according to the latest sector statistics report by the Communications Authority of Kenya (20015). According to IFC (2010), prior to the launch of M-PESA many Kenyans were familiar with the basic operations of a mobile such as SMS and making voice calls.
4.1.3 SUMMING-UP

In sum, the combination of widespread mobile communication and the tradition of making country-wide remittances because of urban migration, provide part of the explanation for M-PESA’s growth.

4.2 THE BENEFITS OF M-PESA

With two contextual factors aligned, the scene was set when Kenya’s leading mobile operator, Safaricom, in early 2007 launched M-PESA. As stated in the introduction to the thesis, M-PESA is a SMS-based system that enables users to deposit, send, and withdraw funds using their mobile phone. Customers do not need to have a bank account and can transact at any of the country’s over 80,000 Safaricom agents (Safaricom, 2015). Registration and deposits are free and most other transactions are priced based on a tiered structure to allow even the poorest users to be able to use the system at a reasonable cost. Transaction values are typically small, ranging from USD 5 to USD 30 (IFC, 2010) However, because of its speed, safety, and its price relative to transaction alternatives, the total value of transactions made by mobile phone in 2013 in Kenya was around USD 24 billion, more than half the country’s GDP (Economist, 2014). There are around 17 million active M-PESA users in Kenya (Safaricom, 2015).

M-PESA is an innovation that dominates its money transfer predecessors on many dimensions. Users say it is faster, cheaper, more reliable, and safer, and a very large majority of Kenyans say that they would suffer significant negative consequences if it were to be shut down (Jack and Suri, 2010). The following presents some of the key benefits M-PESA has provided in Kenya.

4.2.1 FAST AND CHEAP TRANSFERS

As accounted for in the previous section, a high proportion of the urban population helps support family members in rural parts of the country by sending a portion of their monthly salary to relatives back home. The most common channel for sending money before M-PESA was by Matatu buses. This process was expensive, fraught with delays, and involved substantial losses due to theft (Selamta Magazine, 2013).
A study, from the University of Edinburgh, has shown that with the use of M-PESA, rural households have seen their incomes increase by 5 to 30%. The main reason being that urban migrants end up remitting more money back home, using the cheap and easily accessible M-PESA money transfer (Morawczynski and Pickens, 2009).

In another study, by Jack and Suri (2010), M-PESA was found to help users deal with negative shocks. Households with access to mobile money were better able than those without to manage negative shocks (including job loss, death of livestock, or problems with harvests). Whereas households that did not use M-PESA saw consumption fall by 6–10% on average, M-PESA users were often able to fully absorb the shocks, because they received more remittances and lost less to transaction costs (Jack and Suri, 2010). Thus, M-PESA not only introduced a large measure of convenience to transactions that were already occurring, but it also enabled a basic form of financial protection for a large number of users by creating a system for instant emergency transfers.

4.2.2 A CHANCE TO SAVE

An important problem facing the poor when they manage their money is that of accumulating large sums of cash. This results from a simple fact of life for the poor: income comes in small amounts, and most of it is used again immediately. But there are
many occasions when the poor need lump sums of cash that are large in relation to the sums they hold in their homes. These needs arise from common life-cycle events, from emergencies, and from the appearance of opportunities to buy assets or invest in businesses. Working with financial diaries, the authors of "Portfolios of the Poor" (Collins et al, 2010 in Sullivan and Omwansa, 2013: 3) write: "of all the commonalities, the most fundamental is that the households are coping with incomes that are not just low, but also irregular and unpredictable, and that too few financial instruments are available to effectively manage these uneven flows”.

Countering the savings challenge, qualitative evidence from Morawczynski and Pickens (2009) suggests that M-PESA is used as a saving instrument, and in a Finaccess survey (2009) over 25% of individuals reported using M-PESA as a means of saving. Furthermore, Plyler et al. (2010), following a focus group study, reported that many respondents highlighted the greater security they had because they were able to keep funds as mobile money rather than in cash. Respondents said that safety have improved due to M-PESA because thieves have learnt that few people now carry large amounts of cash. Likewise, other respondents in the same study indicated that local businesses and street vendors often convert their cash to M-PESA at the end of the day for safe-keeping, and women often commented on M-PESA’s ability to keep money safely stored on a mobile phone, because it keeps them safe from pickpockets, but even more importantly from their husbands.

4.2.3 TRUST IN M-PESA

Examining the growth of M-PESA it is relevant to consider the trust in the system. "The institutional trust relations between the customer and Safaricom, the mobile service provider offering M-PESA, are strong," writes anthropologist Morawczynski. "This means that customers use the M-PESA service because they believe that their money will be kept safe by Safaricom” (Morawczynski and Miscione, 2008).

"In Kenya trust is essential - when one does it, others will follow.”

Interview with Dennis Orina, Ihub, 2015
Another reason for the high degree of trust in M-PESA is its distribution through a wide human network, numbering more than 80,000 agents (Safaricom, 2015). Thus, a human face in every neighborhood and trust in M-PESA were as important to the acceptance of M-PESA as its actual product attributes (Sullivan and Omwansa, 2013).

4.2.4 SUMMING-UP

As examined above, M-PESA provides benefits to Kenyans, including fast and cheap transfers and the chance to save up and store money safely. Finally, this would not have been possible without trust in the system. However, M-PESA is not only changing the lives of Kenyans with its most basic functions; M-PESA is evolving as other services are developed on the platform. The following will account for some of these services.

4.3 THE DEVELOPMENT OF M-PESA SERVICES

M-PESA has not been limited to its most basic money transfer service, e.g., a son in Nairobi putting money into the system, sending it to his mother in rural Kenya, who will then take this cash out of the system. Instead a number of additional services have been developed, for instance, utilities companies see it as an efficient way of collecting dues, and banks see it as an efficient way to mobilize deposits, disburse loans, and receive loan repayments. Furthermore, for startup companies, mobile money has been a cost-effective payment method for their services (Muthiora, 2015). In other words, M-PESA is more than just a way to send money home.

Several innovative solutions have been launched as collaborative efforts between various financial services players. In 2012, M-SHWARI, a mobile savings, credit and insurance product, was launched in a partnership between Safaricom and the Commercial Bank of Africa (CBA). M-SHWARI gives customers the ability to open a savings account with interest, and credit based on a credit score derived from their M-PESA usage. M-SHWARI has become a popular product, with more than KES 24 billion (USD 240 million) in deposits and KES 27 billion (USD 270 million) in loans disbursed to 2.8 million unique borrowers. To put this in perspective, in 2013, just 700,000 Kenyans had a personal bank loan (Muthiora, 2015, Cook and Mckay, 2015).
Other examples, which we use later in our case analysis, are Lipa Na M-PESA, which allows business owners to accept payment of goods and services from their customers, and bill payments, which companies use to accept payments over long distances. In fact, one of the first companies to do so was the case study company, Grundfos LifeLink, which has allowed rural community members to pay for clean drinking water using M-PESA’s PayBill.

BOX 4: SELECTED M-PESA SERVICES

Lipa na M-PESA (In-store merchant payments)
Lipa na M-PESA allows business owners to accept payment of goods and services from their customers. They will also handle less cash and will therefore be less susceptible to risks associated with cash handling such as theft and fake currency. So far 140,000 merchants have signed up.

PayBill (Long distance payments)
M-PESA can also be used to pay bills. Customers must go to M-PESA on their phone Menu and select PayBill, and then enter the account number along with the amount to make the payments.

M-SHWARI (Financial product)
M-SHWARI is a paperless banking service offered through M-PESA. It is:

- Enabling customers to open and operate an M-SHWARI bank account through their mobile phone, via M-PESA, without having to visit banks or fill out any forms.
- Giving customers an opportunity to save as little as KES 1 and earn interest on their saving balance. This cash is moved into the savings account via M-PESA.
- Enabling customers to access micro credit (loan) of a minimum of KES 100 (USD 1) any time and receive their loan instantly on their M-PESA account.

Source: Safaricom website, 2015
4.3.1 SUMMING-UP

M-PESA has not been limited to its most basic money transfer service, but been supplemented by additional services, such as Lipa na M-PESA, PayBill, and M-SHWARI. These products extend the benefits of M-PESA, and are therefore important in understanding why companies as well as consumers use M-PESA.

4.4 SUB-CONCLUSION

This chapter has accounted for the growth of M-PESA from three angles. First, the combination of widespread mobile communication and the tradition to make country-wide remittances because of urban migration accounted for the Kenyan context making M-PESA’s growth possible. Second, the benefits that M-PESA has provided in Kenya, including fast and cheap transfers and the chance to save up and store money safely, accounted for some of the key reasons Kenyans choose to use the service. Third, the additional M-PESA services, allowing e.g. payment of bills and access to financial services, has extended the benefits of M-PESA, and thereby made it possible for companies to use M-PESA.

The chapter has provided important information on M-PESA’s introduction and development, which forms a basic background for the rest of the thesis. The next chapter will move the thesis forward by addressing the question: why are companies using M-PESA?
5. WHY ARE COMPANIES USING M-PESA?

Having accounted for the growth of M-PESA in Kenya, we will now analyze why companies use M-PESA. This is a prerequisite for answering our research question. For the analysis, we apply Jenkins’ (2008) three overarching factors for mobile money ecosystems development, which we introduced in the applied theory section. The factors, which are utility, capacity and an enabling environment, will each account for a section in the chapter. For the analysis we mainly use quantitative data and historical accounts. In the end of the chapter, we present a sub-conclusion, which will sum-up the findings on why companies use M-PESA.

5.1 UTILITY

Utility refers to “the ability of a good or service to satisfy some human want or need. For mobile money, utility is a function of the number of ways and places in which it is possible to use it” (Jenkins, 2008: 12). As explained in the previous chapter, M-PESA has over 17 million active accounts, showing a huge uptake of the service. Jenkins (2008) argues that in order to develop the degree of utility within a society, and thereby create possibilities for companies, products have to develop and move beyond “money in, money out” (Jenkins, 2008: 13).

As explained in the previous chapter, M-PESA’s original core offering was the peer-to-peer transfer – enabling customers to send money domestically to anyone with access to a mobile phone. It opened up a market for transactions which previously were handled largely informally – through personal trips, friends, and public transport networks.
Later, the M-PESA platform broadened to long distance payments with PayBill, enabling companies to pay salaries, collect bill payments, and facilitate supplier payments. For example, electricity customers receive monthly bills, and must pay them within a fixed time window or their power will be cut off. Long distance payments, whereby M-PESA users can pay their bills via their mobile phones, rather than by visiting a post office or bank, save customers the trip as well as the inconvenience of waiting in a long line. Furthermore, Safaricom has made M-PESA a payments platform for in-store merchant payments with Lipa na M-PESA and M-SHWARI has been launched as a mobile savings and credit product (Mas and Radcliffe, 2011). According to Mas and Radcliffe (2011) M-PESA is becoming “the payment “rails” on which a broader set of financial services can ride.” In other words, M-PESA has become a platform on which services are created to strengthen the utility of M-PESA. The figure below portrays the evolving platform of M-PESA.

FIGURE 7: M-PESA’S EVOLVING PLATFORM
5.1.1 SUMMING-UP

In sum, the utility of M-PESA among customers is high and that provides part of the explanation for why companies are using it. It also becomes evident that there is a self-reinforcing link between companies using M-PESA and the utility it provides; as higher utility makes more companies use it, and more companies using it creates higher utility. The next section will analyze the capacity companies have for using M-PESA.

5.2 CAPACITY

Capacity refers to the capacity necessary for companies to leverage the M-PESA technology. This includes integrating it in their business model and being aware of training target customers to understand the value, including revisiting customer segments, which were previously ignored because there was no market for it (Jenkins, 2008).

In order for businesses to build capacity to integrate M-PESA into their business models, Jenkins (2008) points out the role of the mobile network. In Kenya, Safaricom has with its many agents and national identity, taken the leadership to advance the technology. As a result they “are able to provide not only the infrastructure and a large pool of potential users for mobile money, but also advisory services to other companies – banks, insurers, utilities, and so on – seeking to develop their own mobile money models” (Jenkins, 2008: 10). Aligning and partnering with mobile money network operators is important for companies seeking to use the mobile channel to reach out to new customers beyond their traditional markets. A multitude of Kenyan companies have partnered with Safaricom and this has led to an M-PESA ecosystem involving different sectors, such as retail, utilities, health, education, agriculture, transportation, credit, insurance and savings. As examples, certain companies have begun paying their staff via M-PESA and schools have created M-PESA based payment models for their school fees (Haas and Nagarajan, 2011, Sullivan and Omwansa, 2013). Box 5 below depicts three different companies across three different industries and illustrates the versatile gains companies can achieve by having the capacity to integrate M-PESA into their business models.
Health:

Pathfinder Kenya has been using mobile money for over 80% of operational payments and support for community health workers since 2011. Pathfinder introduced a Pay for Performance scheme that uses data collected through M-PESA to determine if community health workers meet set performance targets. Performance incentives are delivered via M-PESA to community health workers. This Pay for Performance (P4P) program aims to improve the delivery of health services at the community level by integrating performance feedback and payments to improve performance.

Energy:

M-Kopa's 3-light solar kits are GSM/GPRS-enabled. The product uses a rent-to-own model, which involves an initial deposit followed by daily payments for up to a year. Customers pay via M-PESA, which prompts back-end software to send a signal to unlock the device directly via product-embedded GSM chip.

Agriculture:

Kilimo Salama insures smallholder farmers against drought and excess rain. Launched in 2008, it is now the largest agricultural insurance program in Africa because of M-PESA. A farmer can use Kilimo Salama to insurance a $2 bag of seed for $0.10. Kilimo Salama currently insures over 70,000 farmers. Kilimo Salama's use of automated weather stations and M-PESA dramatically reduced administrative costs, enabling a relatively low insurance premium that smallholders can afford. Payments are automatically transferred to farmers' M-PESA mobile wallets in the event of excess rain or drought.

Source: CGAP Digital Finance Plus - Global Landscape

5.2.1 SUMMING-UP

As shown in the section, certain Kenyan companies possess a high degree of capacity to use M-PESA, which provide another part of the explanation for why they use it. Furthermore, the leadership role of Safaricom to advance the technology has been instrumental in building this capacity. The following section will look more closely into other stakeholders in and around M-PESA by characterizing the environment.
5.3 ENABLING ENVIRONMENT

“For many businesspeople, there is an almost instinctive negative reaction to the word “regulation”. But regulation is essential to creating and maintaining an enabling environment for business, and mobile money is no exception” (Jenkins, 2008: 21). An enabling environment and proper regulation is essential for businesses to utilize M-PESA and government regulators are the ones responsible (Jenkins, 2008).

“The regulatory environment in Kenya has allowed innovation to flourish. Of course, there is always some risk associated with this but so far the Central Bank has been fortunate that the benefits have outweighed the costs of the innovations they have allowed”

Interview with Mehnaz Safavian, World Bank, 2015

When M-PESA was launched, the Kenyan government alongside the banking sector was worried about its potential to distort the Kenyan economy (Jenkins, 2008). The need for stability on one hand and innovation on the other hand, requires regulators to deal with a delicate and constantly evolving balance. Safaricom needed some regulatory certainty in order to reduce the risk of investment, but rigidity in the emerging stage would suppress investment and innovation. According to Jenkins (2008), “leaders are clear that in mobile money’s emerging phase, the worst thing they could do is pretend to know all the answers in advance” and thereby stresses the importance of leaders to “advocate an incremental approach” (Jenkins, 2008: 19). Aside from incrementality towards regulation, Jenkins (2008) underlines that proportionality is important. This refers to regulators and their task to weigh the potential, often unknown, gains of mobile money, against the possible damage.

The Central Bank of Kenya (CBK) is often credited for setting the loose regulatory conditions, which have facilitated the growth of M-PESA. The regulation was established in close partnership with Safaricom to assess the opportunities and risks involved both prior to the launch and as the system developed. They realized that the impact of M-PESA might extend far beyond their original vision and they were conscious that premature regulation could stifle innovation, so they chose to monitor closely and learn - formalizing regulations later (Mas and Radcliffe, 2011).
The CBK and Safaricom worked out a model that provided sufficient prudential comfort to the CBK. The CBK insisted that all customer funds should be deposited in a regulated financial institution, and reviewed the security features of the technology platform. In turn, the CBK allowed Safaricom to operate M-PESA as a payments system, outside the provisions of the banking law. Safaricom deposits the full value of its customers’ balances on the system in pooled accounts in two regulated banks. Thus, Safaricom issues and manages the M-PESA accounts, but the value in the accounts is fully backed by liquid deposits at commercial banks. Furthermore, Safaricom provides regular reports and updates on its activities to the CBK (Mas and Radcliffe, 2011).

According to Jenkins (2008), striking the balance between stability and innovation is particularly difficult in the mobile money space, because multiple regulatory domains – banking and telecommunications – are involved. As a result “there is a significant risk of coordination failure in policy-making around mobile money” (Tim Lyman, CGAP in Jenkins, 2008). To illustrate, the Kenyan banking community have expressed concern that M-PESA cannot meet the risk management requirements associated with a large payment system network and that it is dangerous for any institution to operate on that scale outside of regulation (Bastos and Silva, 2012). The banks argue that there is a double standard within the Central Bank of Kenya, allowing a non-bank to conduct financial services without the regulatory burden that is imposed on the banking industry (AFI, 2010). Accordingly, in Donovan (2012) a senior manager of a Kenyan bank describes Safaricom as “a bully that dictates all terms”.

5.3.1 SUMMING-UP

Overall, there has been an enabling environment for M-PESA in Kenya, which has made it possible for the service to grow and, in turn, companies to use it. However, the current environment could become hampered by pressure from the Kenyan banking community. In the following we will sum-up the main conclusions of the analysis.
5.4 SUB-CONCLUSION

The above sections applied Jenkins’ (2008) notions of an optimal mobile ecosystem to analyze why companies use M-PESA. In relation to utility, civil Kenyans initially used M-PESA for sending money to their relatives, however, over time products have expanded and so has the utility provided to customers. This creates incentives for companies to use M-PESA. In terms of capacity, Safaricom has been the frontrunner in creating the rails upon which other businesses can ride. This has led to companies paying their staff via M-PESA and creating alternative payment models. Thereby, Kenyan companies portray a high degree of capacity to use M-PESA, which provides another part of the explanation for why they use it. Finally, in relation to environment, the Kenyan government and Central Bank have played important roles in relaxing regulation on M-PESA and thereby establishing the foundation for the ecosystem to grow and for companies to use it. In sum, through the variables of utility, capacity and environment the chapter has provided insight into why companies use M-PESA. The environment will be reassessed later in the thesis when we place the thesis’ conclusions in a macro perspective.

The next chapter will analyze how companies by using M-PESA are creating business opportunities for their low-income customers.
6. HOW ARE COMPANIES CREATING BUSINESS OPPORTUNITIES?

In opposition to the past two chapters that looked into the background of M-PESA, including the reasons behind M-PESA’s growth and why companies use M-PESA, the following is investigating companies’ ability to create business opportunities for their low-income customers. Thus, while the former two analytical chapters have been based almost exclusively on secondary data, we now include data gathered through case focused field research in Kenya.

FIGURE 8: CASE STUDIES IN KENYA
Adhering to our research question, we investigate companies which are using M-PESA and their potential for creating business opportunities for low-income customers. We look into three very different cases to provide a broad spectrum of insights. As such, the businesses included in the case study span a range of different sectors and customers, including B2B and B2C. The businesses we selected are: KickStart, Grundfos Lifelink, and Kopo Kopo. All the case businesses have foreign ownership, but are headquartered in Nairobi.

**BOX 6: OVERVIEW OF BUSINESS CASES**

<table>
<thead>
<tr>
<th></th>
<th>KickStart</th>
<th>Grundfos Lifelink</th>
<th>Kopo Kopo</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business area</strong></td>
<td>Agricultural irrigation pump</td>
<td>Sustainable water supply</td>
<td>Merchant financial services</td>
</tr>
<tr>
<td><strong>Year of establishment</strong></td>
<td>2005</td>
<td>2009</td>
<td>2009</td>
</tr>
<tr>
<td><strong>Ownership</strong></td>
<td>Foreign</td>
<td>Foreign</td>
<td>Foreign</td>
</tr>
<tr>
<td><strong>Use of M-PESA</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Low-income customers</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes, but not exclusively</td>
</tr>
<tr>
<td><strong>Customer type</strong></td>
<td>B2C</td>
<td>B2C</td>
<td>B2B</td>
</tr>
</tbody>
</table>

For the analysis we apply an adapted version of the business model canvas. We are interested in businesses that have customers, which have low incomes and how these businesses use M-PESA in their activities. We particularly investigate the effects of the relationship between the company and their poor customers in terms of business opportunities. We pose three questions, which encompass a total of four building blocks of the traditional business model canvas. By asking ‘WHO?’ we use Osterwalder’s notion of Customer Segment to confirm that we are in fact dealing with a company with low-income customers. By asking ‘HOW?’, we look into how the company is using M-PESA. The insights are derived from the building blocks of Distribution Channels and Customer Relationships. Finally, we ask ‘WHAT?’ to examine what business opportunities the company can create for their low-income customers. This insight is derived from Osterwalder’s Value Proposition.
BOX 7: ADAPTED QUESTIONS FOR CASE ANALYSES

**WHO**: this part is related to Osterwalder’s Customer Segment building block and asks, “Who are the customers?”. The purpose of this part is to affirm that the company targets the low-income segment.

**HOW**: the *How* part of the analysis is related to the notions of Distribution Channels, and Customer Relationships in Osterwalder’s building blocks, and asks, “How is the company using M-PESA?”

**WHAT**: derived from the building block Value Proposition, this section looks to business opportunities created for the low-income customers by analyzing the business opportunities created from the products and services of the company. The part asks, “What kind of business opportunities are created?”

Source: adapted from Osterwalder (2004, 2010)

Each case will be analyzed by, first, accounting for the business background, then addressing the three questions: “Who are the customers?”, “How is the company using M-PESA?”, and “What kind of business opportunities are created?”. Finally, a summing-up section will account for the key findings in the case. Following the three cases, a section will provide a cross case sub-conclusion.
6.1 KICKSTART: BUSINESS OPPORTUNITIES FOR SUBSISTENCE FARMERS

6.1.1 BUSINESS BACKGROUND

Founded in 2005, KickStart is a nonprofit social enterprise with a mission to lift millions of people in Africa out of poverty by offering a sustainable way for poor people to generate an income. In other words, KickStart helps subsistence farmers transform into commercial farming.

In 2005, KickStart observed that most farmers in Africa relied on outdated tools and technologies, some of which had been in use for hundreds of years, such as machetes and hand-held hoes. The idea was that if the farmers embraced new equipment they could increase their agricultural yields (KickStart, 2015). KickStart told us that they realized that poor farmers lacked many things including fertilizer, seeds and access to global markets, however, they said that the biggest problem is lack of water and solving this, will be the foundation of overcoming the other challenges.

The “MoneyMaker Pumps” are now KickStart’s most renowned products and is a line of manually operated irrigation pumps, which helps subsistence farmers transform their farms into profitable businesses. The pumps sell at 70-100 USD and are operated like a
small step-machine, consisting of two treadles powering a pressurized irrigation pump. The pumps are also available as hip pumps, resembling a classical bicycle pump.

FIGURE 9: KICKSTART TARGETS LOW-INCOME FARMERS

6.1.2 WHO ARE KICKSTART’S CUSTOMERS?

In line with the adapted business model, we ask, “who are KickStarts customers?” To confirm that KickStart targets low-income customers, we interviewed KickStart’s Country Manager for Kenya, John Kihia, who explained that KickStart targets smallholder farmers, some very remote, who live on small plots of land and are dependent on unreliable rains to grow their crops. A subsistence farm consists of a family with little or no education and KickStart’s mission is to give them the tools to transform their under-developed farm into a real business. According to KickStart, farmers who buy the pump typically increase their income from 100-500 USD per year to 1000-1500 USD per year, effectively moving them to the middle class in a Sub-Saharan economy.

John Kihia explained that KickStart is very focused on the female part of the subsistence family, because “women are investing income back into their families at far greater rates than their male counterparts and female farmers make smarter financial decisions both for themselves and their children”. Most of the work in the farms are
done by women, so besides targeting smallholder farmers as a whole, KickStart is focused on women and as a core target group. For women such as Lucy (See Box 8 below), KickStart’s pumps can be their way out of poverty.

**BOX 8: A SUBSISTENCE FARMER**

Meet Lucy, a subsistence family’s matriarch, in charge of feeding her family and managing farm output. Her farmland is dry, it has not rained for months and her farming tools are rusty and outdated. Typically, she harvest at the end of the year and sell to an over-saturated market for a low price, only to find herself months later struggling to feed her family as crop prices increase in times of low supply, ultimately reinforcing cycles of feast and famine. Lucy is one among millions of farmers in Kenya who rely only on their crops to eat and earn a living on – and they cannot grow them without rain. Every year the rains stop for months, the fields turn brown and it affects everything. Lack of rain results in lack of harvest, which in turn means no income and when the vicious cycle is first established, it can be very difficult to get out if it again.

6.1.3 HOW IS KICKSTART USING M-PESA?

The previous section determined KickStart’s target customers to be low-income farmers. Based on the building blocks of Distribution Channels and Customer Relationships, it is now analyzed how KickStart uses M-PESA in their activities.

A common denominator among Kenyan subsistence farmers is that most of them have access to mobile phones. And with the dispersion of M-PESA, these farmers have been given access to possibilities that were previously unobtainable. According to KickStart country manager, John Kihia: “When M-PESA came it changed everything. It was the missing link in our business model. With the extra services such as Lipa na M-PESA and M-SHWARI, mobile money enables farmers and KickStart to connect in new ways and exchange products with very low associated costs.”
In a world without M-PESA, farmers would have to travel for hours to a city in order to buy the KickStart pump for cash. Besides the long journey to buy a pump, the cash could prove a problem as well, because a poor farmer face difficulties when it comes to savings because income is not consistent, it typically comes in small amounts and it is often used on a day-to-day basis.

Furthermore, buying a pump that costs several months of accumulated income posed security issues, because with low incomes, the timespan for savings become proportionately longer and the poor farmers thus need to store the savings for a longer period, which makes it prone to theft. With M-PESA, savings tied to the mobile phone enhances security and financial stability for rural farmers because the money cannot be reached by anyone but the account holder. And because KickStart has integrated M-PESA into their payment options new opportunities exist for subsistence farmers.

USING M-PESA BASED FINANCING

KickStart has leveraged M-PESA to financially connect with their customers in two new ways: the layaway program Tone-Kwa-Tone (Drop-by-Drop in Swahili) and the Rent-To-Own financing option, both for farmers who are incapable of paying the entire amount up front.

The Tone-Kwa-Tone mobile layaway program is a micro-savings service that KickStart developed and it enables their customers to save up to purchase a pump by making micro-payments via M-PESA. It functions such that after a 15-20% deposit, the remaining payments can be made at any time and in any amount as long as payments are completed within three months – a time span that usually allows the farmers to harvest once. Using an M-PESA PayBill number assigned by Safaricom to KickStart, farmers send money as they can. Safaricom sends a message back confirming that the funds are received and KickStart does the same stating the balance on the purchase. KickStart also provides reminders in the event that customers begin to fall behind in payments. The total amount of pumps sold via the layaway option is roughly 500 pumps (KickStart annual report, 2014).

In 2012, KickStart introduced the Rent-To-Own financing program in Kenya. The program offers farmers a micro leasing option to acquire a pump up front with a down
payment. Farmers then make payments on the pump over a 6-month period as they
grow their first harvest and start earning money. The Rent-To-Own program is a direct
result of KickStart’s in-depth dialogue with their Customer Segments, as it was
proposed by the farmers themselves, who claimed that if KickStart believed in their
pumps and their goal to generate a 500% increase in farmers’ revenue, they should
provide the pump upfront as they were certain to receive their payments on time.
Without M-PESA and its ability to connect even the most remote areas to a KickStart
payment plan, this would never have been possible.

M-PESA has introduced a new way through which customers can interact with
companies and with KickStart’s value proposition in mind, this leads to new ways
which subsistence farmers can create a business and become commercial farmers.
Finally, the embedded features of M-PESA, such as the possibility to lend money
directly via SMS, linked to the person’s virtual mobile bank account, have had a huge
impact on KickStart by transforming the business environment in Kenya and allowing
for easy access to credit.

INTERNALLY REDUCED COSTS

When we met with KickStart, they explained that establishing, maintaining and
nurturing relationships with their customers are essential parts of their business.
Typically, KickStart have to demonstrate the pumps in order to make a sale, as
subsistence farmers have never seen irrigation pumps before. The rural customers can
be hard to reach. They live miles from the closest village and often miles from the
nearest road and they may only come to town once per month (KickStart Interview,
2015).

In order to reach the remote areas, KickStart employs a lot of sales personnel. John
Kihia underlined that it is very important for KickStart to have a human face associated
with their product, because it builds trust in a society that is known for not trusting each
other - same principle Safaricom uses with agents dispersing M-PESA in Kenya.
KickStart has over 200 sales representatives stationed across major towns, transit points
and trading centres in Kenya. Their prime tasks are to demonstrate the pump at retail
outlets and organize on-farm demos, as the customers will not make a significant
investment until KickStart display its capabilities. As a marketing initiative, KickStart orchestrates community wide pumping competitions. To reach the rural customers and due to suspicious farmers and scarce marketing gateways, KickStart must be present in the field. This is labor intensive and costly.

Since M-PESA was introduced, KickStart has been able to allocate more resources into training and demonstrations and by leveraging the trust already vested in M-PESA, KickStart has used it to cut costs in a lot of important customer activities. In the time before M-PESA, John Kihia told us that KickStart could never get in contact with their staff. Back then, cash was still the predominant mode of payment and because cash represents a security problem in Kenya, the sales representatives only carried a small sum, in order to minimize the risk of robbery. To continue work in the field, they often had to redeem cash. This was a huge waste of time and money. Despite the safety precautions, KickStart would often be required to send extra money to robbed sales representatives via a bank transfer. Typically, this would be a relatively low amount of money so the bank fees to rural Kenya would exceed the amount that was being transferred.

Today, KickStart can use M-PESA to pay their suppliers and employees, and save costs compared to traditional banking services, which has meant that they can employ more sales people to expose the KickStart pumps to the remote areas of Kenya. According to John Kihia, “M-PESA has influenced every cost of our business model, from internal accounting, to dealers and customers. It is a lot cheaper to use M-PESA”.

6.1.4 WHAT KIND OF BUSINESS OPPORTUNITIES ARE CREATED?

This section is derived from the building block Value Proposition and looks to business opportunities created for the low-income customers by analyzing the products and services of KickStart. KickStart proclaims that they offer their customers a new life if they buy the MoneyMaker pump because the pumps allow farmers to provide year-round irrigation for their crops, so they can move from low-value subsistence farming to commercial agriculture and thereby transform their farms into profitable businesses. Farmers can potentially grow more valuable crops, reap multiple harvests each year (instead of only once or twice), remain productive during drought seasons, and increase their income substantially. Increased crop yields provide a more stable food supply for
families while higher income can finance medical care, which is unaffordable for many. According to recent numbers (KickStart, 2015), farmers who bought the pump earned on average an additional $700 per year in new net income – a 500% increase.

KickStart is enabling subsistence farmers to make a living for themselves and their family by buying the MoneyMaker pump. With irrigation, farmers can grow crops year-round. They can grow higher value crops like fruits and vegetables, get higher yields and most importantly, they can produce crops in the dry seasons when food supplies decrease and the market prices are high. In turn, this has also proven to be helpful in addressing female empowerment concerns, as women often are responsible for the garden. Through the Tone-Kwa-Tone and Rent-To-Own financing options, farmers are able to save up to buy a pump or purchase via credit, which was never previously an option and by providing this possibility, KickStart enhances the chances for a smallholder farmer to get out of poverty.

Finally, with more training and on-site visits, KickStart is able to reach more farmers today than prior to M-PESA and by accepting KickStart’s premise of a 500% increase in net income among farmers post-MoneyMaker pump purchase, this is creating more entrepreneurs and business opportunities among the poorest in Kenya.
6.1.5 SUMMING-UP

KickStart targets smallholder farmers, including women, in an attempt to alleviate poverty. They use M-PESA to do so and by leveraging the mobile technology, KickStart is able to offer flexible financing options, pay staff and ultimately reach more low-income customers, due to reduced internal costs. KickStart’s pumps are what gives low-income farmers a business opportunity and by using M-PESA in their activities, KickStart reaches more farmers and thereby increases the number of business opportunities created (KickStart, 2015, KickStart Interview, 2015, Sullivan and Omwansa, 2013).

**BOX 9: BUSINESS OPPORTUNITIES CREATED BY KICKSTART**

1. Buying the pump enables subsistence farmers to potentially become commercial farmers

2. Training and on-site visits equip farmers to better use the pump
6.2 GRUNDFOS LIFELINK: BUSINESS OPPORTUNITIES THROUGH WATER ACCESS

6.2.1 BUSINESS BACKGROUND

Grundfos Lifelink is a subsidiary of the world leading pump manufacturer Grundfos. In 2009, Grundfos Lifelink was established as a commitment to develop and provide sustainable water solutions for people in the developing world.

Grundfos Lifelink is a community focused water project. A Grundfos Lifelink system is a single-point water supply, which uses a submersible pump powered by solar panels (Grundfos, 2015). Water is pumped to an elevated, tower-mounted 10,000-liter storage tank, whereupon it is fed by gravity to several electronically controlled taps in a small building, from which villagers draw water.

Source: Grundfos Lifelink, 2015

In 2009, with M-PESA gaining ground in Kenya, Grundfos Lifelink was able to integrate the strength of mobile connectivity with their take on a sustainable water project. Grundfos Lifelink developed an automatic water dispenser with an integrated system for revenue collection and an online water management platform for full transparency and remote management. Also, the tap unit serves as the payment facility where villagers turn the water taps on and off with an electronic key. This electronic key
stores their own personal “water account” which can be topped up with micro-sized payments from M-PESA accounts.

Grundfos Lifelink made an operational model in which water consumption finances professional service and maintenance (Grundfos, 2015). Based on solar pumps and with a service team on the ground, 42 demonstration projects have been implemented in Kenya since 2009. Each project is providing reliable access to water with an average of 364 operational days per year for a time period of up to five years. Grundfos Lifelink’s goal is to prove a minimum of 10 years operational sustainability for all 42 water projects.

FIGURE 10: GRUNDFOS LIFELINK DELIVERS WATER TO COMMUNITIES

6.2.2 WHO ARE GRUNDFOS LIFELINK’S CUSTOMERS?

In line with our adapted business model, we ask, “who are Grundfos Lifelink’s customer?”, to affirm that the company targets the low-income segment. Grundfos Lifelink’s mission is to develop and provide sustainable water solutions for low-income people in the developing world and Grundfos Lifelink have chosen to target small communities in pursuit of that mission. The Grundfos Lifelink projects allow poor and isolated communities living without a freshwater source access to safe water. By doing so, it eliminates the risks of disease, frees up a lot of time that can be used for going to school or working, thereby providing a stable foundation for progress.

In a Kenyan context, sustainable access to safe and sanitary water still remains a major challenge for a large part of the population with 16 million people lacking access to clean water, making it one of the most struggling populations in the world when it comes to water scarcity (The water project, 2015). In contrast, more Kenyans have access to mobile communications than safe and sustainable water. Thus, Grundfos
Lifelink’s customers are low-income people living in communities without access to water, but equipped with a mobile phone. We met with Anthony Githii a Field Technician from Grundfos, and he told us that, “the biggest problem the communities have is that there is no water, so the feeling to want money is not there, because even if you give me money, I want water.”

6.2.3 HOW IS GRUNDFOS LIFELINK USING M-PESA?

This section is based on the building blocks of Distribution Channels and Customer Relationships. It analyzes how Grundfos Lifelink uses M-PESA in their activities. Anthony Githi, Field Technician from Grundfos Lifelink, brought us to the KMC Junction, a poor village near the Athi River outside of Nairobi, to inspect a Grundfos Lifelink project firsthand. At the site, we were faced with a line of locals who used M-PESA’s payment feature in a flexible, simple and innovative way for accessing water in the drought prone area.

Timothy Mysyoku Nzioka, a local community chief, respected and chosen by the community, was responsible for the station and its security – besides from the overall security of the town. He was also present there everyday to help people who did not know how to use the station properly. It requires a special key to use the pumping station and tap water. Grundfos Lifelink gives the community 100 keys when the station is built alongside training in how to use it. However, many thousand people live at the...
KMC community, so people are lending out keys to each other, some for a small fee, and this requires the community chief to be present nearly all the time to instruct and help the first timers. When asked about it, he stressed that if all the people in the village had a water key he would be able to use his time more efficiently, but seeing that it costs 115 KES (USD 1.15) to buy a new key it would be impossible for the poor village to finance this by themselves.

In a study by Haas and Nagarajan (2011), most fee-based water pumps in Kenya was found to require cash payment at the tapping point. As such, one of the primary differences between Grundfos Lifelink and many other pay-for-use water pumps is the manner by which customers purchase the water.

Under the arrangement between M-PESA and Grundfos Lifelink, users are provided with a water key fitted with a microchip. The user is able to buy water at subsidized rates by depositing money from their M-PESA account into a Grundfos Lifelink M-PESA business account under the Pay Bill functionality. Each time the user needs to buy water, the water key is inserted into a slot on the tapping point and water automatically starts running until the key is removed and the amount corresponding to the amount of water tapped is deducted from the card. One must either own a water key or have access to borrow a water key from another person to use the system. According to Anthony Githii, in an ideal world all should have a water key to ensure that no one is capitalizing on their position as a key bearer, however this is currently not financially viable, which is why it is important that the community appoints a community chief to supervise these transactions. Water keys cost 115 KES (USD 1.15), and come with 100 KES of water credit preloaded on the card. The individual water key can be used down to a balance of zero, and water can be purchased at 3 KES for one jerrycan (20 liter plastic jug) and at the same rate in increments as small as one liter. Any time the account holder wants to add value to the account, a minimum of 100 KES must be added to the account. The fact that not everyone has direct access to the Grundfos Lifelink water is not ideal, however, Haas and Nagarajan (2011) points to the fact that non-users’ access to river water improves dramatically because of the reduction in demand and by avoiding queues.

The project has several inbuilt features to ensure sustainability. The community acquires the water pumping system on credit and at affordable rates and the system has a
business model that enables the communities to pay for maintenance gradually through utility fees.

**HOW M-PESA REMOVES CORRUPTION**

With Grundfos Lifelink’s community water projects, rural inhabitants do not need to walk hours to an open water source. However, not only distance to clean water is a factor in Kenya. According to Transparency International (2014), Kenya is considered a ‘highly corrupt country’ and corruption represents a huge challenge for the Kenya’s society. Because water is scarce, locals can often experience that they have to pay an extra bribe when they buy water or fetch water. However, because cash is removed from the equation in the Grundfos Lifelink model, the risk of fraudulent behavior is greatly reduced and the locals are now calling it “Corruption free water ATM”.

M-PESA enabled payments remove opportunities for petty corruption by reducing the amount of cash that moves through payment channels. In the Grundfos Lifelink case, once money is deposited on the water key, it can only be used for water and once the funds are in a water key account, it cannot be transferred out of the account or redeemed for cash.

In the study of Haas and Nagarajan (2011), users were found to prefer the Grundfos Lifelink water key system to a cash payment scheme because it reduced the opportunity
for corruption. In fact, one respondent, who had moved from a location with a cash payment water pump, stated that “she encountered water attendants in that area who overpriced the water; they would fill half the jerrycan, but would collect payment for the full amount” (Haas and Nagarajan, 2011: 14). Ultimately, the water keys provide a transparent and real-time tracking of funds deposited into the pump and allow for real-time remote monitoring of the water delivery system by Grundfos. As such, the M-PESA technology also gives citizens the power to hold Grundfos accountable if errors occur, which in turn channels trust in the system. In sum, M-PESA enables Grundfos to use water keys to manage withdrawal of water from their stations. By removing cash from the equation, Grundfos Lifelink is removing water associated corruption in the communities they are present in.

The Grundfos Lifelink projects only exist because of M-PESA, providing an example of how the M-PESA platform can be used to benefit a community and provide a service that the community otherwise would not have had access to. Grundfos Lifelink customers in Kenya are in the low-income category, but are to a large extent exposed to mobile phones, with a national penetration rate of 80.5%. Thus, many of the poor communities in Kenya do not have access to water, but they have access to M-PESA. According to Anthony Githii of Grundfos Lifelink, the system could never function in a similar manner without M-PESA; because M-PESA is money in a mobile form, it is an assurance that Grundfos Lifelink will receive the maintenance costs back, since the money never leaves the system. This in turn allows Grundfos Lifelink to build more pump stations that can help people overcome water concerns and use their resources on creating a business or going to school (Haas and Nagarajan, 2011).

6.2.4 WHAT KIND OF BUSINESS OPPORTUNITIES ARE CREATED?

This section is derived from the building block Value Proposition and looks to business opportunities created for the low-income customers by analyzing the products and services. Anthony Githii told us that because the Grundfos Lifelink station exists, local entrepreneurs are capitalizing on the possibilities by selling water from the station to even more remote areas, making a small premium. It is important to remember, Anthony Githii explained, that Grundfos Lifelink operates in a rural setting and there is little money. People collect water in jerrycans and for the local entrepreneurs, a business has emerged where they buy full jerrycans for 5 KES at the Grundfos Lifelink source and
sell them for 20 KES at the neighboring villages. He underlined that over half of the 42 communities with a Grundfos Lifelink station have people making money through such a water markup. On the other side, roughly 60% will use the water for their domestic household only. This is often fetched by women and children, and prior to the installation of the Grundfos Lifelink system, residents had to fetch water from the river, which would typically entail a 6 km long walk back and forth from their homes. Now these efforts can be used for other activities including businesses.

In their study of the first Grundfos Lifelink station, Haas and Nagarajan (2011) also found that the trade-off between time and cost of water was clear to the users of the station. In general, “the reduction in loss of productive time due to transaction costs to access water was found to contribute to food security. The time saved allowed household members, often the female members, to spend more time working on the farm or in income-generating activities to buy more good quality food” (Haas and Nagarajan, 2011: 17). In the same study, many respondents noted that the access to water from the Grundfos Lifelink station allowed community members to sustain small vegetable gardens and start growing fruit trees that they otherwise would not have been able to maintain. This case study shows that companies can successfully use the M-PESA platform to provide a reliable water source in remote rural areas, which community members can use to grow more crops or grow crops they could not grow before. The Grundfos Lifelink water project – enabled by the M-PESA platform – has the potential to benefit both the direct users of the system, as well as the community at large, through spillover effects such as time savings, means to generate income, and improved food security and health (Grundfos Lifelink Interview, 2015, Haas and Nagarajan, 2011).

A Grundfos Lifelink system is an effective way to circumvent corruption with the creative use of remote monitoring and M-PESA to enable automatic payment for maintenance, operation and loan repayment. Corruption is a problem that hampers business development and decreases opportunities for economic and social advancement. According to the 2013 Human Rights Report, corruption in Kenya is one of the biggest problems facing the country. By removing cash, and thereby reducing the possibility for corruption, Grundfos Lifelink contributes to giving low-income customers a favorable business environment in the communities they are present in. Also, with the removal of corruption in relation to water, water becomes less costly.
6.2.5 SUMMING-UP

Grundfos Lifelink is using M-PESA to deliver water to poor communities without access to clean water. The access to clean water improves the lives of Grundfos Lifelink’s low-income customers. With a reliable water source in the community, it takes less time to fetch water. Additionally it creates opportunities to start a business, such as the water entrepreneurs, or improve a current one by utilizing the clean water source within the community and thereby grow more crops or grow crops they could not grow before. Finally, because cash is removed from the Grundfos Lifelink stations, corruption in relation to water is made difficult, which improves the overall business environment.

BOX 10: BUSINESS OPPORTUNITIES CREATED BY GRUNDFOS LIFELINK

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<td>1. The Grundfos Lifelink water source creates water entrepreneurs</td>
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<td>2. A centrally placed water source frees up time to spend on business activities</td>
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<td>3. The reduced risk of corruption via a water key creates a healthier business environment, which enhances the opportunity to do business</td>
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<tr>
<td>4. The access to water allows farmers to sow more (valuable) crops</td>
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Page 66
6.3 KOPO KOPO: M-PESA PAYMENTS FOR MERCHANTS

6.3.1 BUSINESS BACKGROUND

Kopo Kopo engage with merchants on behalf of Safaricom as the official merchant aggregator. By 2011, M-PESA was being used throughout Kenya, but despite the popularity for money transfers, the technology had not been adopted by merchants. Kopo Kopo saw this as a promising opportunity: a business could be built around helping merchants easily and safely accept M-PESA payments. Simultaneously, Safaricom was also interested in moving M-PESA towards the merchants, and responded with the M-PESA “Buy Goods” function, synergizing with Kopo Kopo’s initial proposal. “Buy Goods” would later be renamed “Lipa na M-PESA”, but the idea remains the same: an attractive point of sale payment function for merchants. Kopo Kopo also offers value added services that enables small and medium sized merchants to manage M-PESA payments and grow their business. The value added services include making the transactions easily accessible online and a cash advance service called “Grow”. From 200 transactions per month in the beginning, Kopo Kopo now facilitates 300,000 transactions, accounting for over 500 million KES (5 million USD) each month.

BOX 11: HOW CUSTOMERS PAY AT MERCHANTS

To make payments, the customer needs to do the following:

- Go to M-PESA menu
- Select payments services
- Enter merchant’s till number
- Enter amount and M-PESA PIN

Both the customer and the merchant receive confirmation of payments from M-PESA via text in real-time.

Source: Safaricom
6.3.2 WHO ARE KOPO KOPO’S CUSTOMERS?

Derived from Osterwalder et al. (2010) Customer Segment building block, this section asks, “Who are the customers?” The purpose of this section is to affirm that the company targets the low-income segment. Kopo Kopo is a B2B company that offers services that enable small and medium sized merchants to manage M-PESA payments and grow their business. Kopo Kopo told us that bars and restaurants were the first to adopt Lipa na M-PESA because within this segment incentives are very strong: “owners appreciate that it reduces cash handling and improves security, since many close at late hours and must then deal with large volumes of cash at night” (Kopo Kopo Interview, 2015). Overall, Kopo Kopo’s customers span a wide range of businesses. Some of these customers are beyond the definition of low-income customers, which is the point of interest for this thesis. However, it is not only confined to bars and restaurants. Kopo Kopo have a wide range of merchant customers in their portfolio, from large book stores to small kinyozis (barbershops) and dukas (general shops) in Nairobi, and from agro stores in the remote, rural regions of Kenya to large industrial distributors in the country’s second largest city, Mombasa (GSMA, 2014). A lot of these merchants are considered poor. In a study by Zollmann (2014) for Kopo Kopo, it was highlighted that at kinyozis, a typical transaction is under 100 KES (USD 1). Furthermore, Kopo Kopo did an in depth case study where they examined a small beauty shop in Nakuru, Kenya’s fourth largest city, which typically had four customers per day, each of whom spend about KES 200 (USD 2) each. This business barely made any profit at all and was unable to break even in the period of analysis. Overall, this suggests that there is appeal for also smaller and low-income merchants to adopt Lipa na M-PESA. As such, Kopo
Kopo becomes the link bringing the benefits of M-PESA to the low-income merchants, which is the customer segment we are focusing on.

6.3.3 HOW IS KOPO KOPO USING M-PESA?

This part of the analysis is related to the notions of Distribution Channels, and Customer Relationships in Osterwalder’s building blocks and suits the purpose of analyzing how Kopo Kopo uses M-PESA in their activities. Kopo Kopo as a company is established because of M-PESA, so naturally, they are using M-PESA in every aspect of their business. Kopo Kopo provides tools to facilitate mobile payments through M-PESA, focusing on merchant payments that enable small and medium sized businesses to accept mobile money payments from their customers. Compared to the well-known M-PESA “Send Money” system used for peer-to-peer transfers, Lipa na M-PESA is cheaper and more secure for businesses as customers cannot reverse transactions without approval from the merchant. To use the service merchants pay a fee of 1% per transaction, while the customers do not pay any transaction fee. To convince the merchants to sign up, Kopo Kopo told us they have an acquisition team contacting either a merchant directly or the owners of a merchant network.

To better grasp what Lipa na M-PESA and Kopo Kopo solves for merchants, it is relevant to understand the merchant as an individual with the same concerns as any other Kenyan: he/she has limited access to easily store cash, and to get cash advances. Kopo Kopo helps with that. The Lipa na M-PESA account can be kept aside from day to day cash needs, and the added service, “Grow”, gives credit to qualified businesses based on their M-PESA cash flow. The benefits of “Grow” are multifold. “Grow“ is a credit opportunity for businesses looking to replenish stock, refurbish their premises, or launch a new business line. Repayments are based on future Lipa na M-PESA sales: Kopo Kopo deducts a larger amount when sales are high, a smaller amount when sales are low, and no amount when there are no sales. The cash advance algorithm is based on the individual merchant’s transaction history and more than 150 other data-driven signals (Kopo Kopo Interview, 2015, Kopo Kopo, 2015).

Kopo Kopo also use M-PESA to pay salaries to their own employees, which reduces company costs. This enables Kopo Kopo to spend more resources on marketing M-PESA acceptance to merchants, acquire and on-board those merchants and train them in
the products. Ultimately, Kopo Kopo can use the information gathered from this process to sell new products and services based on the payment history and payment behaviour (Kopo Kopo Interview, 2015).

6.3.4 WHAT KIND OF BUSINESS OPPORTUNITIES ARE CREATED?

Derived from the building block Value Proposition, this section considers business opportunities created for the low-income customers by analyzing the products and services. By removing cash from merchants’ daily lives, Kopo Kopo is generating business opportunities by transferring the benefits of M-PESA, such as convenience, efficiency and security, to merchants. In this case we are focusing on the low-income merchant segment, who often have business finances closely tied to their own personal finances. Because of the credit advance service “Grow”, Kopo Kopo can utilize transaction data to provide value added services beyond the payment facilitation to low-income merchants. Based on a merchant’s payment history, “Grow” allows the merchant to get a cash advance and according to Kopo Kopo “it helps you to expand your business and get more inventory”.

A business needs to balance the use of debt and equity to keep the average cost of capital at its minimum (Salvatore, 2014). For a low-income merchant, debt can be necessary because it is usually required in the process of buying inventory or performing upgrades that improve the productive capacity and thereby enhances future income. Furthermore, a service such as “Grow” can be very valuable to a low-income merchant, unexperienced with the formality and bureaucracy of obtaining credit through more conventional channels, or unable to even reach those channels. This represents a clear example of how Kopo Kopo, via the M-PESA platform, creates business opportunities for even low-income merchants. Furthermore, the sheer fact that low-income businesses can accept payments via M-PESA is generating a new revenue source. Because M-PESA is universal in Kenya, customers prefer paying via the platform, “If you have a till, I pay at the till. If you don’t have a till, I move on to the next business to do my transactions” (Kopo Kopo Interview, 2015). As such, by helping merchants accept payments via M-PESA, Kopo Kopo is bringing much needed convenience to the end customers, which in turn increases the revenue potential for merchants. To reinforce the argument, a study done by the German Federal Ministry for Economic Cooperation and Development (2013), claims that “Utilizing m-money can
be up to 38% cheaper than formal banking options for companies that have to process a large number of transactions involving small amounts.”

Theft is a risk Kopo Kopo helps alleviating with their products. Despite being a low-income merchant in Kenya, you often still have people working for you, given that the country is so labor intensive, and with very low labor costs. However, this also increases the possibility of internal theft. In a Kopo Kopo and Bill & Melinda Gates Foundation study from 2014 merchants remarked theft is a concern: “Employees are stealing. They deposit the agreed price, but they overcharge the customer and keep the extra. It’s making customers run from my business”. To decrease employee theft, Kopo Kopo told us that they provide easy access to transaction data for the merchant. And if employees steal less, it should mean better business conditions for all types of merchants.

Besides cash management, selling goods on credit can be a major source of stress for merchants, Kopo Kopo explained. Allowing for Lipa na M-PESA payments connects the merchant to other M-PESA services, such as M-SHWARI. This gives customers an option to get credit directly on their mobile phone to conduct purchases. Besides from removing the risk of extending credit to unreliable customers, which can be burdensome for low-income merchants, it also increases the appeal for customers to buy at that particular merchant.
6.3.5 SUMMING-UP

Kopo Kopo helps merchants integrate payments with M-PESA. As these merchants are also to be found amongst the low-income Kenyan population, Kopo Kopo becomes the link bringing the benefits of M-PESA to low-income merchants. There are a number of benefits associated with the reduced need to deal with cash. Because of M-PESA’s dominance in Kenya, customers prefer paying with M-PESA, and not being able to accept payments via M-PESA results in business opportunities lost. We found out that keeping money in M-PESA with clear records of every transaction is reducing the risk of theft and misuse by employees. We also found that merchants can use “Grow” to get access to flexible loans, that can be processed faster and are effective access to loans for people without access to traditional banking services. M-PESA also helps merchants avoid extending credit to their customers, as customers can use M-SHWARI to pay at the merchant.

BOX 12: BUSINESS OPPORTUNITIES CREATED BY KOPO KOPO

1. By enabling merchants to accept M-PESA payments, merchants are able to accept payments from a larger customer base

2. Access to business loans/credit for merchants

3. The enhanced security and transparency reduces the risk of theft for merchants
6.4 CROSS CASE SUB-CONCLUSION

We have now investigated how three different companies use M-PESA in their operations and how this in turn creates business opportunities for their low-income customers. The three case companies represent different industries and target different customers within the low-income segment. KickStart targets poor smallholder farmers and sells an irrigating pump that potentially transforms a subsistence farm into a commercial farm. Grundfos Lifelink targets poor communities without access to water and creates a safe water source within the community. Kopo Kopo operates in the B2B segment, offering small and medium sized merchants a chance to accept M-PESA payments.

The cases analyzed clearly illustrate M-PESA’s ability to reduce internal costs for companies, and combined with each case company’s value proposition, this has a positive impact on their low-income customers’ business opportunities.

KickStart pays employees via M-PESA, which reduces operational costs and channels more resources to their outreach programmes, resulting in training and more commercial farmers created. M-PESA is also used to offer financial flexibility to their low-income customers, which opens up for a bigger market of subsistence farmers, who previously could not afford the pumps.

The Grundfos Lifelink project is financially sustainable because maintenance is secured via M-PESA. This currently enables 42 Grundfos Lifelink projects in Kenya, which channels into business opportunities in the communities where Grundfos Lifelink is present. The Lifelink water source has created water entrepreneurs, who capitalize on the cheap access to water and sell it to neighboring communities. Furthermore, a clean water source within the community allows inhabitants to grow more crops or grow crops they could not grow before because of water shortage, and frees up time for other business activities. In addition, Grundfos Lifelink has reduced the risk of corruption, which creates a more stable business environment.

Kopo Kopo also benefits from paying their staff internally, freeing up resources to acquire and train more merchants, and by accepting M-PESA payments, merchants improve their business opportunities. Furthermore, Kopo Kopo’s value added credit service, “Grow”, allows low-income merchants to borrow money via M-PESA to run their business. This is valuable as it allows low-income merchants to continue their operations despite shortage of income in the short run. Without M-PESA and Kopo
Kopo, such low-income merchants would typically not have been able to borrow money via traditional sources. Additionally, it reduces the risk of theft because Kopo Kopo brings the transparency inherent in the M-PESA technology to low-income merchants.

### BOX 13: SUMMING-UP CROSS CASE SUB-CONCLUSION

<table>
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<tr>
<th></th>
<th>Who are the customers?</th>
<th>How is M-PESA used?</th>
<th>What business opportunities are created?</th>
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</thead>
<tbody>
<tr>
<td><strong>KickStart</strong></td>
<td>- KickStart targets small scale farmers including women</td>
<td>- Via two payment options, KickStart provides financial flexibility to their customers. M-PESA also reduces KickStart's internal costs, allowing KickStart to reach more customers</td>
<td>- Buying the pump enables subsistence farmers to potentially become commercial farmers</td>
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<td></td>
<td></td>
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<td>- Training and on-site visits equip farmers to better use the pump</td>
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<tr>
<td><strong>Grundfos Lifelink</strong></td>
<td>- Poor rural communities without access to safe water</td>
<td>- Grundfos Lifelink sells water using M-PESA and a water key, which provides transparency and accountability</td>
<td>- The Lifelink water source creates water entrepreneurs</td>
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<td></td>
<td></td>
<td></td>
<td>- A centrally placed water source frees up time to spend on business activities</td>
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<td></td>
<td></td>
<td></td>
<td>- The access to water allows farmers to sow more (valuable) crops</td>
</tr>
<tr>
<td><strong>Kopo Kopo</strong></td>
<td>- Kopo Kopo targets merchants (bars, hairdressers, restaurants, etc.)</td>
<td>- M-PESA is a prerequisite of Kopo Kopo’s existence. The company uses M-PESA to close the gap between the formal financial sector and the mass of informal merchants</td>
<td>- By enabling merchants to accept M-PESA payments, merchants are able to accept payments from a larger customer base</td>
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<td></td>
<td>- Access to business loans/credit for merchants</td>
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<td>- The enhanced security and transparency reduces the risk of theft for merchants</td>
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As the box above illustrates, the business opportunities created in the KickStart and Kopo Kopo examples are more narrow than the ones in the Grundfos Lifelink case. KickStart creates business opportunities for farmers who buy their pump. Kopo Kopo creates business opportunities for merchants who use their service. Because Grundfos Lifelink serves a community, the business opportunities created are more diverse. The diversity and small size of the sampling base makes categorization of the business opportunities difficult. However, the cases have provided practical knowledge and have shown benefits for companies to use M-PESA, both in terms of creating business opportunities and providing better service for their low-income customers.
7. CONCLUSION

From the outset we wanted to investigate what happens to low-income customers when companies use M-PESA in Kenya and how this relates to development. More specifically, the thesis asked “To what extent are private companies, by using M-PESA, able to create business opportunities for their low-income customers?”

To address this question, the thesis argues that M-PESA’s magnitude, which is a prerequisite for the adoption of M-PESA by companies, can be ascribed to a number of factors, including the Kenyan tradition to make country-wide remittances, the benefits of M-PESA, and the additional services that has evolved from the platform. In addition, the enabling Kenyan environment and the capacity of Kenyan companies have made businesses use M-PESA, which forms the foundation for the creation of business opportunities.

The analysis of three cases of companies using M-PESA established that the companies, operating in different industries, in a number of different ways create business opportunities for their low-income customers through the use of M-PESA. The business opportunities created are associated with the different companies’ value proposition and target group, but in all cases M-PESA has allowed for new ways for the low-income customers to buy products and services and has decreased the operational costs for the companies. In other words, there is evidence that the lower costs via M-PESA will make it possible for companies to reach more low-income customers, and the M-PESA enabled flexible payments make it possible for low-income customers to purchase the product. Thus, by using M-PESA, private companies are to a larger extent able to sell their products to low-income customers. This increased access to products and services is creating business opportunities by allowing the low-income customers to start new business ventures or improve already established businesses.

The extent to which private companies, by using M-PESA, are able to create business opportunities for their low-income customers is contingent upon the value proposition/product of the company. In the analyzed cases, business opportunities where discovered to be diverse, e.g., moving from subsistence to commercial farming via the KickStart
pump, the Lifelink water source creating water entrepreneurs and reducing risk of corruption, and Kopo Kopo helping merchants reach more customers and obtain loans. For future research, it would be interesting to include a broader case sample to give a more comprehensive overview and potential classification of the business opportunities for low-income customers generated via M-PESA. Our three case companies all target low-income customers and it would also be interesting to see how companies with different target groups and value propositions affect business opportunities for the low-income segment.

The focus of our analysis has been companies using M-PESA. However, because we are interested in development, we have measured the impact on a customer level. Inspired by the Osterwalder et al. (2010) business model canvas, we translated company insights into effects on the customers. Due to the informality of the Kenyan economy, we argue that this is a valid approach, because it allows us to measure the otherwise unmeasurable. However, a customer level analysis could provide new insights about business opportunities and how they are embraced by low-income customers. Ultimately, the insights in this thesis have contributed to the knowledge of how private companies can create development by using mobile money and we hope it inspires further research, as well as points companies considering the use of M-PESA in a useful direction.

7.1 PLACING THE THESIS IN A MACRO PERSPECTIVE

We have concluded that our three case companies create business opportunities for their low-income customers by using M-PESA in their activities and this can be one of the pathways for development in Kenya. In line with the World Bank’s bottom-up development policy, the foundation of the thesis builds upon the idea that private businesses drive the creation of productive capacity, jobs, income and increased welfare (World Bank, 2015, Estudillo et al., 2012). This entails that if developing countries, hereunder Kenya, are to succeed in reducing poverty, they will need new businesses that boost value creation, productivity and employment. We argued that companies using M-PESA reduce their overall costs and that companies that target poor customers can potentially create business opportunities for those segments. As stated in the introduction, Yunus (2005) argues that the most important step to ending poverty is to create employment and income opportunities for the poor. Thus, companies are part of
creating prosperity in Kenya via M-PESA and in the long run this can be best secured by having an enabling M-PESA environment (Jenkins, 2008).

In the following we will place the thesis in a macro perspective by identifying three contemporary issues, which can potentially distort the M-PESA environment and thus hamper development. These issues are something multilateral donors, governments, and civil society organizations should be conscious about, and include the role of the Kenyan government, Safaricom’s monopoly and overall financial risks.

7.1.1 KENYA’S GOVERNMENT

When M-PESA was launched, the Kenyan government alongside the banking sector were worried about its potential to distort the Kenyan economy. Today, the actors using M-PESA have evolved to include utility/water companies, schools, public institutions and private businesses (CGAP, 2014). However, limited regulation has been implemented since M-PESA’s conception. The risks of mobile money increase with scale of operations, transaction size and type, moving from payments to more diversified financial services (Jenkins, 2008). While some argue for more regulation (AFI, 2010), others claim that the risks associated with M-PESA are minor and therefore the current unregulated approach is viable (CGAP, 2014). For regulators, it can be hard to ensure that legislation keeps up with the rapid development of M-PESA, and the risk of implementing hurtful policies is ever-present.

According to Center for Global Development (CGDEV), the biggest threat for poor people in Kenya in relation to M-PESA is taxation. In 2012, the Kenyan government instituted a new tax that affected users of M-PESA. It was a 10% excise tax on fees charged for money transfer services applying to mobile phone providers, banks, and other money transfer agencies. Taxing the fees charged by Safaricom could make Safaricom increase the fees to customers to avoid a decrease in profits. Currently, nothing suggests that Kenya’s government is planning a new round of taxation on M-PESA, however, considering that there is no formal policy on M-PESA and that taxes have been imposed already, it is difficult to predict what might occur in the future. The high adoption rate of mobile payments in most communities in Kenya are driven partly by the low cost. Thus, a tax increase can be hurtful to the spread of M-PESA and the associated benefits established in the thesis, especially for the low-income population.
Furthermore, in line with the prerequisites for a well functioning M-PESA ecosystem identified in earlier chapters, a sudden tax can result in business unrest because of the high degree of uncertainty associated with unpredictable regulation (Jenkins, 2008).

7.1.2 SAFARICOM’S MONOPOLY

The World Bank stresses that “the very factors that helped lead to M-PESA’s success - most notably, Safaricom's dominance in the market - is now introducing more challenges as 3rd parties complain they can only get limited access to Safaricom and innovation may be less of a priority for Safaricom than continued control (World Bank Interview, 2015). Depending on sources, Safaricom’s market share is between 65 to 75% of the mobile money market in Kenya (Marachia, 2015, Kwama, 2015).

Airtel, one of the Kenyan mobile money competitors, has pursued legal action against Safaricom, claiming that the size of the Safaricom agent network and restrictive prices when sending money to recipients outside the M-PESA system constitutes a monopoly (Okuttah, 2013). Along these lines, in our case study, Kopo Kopo expressed frustration over Safaricom’s monopoly as they were not allowed to take part in developing the M-PESA technology (Kopo Kopo Interview, 2015). In response, Safaricom has made a decision to remove all exclusivity provisions in their M-PESA agent contracts (Okuttah, 2014), which accommodates a part of Airtel’s accusations, but fail to address the desire of other actors to take part of shaping the technology. The Kenyan government has been reluctant to dictate Safaricom’s ways, as it sees significant the societal benefits of M-PESA, with 92% of users expecting a large and negative effect from M-PESA shutting down (Jack and Suri, 2011).

7.1.3 BREAKDOWN OF THE FINANCIAL SYSTEM

“Credit risk (and associated credit failures), can be very harmful, if more and more third-party (often unregulated) providers start offering credit via push offers on mobile phone. We have seen BoP credit bubbles before, and should be careful of the risk this could happen with insufficient standards and market monitoring” (World Bank Interview, 2015). The product M-SHWARI, where customers, as soon as they have opened an account, can apply for a loan even if they have no previous banking history, serves as a good example of such risks. Since M-SHWARI’s launch, 20.6 million loans
totaling USD 277 million have been given to 2.8 million unique borrowers with an average loan of USD 13. To put this in perspective, in 2013, just 700,000 Kenyans had a personal bank loan (Cook and Mckay, 2015). However, during the M-SHWARI pilot period, there was a noticeable drop off in attendance at weekly group meetings for loan repayment, and low attendance at face-to-face group meetings can potentially have a negative effect on repayments as the social pressure to repay decreases (Hughes and Lonie in Hinz, 2014). With M-SHWARI first time borrowers can only borrow small amounts, but the maximum amount increases every time a loan is repaid. The exponential rise in loans to financially inexperienced individuals is perceived to be one of the biggest risks associated with M-PESA in Kenya (World Bank Interview, 2015).

On a larger scale, M-PESA has been inextricably woven into the daily life of Kenyans, rich and poor, rural and urban, and since the platform operates in a grey area, between a financial and mobile service, the uncertainty surrounding it creates a level of systemic risk. Hinz (2014) claims that a breakdown of the system could be catastrophic to the overall economy, and according to CGAP (2014), a prominent voice for financial inclusion, many policymakers around the world remain concerned about the safety of M-PESA customer funds.

The above has assessed three issues which can affect the development of M-PESA and the associated developmental benefits. In general, much of the progress is contingent upon the Kenyan authorities and how they choose to behave. It seems clear that rigidity in the emerging stage would have suppressed investment and innovation. However, time might have come for the Kenyan government to take appropriate actions, ensuring that M-PESA will also flourish in the years to come. Bilateral and multilateral donors can play a role through innovation funds and technical assistance that help heighten the development impact of M-PESA. Donors can also help the Kenyan government create better enabling environments through policies, regulations, and specific measures to encourage business innovation while ensuring consumer protection. The World Bank Group and other development institutions can potentially help facilitate such dialogue. Lastly, civil society organizations have valuable relationships in low-income communities and insight into how they live, what they value, and what they aspire to. These organizations thereby have the potential to play important roles in the future of M-PESA.
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9. APPENDIX

The following is a list of the interviews conducted over the course of writing this thesis. The interviews are presented chronologically with the earliest first. The interviews have all informed our thesis in one way or another and the references made can be found here.


Q: What are your thoughts on the current mobile banking environment in Kenya?

Kenya continues to be the global success story for mobile money to which the rest of the world looks. 2/3 of the population are active mobile money users and this allows for an unparalleled level of experimentation and innovation ranging from tiny start-ups to Safaricom-led innovations. However, the very factors that helped lead to this success - most notably, Safaricom's dominance in the market - is now introducing more challenges as 3rd parties complain they can only get limited access to Safaricom and innovation may be less of a priority for Safaricom than continued control.

Q: What role do you believe mobile money will play in terms of driving financial inclusion and helping the economy grow in Kenya?

Mobile money has played an absolutely critical role in driving financial inclusion in Kenya. According to FinAccess, just 25% of the population were formally included in 2006 while in 2013 67% were formally included. FinAccess demonstrates that mobile money is the key reason behind this growth. Although there is still a gap between disadvantaged and better off groups, mobile money is certainly reaching the poor - 50% of people below the poverty line use M-PESA, 60% of females and 55% of people living in rural areas. Of course, mobile money on its own is not the comprehensive solution for financial inclusion but we're seeing formal financial services (like savings, credit, insurance) as well as Digital Finance + businesses (using mobile money to link to
services like electricity and water) using the mobile money platform to offer even more services.

**Q:** Do you think traditional retail banking is under threat from MNO led mobile money services in Kenya? Are these operators likely to lock in customers for life if services continue to expand from simple money transfers to savings and loans as well as much better geographical reach than traditional bricks and mortar bank branches?

There certainly is intense competition between banks and MNOs and Equity Bank in particular has complained bitterly about the lack of a level playing field in Kenya. However, on a big picture scale we don't see MNO led services as replacing banks but as building a foundation upon which banks and other entities can offer customers higher value added financial services such as savings, loans and insurance. Although Safaricom has undoubtedly benefited from M-Shwari in terms of customer loyalty and 'stickiness,' I would argue that the bank involved - Commercial Bank of Africa - has benefited more. They have gone from being a relatively small bank focused on a small slice of the population to one of the largest banks in Kenya in less than two years. I have attached some slides demonstrating that just as mobile money has taken off in Kenya, so too there has been a strong rise in the number of bank customers.

**Q:** M-Shwari reported a high number of defaults on its mobile loan book, despite this Equity bank are entering the market with a service similar to that of M-Pesa and M-Shwari. Do you think the regulatory environment has been too relaxed?

The regulatory environment in Kenya has allowed innovation to flourish. Of course, there is always some risk associated with this but so far the Central Bank has been fortunate that the benefits have outweighed the costs of the innovations they have allowed. M-Shwari is still in an early stage and CBA is constantly revising and reviewing their credit scoring algorithm - they are currently on their third iteration. At this stage, we are not unduly concerned by the M-Shwari defaults although it is something CBA needs to continue to monitor closely. We absolutely think that Equity should be allowed to compete and offer similar products.

**Q:** What do you think the next natural step is in the evolution of mobile money services?
Likely three steps:

- The increasing provision of new value added services beyond payments products. Services to merchants and non-consumers is one space that is evolving quickly—such as working capital.

- The second is the way in which other actors beyond the MNOs will occupy more and more turf in this space. Third-party aggregators, banks, retail chains, it seems like there is a rush ot enter and new licensing arrangements like MVNOs or the new payments regulations hopefully create more space for this.

- How the increasing use of basic smartphones will allow for both a more enhanced user experience but also allow third parties to work around the expensive and often contentious USSD channels dominated by the MNOs.

Q: What do you believe are the risks with mobile money services in Kenya?

Perhaps the biggest two risks are:

1. Credit risk if more and more third-party (often unregulated) providers start offering credit via push offers on mobile phone. We have seen BoP credit bubbles before, and should be caerful of the risk this could happen with insufficient standards and market monitoring.

2. Data privacy and on-selling of consumer data without legitimate informed consent. As this data gets monetized more and more, providers will want to on-sell, and data privacy in digital environment is a new field without sufficient consumer protections in some cases.

Q: What is your take on the bank led vs MNO led approach to mobile money in Kenya and what is your view on the regulatory framework?

We try to be provider agnostic, and encourage fair competition for all. Some providres like Equity have complained of unfair competitive advantages, but we hope that recent actions like removing agent exclusivity, or MVNO licenses, as well as future goals of interoperability and fair channel access.

Thursday, March 19, 2015. Interview with Dennis Orina, Community Engagement Manager, iHub.
**Q: Tell us a little about iHub?**

We have white, Green and red members. It is a community for entrepreneurs and developers. We have many events including growth hacking (quickly and cheaply grow your company). This entail to make your product more popular, sell your product or get more customers. We also have outside speakers, partners etc. iHub has several associated services such as consulting, research, legal aid, UX lab etc, and just like the company Airbnb we believe in a creative method of growing without using money.

**Q: Have you done M-PESA research**

Right now, M-PESA is not open for development and safaricom has deliberately not done anything about this. Safaricom are the ones to ask. iHub just had an event with safaricom where they stated that M-PESA will be opened up for developers, but we have yet to see this happen.

**Q: How have M-PESA affected the Kenyan economy and people?**

M-PESA has had a profound effect with its universal accessibility. You do not need to have a smartphone to use it and that aspect is the most important part of it. Typically, M-PESA users are unbanked, non smartphone users and the ability it has to connect families, especially the elder generation, is essential. Kenyans store their money in M-PESA and Kenyans make a lot of different transactions. M-PESA has also created constant accessibility of airtime. For me personally, 80% of my airtime purchases are done via M-PESA. Generally, it is difficult for us to go online. In fact, it is so difficult for me to even get a credit card and type it on Paypal, I feel like I’m giving someone my details. Like they can steal from me or something. However, the M-PESA is mine and no one needs to know my PIN - no one needs to know anything about me. Also, the added feature of M-SHWARI is really fabulous. People used to have their money stored away in madrases, but now we don’t need to go anywhere to do our banking tasks.
Q: How has M-PESA affected businesses?

3-4 years ago, M-PESA was only for transactional purposes i.e. sending money, but it has progressed into something businesses can leverage, especially via the lipa na M-PESA function, to generate more revenue. Also the fact that in Kenya getting change can be an issue and this is solved by M-PESA.

Q: Do you think it has allowed businesses to make more money?

People are budgeting more, but they are also impulse buying more due to the access of credit everywhere and the sheer fact that their money is accessible all the time, allows companies to reach larger profits. From my perspective, businesses have been able to increase sales.

Q: How are iHub tech companies integrating M-PESA?

KOPO KOPO are the pioneers within the M-PESA only business model. They are a big company now. They leverage M-PESA to do payments. In Kenya, M-PESA outperforms the credit card and as such it is key in e-commerce. Almost all e-commerce in Kenya must have an M-PESA account and if we were to transition to online payments, M-PESA would be key to that. For now, M-PESA "replaces" credit cards in Kenya.

Q: What are some of the benefits for businesses of using M-PESA, for example when paying a supplier?

I cannot say for big companies, but for SMEs, definitely yes! M-PESA has changed things significantly and for the most part, suppliers are payed via M-PESA.

Billions are being transacted monthly, and not even by large companies as they are hampered by bureaucracy and slow reaction time. M-PESA has created so much opportunity, not just for people buying and selling, but also for companies to grow. For the company M-Changa, which is fundraising online, no physical presence is needed, so money doesn’t have to stay in the pocket of the collectors, which is vital in the insecure Kenyan society. On the other hand, some preachers are using M-PESA fraudulently. You sit and watch TV and see preachers asking for money, people transfer to them and they
make millions from that, without transparency. There is clear evidence that you can reach a much larger market using M-PESA payments. M-PESA agents are everywhere because it is a great business opportunity. You will probably be making KES 30,000 - 40,000 per month and if you climb the ranks and have ten or twenty agents, it is a lot of money. That was brilliant from Safaricom, and also advantageous for Kenyans and their businesses.

Q: Returning to iHub, could you tell us something about the investors and M-PESA hype?

For iHub, the simplicity of M-PESA has sparked a lot of interest and can be connected to investor hype. iHub has gained popularity and with M-PESA is a “win win” for us all.

Q: Do you think M-PESA has reached its potential and what might be next for M-PESA?

It has not reached its full potential because it is only Safaricom that has been developing it. Developers are eagerly waiting to tap into M-PESA and develop from within, not from the outside. Maybe even build an M-PESA application. There are so many opportunities! The future of M-PESA entails the end of the monopoly. Rumors has it that M-PESA are introducing a credit card and with the api integration coming the future is exciting. An example of M-PESA innovation is m-ledger, the spreadsheet application for transactions, which Safaricom bought because it was so good.

M-PESA is a perfect tool for feature phones, but imagine what can be done with smartphones. 5 years from now, the landscape will be completely different and I see infinite possibilities. Even things that are not currently perceived as possible.

Q: How could rural communities benefit from M-PESA?

They are all ready benefitting with loans and access. But in the future with smartphones, think of a farmer, deep in the deepest of Kenya. He needs a tool, but cannot get it unless he comes all the way to Nairobi. Imagine a delivery where you buy online, what do you
think he would prefer? The people in rural areas are going to start enjoying the benefits of being within an urban centre. In Kenya trust is essential - when one does it, others will follow. No one trust a credit card and M-PESA is a great alternative. Additionally, it empowers women, makes rural areas more secure, easy to pay school fees and it has been integrated into everything from banana sale to taxis. I get my money from my parents entirely via M-PESA. I have a bank account, but they don’t send it there, and they like that, because they don’t have to walk to an ATM.

**Thursday, March 19, 2015. Interview with Isabel Wayaki, Ph.D. Student at University of Nairobi.**

_Q: Could you give us an introduction to M-PESA?_

M-PESA is the most successful mobile innovation in the world and is a success due to its starting conditions. Prior to M-PESA 25% of Kenyans were financially included, it is now 63 per cent. The pilot project started in March 07 and back then there was a big debate about regulation, but it was decided not to regulate the industry. Credit institutions is regulated by central bank, however Safaricom (and M-PESA) is regulated by Communication Commission of Kenya (CCK). Now, a national services payments bill is underway, but when it is done nobody knows. The success of a innovation depends on how good the regulation is and how it gains legitimacy via the degree of regulation and regulatory frameworks. That is why M-PESA worked, because there are no rules.

_Q: What has M-PESA changed?_

In 2007, in the early stages M-PESA was only for money transfers. In 2010, Safaricom and equity bank made M-kesho. It didn’t work too good because of suspicion, but later Safaricom worked with the Commercial bank of Afrika creating M-SHWARI, which is a better option to save and borrow - everything from 100-20.000 shilling. As such, the unbanked can earn interest alongside borrow money. People from the outside were now connected and the expanded financial access is particularly big in lower income brackets. In rural areas, now they do not need to borrow lots of money from suspicious lenders in the communities.
Also, students now pay their “HELP” university fees via M-PESA and all students have transparent loans. For businesses, it enables access to more customers and the overall business environment is better. All businesses have pay bill number. Kenya has become an M-PESA economy. M-PESA assist all types of businesses: Water, utilities is all paid via M-PESA and for other electrical bills, most people opt to pay via M-PESA. For a person living in Mombasa it is possible to buy goods in Nairobi and receive it by bus. This was never possible possible and can be ascribed to the trust vested in M-PESA. Overall, there is a high degree of trust in the Kenyan society now.

The total number of transactions is huge. The biggest part of overall transactions is from individuals to individuals, but it is small sums. Businesses transfer more money, but less frequent. M-PESA started with suspicion in its wake in 2007. Kenyans are good at making money and acknowledge the “higher returns higher risk” mantra, but the suspicion was there at first, primarily because of Shylock, which was a pyramid scheme prior to M-PESA. But Safaricom is a known brand and trust is vested in them. After 3 months, words spread and it quickly became a success (people in the villages were actually receiving the money). Parliament and the Minister of Finance almost stopped it, but the central bank supported it and after 1 year, 5 million users were transferring money and channelling trust in the system - today that figure is 25 million. Airtel and Orange started introducing similar features, which (ironically) gave Safaricom even more customers and a dominant position in the market. In Nairobi it is impossible to find someone who is not using M-PESA.

Q: What does the future for M-PESA hold?

Today, there is only 65 per cent inclusion. The very poor and very remote areas that are still lacking. In terms of products, there is a lot of opportunities. Recently, insurance companies are being paid via M-PESA. Furthermore, cross border activity can become important with the East Africa trade union’s potential, which would allow the sending of money from Tanzania to Kenya.

Biggest advantage of M-PESA is still that transfers bring people together. The biggest beneficiaries is the rural population, but everyone benefits through either flexibility, security, reach etc. An increase in investments have followed in M-PESA’s wake and has created lots of urban migration, and at the end of the week they will send money
back to the rural family. It has enabled people to embrace businesses because they see that there is a big flow of money.

The future challenges entail an increased engagement with all other banks to save and borrow (and all other institutions as well). If safaricom can be that link they will benefit greatly, even though it is not a financial institution. For M-PESA the regulation is a challenge and I would coin this as the most important thing. In case M-PESA collapses, there is no current plan of what to do. We need the financial services bill back, to clear the regulatory guidelines and ensure a stable economy that can move Kenya forward.

Friday, March 20, 2015. Interview with Anthony Gitau Githii, Field Technician, Grundfos Lifelink. Included a visit to the KMC Lifelink Station outside Nairobi.

Q: Tell us about the Lifelink history and idea?

Lifelink is a package: It starts with a borehole in a community. Grundfos then builds the initial structures funded by donors and the community eventual end up owning the facility and grundfos maintain it, through incremental fees embedded in the cost of water.

The business opportunity took a point of departure in existing boreholes. However, Grundfos needed a system to maintain it and invented the dispenser. This was the start of a M-PESA based business idea. The business opportunities existed because so many boreholes were not maintained and Grundfos wanted to fix that. So Grundfos approached the communities and the NGO’s sponsoring boreholes with the idea to remove cash and secure maintenance, ultimately securing long term sustainability.

The structure consists of the dispenser, the Lifelink system, a borehole and a tank. It is powered by solar cells on top of the 6 m high water tank ending up with 3 tabs in the dispenser. You need a water key card to use it, which is based on the RFID technology. With that you are able to store credit and there is a slot for loading credit which is done via MPESA. There’s an ID on the water key card and whichever person comes to the station, can deposit credit to the key on the dispenser and then withdraw water from one of the taps.
Inside the dispenser is a modem that connects the dispenser to the grundfos server. This goes through the mobile network and is locked as water credit, not money. For now we only use M-PESA, but in the future we will have alternatives to mobile money. M-PESA gives us a the tracks and the Grundfos server can set the M-PESA as water credit., which means that the only thing thing they can get now is water. So it is money in the form of water and the possibility for corruption.

Q: Do all customers have their own key?

All should have an individual key, but not all do. It still costs some and not all can afford it. However, all have MPESA, so it is a matter of time. It is very convenient and people refer to it as "corruption free water" or "water ATM".

Q: How did they get the keys?

To sum up, the donor pays for the unit. We then do the installation and Grundfos provides 100 cards to the community and conducts training in how to use it. Roughly 70-200 people shows up on average to get the instructions. There is a little initial water credit (100ksh) on the water card, because they shouldn’t have to think about storing credit during their first experience with the dispenser. We want them to feel ownership of the pump and to take good care of it. The idea is that grundfos give the equipment and the community owns it, pays the upkeep and decide on the water price with guidelines from the water ministry.

Q: How is the station paid for?

The Unit is paid for by the donor and Lifelink’s role is only to maintain. Grundfos estimates what it cost to maintain it: There is an annual fixed figure of 215,000 shilling,, however, a new model is underway, which will make it more cheaper. The first lifelink came in 2009 and there is a new dispenser now, which is more cost effective, so actual maintenance might be lower in the long run. We gave away the first stations totalling 3 million shilling for the Lifelink units. The water management system collects data everyday and monitors the usage, including problems and irregularities. You can
monitor the problem from the computer, and then decide on what to do, without having to go to the station, which is making my job easier.

**Q: Is Lifelink possible without M-PESA?**

Yes, but it could never function as well. Think about what I said about “Water ATM” and “corruption free dispenser”. Because it is based on mobile, it is a assurance that Grundfos will get the maintenance costs back. Without the mobile platform, the option is the old way where somebody is collecting money from the community. Theft, fraud, corruption all becomes an issue here. With hard cash, accountability is of course not as good as with the mobile platform.

**Q: The number of Lifelink M-PESA transactions? Spillovers?**

There are a total of 42 units in Kenya and these have approximately 70 cards pr unit,. People usually put credit on twice a week, which result in more than 6000 transactions. It is very difficult to estimate the total number of actual persons using it, because people use key cards that does not belong to them. Lifelink operates in a rural setting and remember there is not much money. People collect in jellicans (20 liters) and for the local entrepreneurs, a business has emerged where they buy water for 5 shilling at the point source and sell it for 20. Half of the communities with lifelink will have people making money through a water markup and 60% will use the water for their domestic household.

**Q: Is lifelink profitable?**

We are a business of course, however, with Lifelink it is difficult to asses. When signing the contract with the community, it is stated (and calculated) that it should end in profit due to the total number of transactions. The main objective has been to sell the station and thereby prove its value, but we are beginning to earn money overall.

**Q: Are there any difficulties for customer to use M-PESA at the dispenser?**

It is not difficult to use and there is a 70 per cent mobile connectivity in Kenya. People already have a phone and it is also very easy to reach an M-PESA agent, even in rural
villages. As such, it is very easy to get M-PESA and the only obstacle is maybe the “credit key card” and how to deposit. The phones are essential for lifelink to work and the biggest problems is lack of water, hence the importance of our product. And unless a transfer mistake is made, it runs smoothly. If a mistake happens, we can easily refund it. and we can go for a whole year without having a failure. As long as there is mobile connectivity, Lifelink will function like a charm.

Q: How do customers react to not being able to retransfer water credit?

The biggest problem they have is water, so the feeling to want money is not there. Even if you give me money instead of water, I would rather have a water source in my city.

Q: Describe your Partnership with Safaricom?

They receive a commission on all transactions. Grundfos is generating business for Safaricom and Safaricom desires connectivity and mobile business integration, so it was an easy partnership for Safaricom. The only way you can have water is with M-PESA and Safaricom also clearly promotes the lifelink partnership as a CSR initiative.

Q: What is the competitive landscape for water in rural Kenya?

Demand for water is very high. Some people have 6 km to the nearest water source, which may be infected. It is truly a humanitarian issue. There is no competition in rural areas except for some entrepreneurs who are drilling holes by themselves, but they don’t have a dispenser like Grundfos. A Nairobi water company partnered with a Korean company who does something similar, however their card is not loaded via the phone, but via the internet and it is vendor based. This is a terrible idea as no individuals will have access to the card. Other companies uses hard cash, but in this regard, there is no competitor similar to us.

Q: What do you see happening with mobile money?

We are looking for global solutions and as such M-PESA is not necessarily the future due to its geographical boundaries. We are developing a dispenser that can work globally, just as banks are creating their own mobile money and if they could
facilitate something in other part of the world, Grundfos will be interested in that as well.

We also met with with community chief Timothy Mysyoku Nzioka at the KMC water station. He explained that they had a well functioning station for 8 years and now they wanted one more to meet demands. He wished everybody had their own water key, which would make his job as supervisor and on-site responsible more easy.

**Tuesday, March 24, 2015. Interview with John Kihia, Country Director, Kenya, KickStart International.**

*Q: Can you tell us the idea behind KickStart and the business model?*

KickStart is (and originated as) a social enterprise. It is a market based solution to a social problem and is not for free. We don’t believe in handouts because the things you get for free won’t be utilised as well as the things you buy.

The business model is based on this line of thought. Historically, it started with a sub sector study, identifying a problem in rural parts of Africa with isolated farmers having small pieces of land that was used inefficiently. In Sub-Saharan Africa, 80% of people living on less than a dollar a day are rural smallholder farmers and with 4% of Sub-Saharan Africa’s farmland irrigated, the potential for increased impacts is huge. How do you get the productivity of isolated people up? Raising productivity will spillover into many beneficial factors. We looked towards fertilizer, seeds, marketing, but the key aspect was that african farmers are dependant on rain. They don’t sow whenever the seedlings are ripe, but rather when the rain falls. As such, the biggest problem is water and solving this, will be the foundation of solving the others. This led to the moneymaker irrigation pump harvesting “human energy” to produce water, which is very sustainable.

KickStart work with agro shops as wholesalers and distribution channels, agreeing on a selling price. This creates awareness to the rural areas and ensures presence in those areas, backed by our awareness team in the field.
From our field research, the idea is that farmers save money to buy our pump. Or spend money and in-debt themselves. We were contacted by bankers, which asked “is there a way we can save up with you and get the product with the little money I have”. This was impossible in the beginning, prior to M-PESA. This is very difficult as we are talking about people from the informal sector who never had (or maybe never will have) a bank account. They cannot get a loan and this can be very frustrating. Additionally, loan time vs the "need for money time" is far off from being the same. And if they go to microfinance institutions, the products there are not geared for farmers, they are for traders, so they often come out shorthanded. So there is a mismatch which is 3 folded: packaging the product for the farmer, saving money for that farmer and there is a problem reaching out to that farmer.

Q: And then M-PESA came?

When M-PESA came, it changed everything. Very good for our business and it was the missing link in our business model. With the extra services such as Lipa and M-Shwari, mobile money enables farmers and KickStart to connect in new ways and exchange the products with very low associated costs building the roadblocks to earning money with our pumps. In 2011, we had 500 customers. And only the big companies had pay bill number and selling the argument to farmers was not easy. Tone Kwatone (TKT) was launched (the pay as you go model) was made possible via Danida Funding. This created flexibility for farmers to get the pump, which in turn allows to us help more people out of poverty. This is how it works now: A customers deposits with the “rent-to-own” mechanism, including registration, signup and signing a contract. Then they make a 20 % payment first, then 10 % the next time, then 10 % more after 60 days etc. The model then rises exponentially afterwards and the rent model covers depreciation and utilities.

Q: Breaking it down in numbers?

KickStart’s traditional customers was made up of 28 % women, 72 % men. This is reversed with the TKT model with 48 % women and 52 % men. M-PESA is increasing our business and reducing our operating costs. It has also increased mutual trust via transparency and accountability. Previously there was no way of contacting farmers and for 1000 of years we have never been able to register and reach people here in Kenya.
(and Africa). Credit cards are for the rich 1 %, but with M-PESA, companies and public institutions are able to map out people more efficiently and assess the markets. There is still a lack of understanding of M-PESA in the rural areas and this needs to improve in a business perspective, however, it is still very well integrated in their daily lives.

**Q: M-PESA & KickStart?**

It was rigid in the beginning, but now, the layaway model’s Pay bill feature gets directly transferred into excel via the Safaricom infrastructure. It allows API and we use our ERP (Microsoft dynamics) to get an overview. KickStart International, our mother organisation, receives a customers payment and tells them via text through a local gateway that it is arrived. And if we are missing a payment, reminders update customers on their current payment situation. If customers fail to pay any of their bills there is a cancellation clause, however we have only withdrawn 3 pumps in total. The 6 months layaway concept can go 90 days before cancellation and the rent-to-own can go 5 months before we then push for pay. The system automatically keeps statistics and inform of overdue payments via M-PESA. This is so groundbreaking for us as a Kenyan company.

**Q: So M-PESA changed your business model?**

The impact of M-PESA on our business model is huge. The different features of loaning and credit and buying goods, linked to your virtual mobile bank account is very important for KickStart. For instance, it costs 1200 shillings to repair a pum and the farmer can borrow via M-Shwari, which would be impossible before M-PESA because of the proximity (both geographically and socially) to a bank was too big. M-PESA ensures that your business can grow, which makes Kenya grow as well.

M-PESA has influenced every part of our business model, from internal accounting, to dealers and customers, because it is a lot cheaper to use M-PESA. Back in the day, we had agents out in field trying to sell to customers and distributors and we could never get in contact with them. They had to go to our office to redeem cash in order to continue their work in the field, because we could not give them huge chunks of cash, due to security risks. It was a huge waste of time and money. If we were to send them money via a bank transfer, even just 500 shilling, the taxi would cost 1-2000 shilling
and the transfer itself would costs 3-500 shilling. Historically, in Kenya, cash could mean your death, but with M-PESA there is no risk, so the security issues are definitely also vital for us as a company, taking care of our employees.

Our rent-to-own business model would have been too expensive and M.PESA has truly transformed our business and it has sent shockwaves through the country. Today, we have sold 500 layaway and 167 rent-to-own pumps from 2011-2014. Much more from people just paying upfront with M-PESA.

Q: The gender roles have also changed?

In relation to men vs women, it is not changed per se, but it is different that before. Women are organised in groups and better at making small savings and keeping track of household costs. In Kenya, technical stuff, such as our pump, has historically been a male thing and the male was in charge. However, water and keeping the garden is a female matter and KickStart are very focused about connecting with the women. You have to tread lightly though, as men can take offensive in the traditional Kenyan society.

Q: What about the future?

We expect a lot of growth. There is a global food crisis and scarcity of resources, the climate is changing and this mean looking towards more sustainable ways of irrigation. Maybe we will sell more to communities, capable of taking up bigger loans. We are beginning to implement GPS in our layaway solutions so we can map the exact location of all customers and farmers and we are looking to Google Earth to tell us if farmers have harvested, so we can approach them accordingly. We are also working on a solar pump and we are lifting more than 1 million out of poverty by 2020 according to our calculation. We hope M-PESA will spread, but haven’t done so to e.g. Tanzania, which have a socialist background with dispersed population groups versus Kenya with more density around urban areas and a capitalistic mindset.
Tuesday, March 24, 2015. Interview with David Musau, Merchant Engagement Executive, Kopo Kopo.

Q: What are the benefits from Lipa to businesses?

M-PESA was only for p2p before and you couldn’t really pay in businesses. We realised there was a need for addressing businesses who were using their personal M-PESA account instead of a company one, which you would see in developed countries. Bars and restaurants where the first to adopt Lipa as their primary worries were theft (from employees and robbery) and security for their employees. It provides accountability and reconciliation and is way better than cash. Cash is difficult to bookkeep, so the convenience for merchants is apparent.

We also do cash advances as added services. Since the introductions of M-PESA, businesses see value of e-trade because of the massive customer push. This is the way consumers think: If you have a M-PESA till, I pay at the till, If you don’t have a till, I move to the next business to do my transactions. In other words, you need it to not loose business and it is definitely a competitive advantage.

Q: What kind of businesses do you engage with today?

Many industries have joined in. Hardware stores receive a very huge amount of transactions, and of course its not safe for customers to carry around cash.

It started with restaurants and bars, but this has changed now. Many industries see the potential including the aforementioned hardware merchants have a high uptake of M-PESA. Moreover Chemists pharmacies, clothing companies, accessories stores are all using it, basically everyone selling b2c see a enormous potential. These businesses were all cash before and now they have a cash limit on transactions because they do not want cash. For Kenyans, credit cards were never an option.

Q: In relation to BoP what has M-PESA changed?
Last year we did a survey about what to do to push electronic payments. Businesses in rural areas, whereas it being tourist focused or agriculture allows business to reach a broader market with a small transaction fee as the associated cost. Small shops don’t use lipa na M-PESA because of the transaction fee charged.

*Q: Any Negative effects of M-PESA?*

You lose a few coins due to transaction fees but otherwise no. The costs are with the merchants so the little transaction fee doesn’t make products more expensive.

Can you elaborate on the transactions, who bears the cost? Merchants are charged, just like credit cards. E-commerce accounted for 2% of transactions before M-PESA and cash was 90%. Now the number is 8% and will probably continue to rise. We had 200 LIPA transactions pr month in the beginning and now we have 300,000 transactions accounting for over 500 million shilling each month. The LIPA feature is not only a Kopa Kopa product, so the total numbers are much higher.

*Q: The Kopo Kopo Business model?*

We are a technology company so we were never going to try to reach a mass market. M-PESA pay is through our system. Of our 1 per cent transaction fee, Safaricom gets half. Our added services are essential, which covers two channels, Grow and Reach:

“Reach” is a messaging service. “Grow” is a cash advance to businesses and it is predetermined and based on how many transactions and value a merchant generate. It is based on our own algorithm and to apply for credit, you fill out a simple online application on the website and you quickly get an overview of how much you can loan based on your business’ performance. It is all automatic and it helps you to expand your business and get more inventory. We realised it is difficult to get credit if you are a business. There is a long waiting time, it is very formal and there is a lot of bureaucracy. We saw a huge and unserved need and launched Grow with the goal to help companies grow. With credit loans of to 50 million shilling, based on M-PESA sales, the whole thing came about through a partnership with merchant financing AFB bank from South Africa.
Q: Could you tell us about Partnerships and Growth opportunities for KOPO KOPO?

Our focus is not to include many businesses as we don’t have the finance for it either and we change our strategy frequently. Moreover, a small amount of money was being made from new businesses. It is still new and payments are not enough to draw customers in. Safaricom can’t facilitate other than the till number and if you are merchant and only rely on Safaricom, you go from till to wallet. With KOPO KOPO, you can put money either in wallet or bank. The value added services are dependant on the technology present. Currently, Safaricom has monopoly and they are not comfortable with giving that away for obvious reasons. There is also LIPA Airtel but the products are so customer driven, so as long as people prefer Safaricom’s M-PESA there is no need to focus on other telecoms. Other than that, Airtel is not a reliable partner and Safaricom has proven themselves a good partner. However, we do dream of interoperability and cross network transfers, which would be very very good for development.

Globally we have 5 partners based in Uganda, Rwanda and Ghana. The best companies to partner with are MNOs because they provide the network and banks because they have reach. Kenyan businesses are learning about the platform and we are also learning what works and what doesn’t work here in Kenya.

If we partner with a bank e.g. Diamond Trust bank in Uganda, we integrate the mobile banking platform into their platform. A merchant will be able to use Lipa na M-PESA and move the money from the KOPO KOPO platform to an Ugandan bank.

Q: What do you think about the verge article: Mobile money and the future? What are the perspectives for businesses.

In Kenya we have no credit cards or bank accounts. This is the prime reason for the succes of mobile money and why it will continue to grow. The ordinary person will use e-shopping more and more and businesses will benefit greatly from this. Merchants know the benefits, the customers just need to follow. We have clients who say “if 90% of customers would pay with M-PESA I would be so happy”. In sum, receiving mobile money beats both cash and credit cards. Currently, the best merchant has 70% of all transactions via M-PESA, despite that they dont do anything to promote it. We do all
that and ensure that Lipa na M-PESA is visible and branded in the individual shops. Finally, we train the staff in completing the transactions, so they end up having happy customers.

Q: What will happen in other parts of the world?

The Tanzania mobile market is open and we hope other countries will follow. It is going at a surprisingly slow pace in other countries, considering that I (and all others i know) use only M-PESA now. Our people in Seattle are constantly trying to sell it globally and banks and MNOs are very interested, as the idea is good and we have data on businesses (but not customers).

In relation to Kenya, the Safaricom dominance have helped as it has generated trust and an ongoing presence in peoples minds. Furthermore, the strong agent network has ensured Kenyas first mover potential. This is lacking in other countries and compared to the west where credit cards dominate, the focus of the spread of mobile money should be to other parts of the world, primarily sub-Sahara. Finally, value added services will determine the future of KOPO KOPO.

Wednesday, March 25, 2015. Interview with George Gacheche, M-PESA Team Leader, Safaricom.

Q: What is the number of business transactions out of the total volume?

We transact over 350 billion kWh each month. 30 billion of these are associated with payments - Lipa Na M-MPESA (buy goods) and C2B. M-PESA has dominantly been peer-to-peer transactions, so currently the number of business transactions are not comparable. Over 30 million monthly peer-to-peer transactions vs 2-3 million business transactions.

Q: Are the non-official numbers higher?

M-PESA grows everyday, you can forecast growth based on previous growth, but it is not possible to get the non-official numbers.
**Q: Looking into the business side of M-PESA, what are the benefits of using M-PESA?**

The idea behind LIPA na M-PESA is we wanted to have more money in the system, we wanted to retain the money in the M-PESA ecosystem. We wanted customers to have an option to make payments from the ecosystem. The solution is to make payments go from M-PESA wallet to till number at the merchant. Safaricom make a percentage of these transactions. 140.000 merchants and it is going up everyday as customers use this feature, ensuring exponential growth in the next 3-4 years as it spreads across Kenya. It removes insecurity for merchants when taking out the money.

**Q: How are customers reacting to new M-PESA innovations?**

Safaricom is very focused on training and “raising” their customers. Creating awareness is essential in this when introducing a new product and such introductions are followed by campaigns to the target group. Additionally, support teams are set up for customer issues and further education. For instance, the introduction of M-shwari started in Nairobi and moved on to the rift valley region before being a domestic product. We had mass media coverage across Kenya while we advanced on the ground. Also, clear communication is essential and the 80.000 agents help to provide information alongside the website and the 43 safaricom outlets all over the country.

**Q: Where have the M-PESA innovation come from?**

New products is all based on M-PESA as a point of departure. A innovation team is constantly looking for ways to make new products or improve current ones. Customer feedback plays an important role, primarily gathered by the 2-3000 callcenter employees. All this ensures innovation to keep the product exiting.

M-Shwari met the need of savings. We have 10 million costumers. We asked our customers how they save, special occasions (holiday, education, ect.) and safaricom adopted a role as proactive monitors saying “you are x amount away from your target”, keeping the money in a locked saving account for 4-6 months. We use customers with great testimonials as product ambassadors.
Q: What partnerships are you engaged in?

Partnerships have been the greatest advantage for Safaricom. Most of our products are actually done with partners. Lipa Caro is a partnerships with schools to pay fees. Same partnerships with banks (AKMC to launch something similar to M-Shwari, but towards a different market), including landlords and utility companies.

Q: How do you see the competitive situation?

They are good to have, and keep safaricom on their toes. We have an open market. They believe that convenience, quality and customer care will create loyalty and ensure their market position, also in price wars. The future of competitors? No idea and no comment, in 5 years, we will look at it.

Q: What are the products in the pipeline to create an even stronger M-PESA ecosystem?

Future of products is a result of safaricom impressive innovation. We are not sitting down relaxing but constantly looking for more possibilities.