



EXPLAINING THE SUCCESS OF A MULTINATIONAL COMPANY'S INNOVATION IN THE BASE OF THE PYRAMID: M-PESA IN KENYA

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Submission: 3/19/2020

Revision: 5/13/2020

Accept: 6/3/2020

ABSTRACT

In the beginning of the twenty-first century, C. K. Prahalad launched a new business proposition named as “Base of the Pyramid” (BOP). In such type of business, Multinational Companies (MNCs) look for new opportunities of profits helping to meet the poor’s unmet needs in developing countries. However, MNCs significant involvement in BOP business has been losing momentum due to the challenges MNCs have been faced in developing BOP businesses. This study intended to recall Prahalad’s original BOP proposal explaining the success of a BOP innovation developed by an MNC in Kenya: M-PESA, a mobile money service. About 70% of Kenya’s adult population has M-PESA accounts and M-PESA’s monthly transactions account for 30% of Kenyan GDP. How did a multinational company develop the successful BOP innovation M-PESA in Kenya? Our study intends to explain how the British multinational Vodafone employed successful Base of the Pyramid principles of innovation in Kenyan M-PESA. Indeed, there is a gap of studies about the Prahalad’s principles of innovation for developing BOP products. Therefore, this research analyzed Prahalad’s BOP proposal, including his twelve principles of innovation to develop BOP products, by comparing such proposal with Karnani’s framework for fighting poverty. Karnani is regarded as the main critic against the Prahalad’s BOP proposal. Most of Prahalad’s BOP principles of innovation were identified in M-PESA in Kenya (eleven out of the twelve principles). However, Karnani’s framework explained better the factors that influenced successful BOP innovation in Kenyan M-PESA than Prahalad’s proposal.



Furthermore, this study pointed out two key points that explained the success of M-PESA innovation in Kenya that they were not included neither in Prahalad's nor in Karnani's proposals: social intrapreneurship made by MNCs employees, and supportive role of government in developing BOP businesses. Therefore, such topics deserve more attention from the BOP literature in order to advance this field.

Keywords: market entry; mobile money; financial inclusion; Eastern Africa

1. INTRODUCTION

Prahalad and Hart (2002) and Prahalad and Hammond (2002) launched their new idea about innovative approaches to combat poverty through multinational companies' initiatives that serve the untapped markets of the poor people in developing countries or the base of the pyramid (BOP) markets. These new types of business look for new opportunities of profits helping to meet the poor's unmet needs (Prahalad & Hart, 2002; Prahalad & Hammond, 2002). Prahalad and Hart (2002) stated these new approaches are alternative markets to the saturated and very competitive ones in developed countries.

Such new business model needs a radical rethinking in companies' strategies and operations because of the serious income constraints the poor face which is a huge hurdle for companies. To solve this challenge, Prahalad (2004) developed a set of recommendations to companies that aims to offer products/services to the poor. He called such recommendations as "the twelve principles of innovation for the BOP". However, there are scarce studies about how companies enter the BOP markets using the Prahalad's principles of innovation (Landrum, 2007). Only Prasad and Ganvir (2005) employed these principles in their research.

Since Prahalad and Hart (2002)'s original thinking was launched, the idea of companies serving the BOP markets has been spreading widely among academics and businessmen (Economist, 2010; Landrum, 2007; Kolk et al., 2014). However, in the last years, this momentum has slowed for multinational companies' initiatives (Kolk et al., 2014; Simanis & Milstein, 2012).

In Academia, BOP literature has shifted from studying base of the pyramid ventures developed by multinational companies to analyze BOP initiatives headed by new types of organizations such as inclusive business or social enterprises (Kolk et al., 2014). In business





world, Simanis (2011) states that multinational companies have had hurdles in building and scaling lucrative businesses to serve BOP markets.

Some examples are Nike's World Shoe venture, that was closed; Procter & Gamble's PuR water purification, which has become a Corporate Social Responsibility initiative, and Danone's partnership with Grameen Bank, which aims only to be financially self-sustainable, not paying dividends for its owners (Simanis & Milstein, 2012).

This study intends to recall the original BOP concept developed by Prahalad (2004). For that, I will discuss about the most successful case of a mobile money service in Africa, M-PESA in Kenya. Indeed, C.K Prahalad pointed out M-PESA as a successful BOP business (Knowledge@Wharton, 2009).

M-PESA was developed by the British multinational telecom company Vodafone and it has been managed by Vodafone's Kenyan subsidiary Safaricom. Seventy percent of Kenya's adult population has M-PESA accounts (Jack & Suri, 2014), and M-PESA's monthly transactions has the equivalent value of 30% of Kenyan GDP (Mas & Radcliff, 2011).

How a multinational company developed the successful Base of the Pyramid innovation M-PESA in Kenya? Our study intends to explain how the British multinational Vodafone employed successful the Base of the Pyramid principles of innovation in Kenyan M-PESA. Indeed, there is a gap of studies about the Prahalad's principles of innovation for developing BOP products. Therefore, I seek to contribute to BOP literature exploring this gap by analyzing Prahalad's principles of innovation in the successful BOP innovation M-PESA in Kenya.

2. PRAHALAD'S PROPOSAL: BASE OF THE PYRAMID BUSINESS

The book "*The Fortune at the Bottom of the Pyramid*", written by C.K. Prahalad (2004) is the seminal reference that gave origin to the Base of the Pyramid (BOP) business literature (Kolk et al., 2014). In the first part of such book, C.K. Prahalad (2004) presented his framework for poverty alleviation. This framework is based on three assumptions: (1) poverty market alleviation must be a market-driven endeavor with businesses developed by large private firms and local poor entrepreneurs, (2) base of the pyramid markets are new sources of growth to private sector, but they must be served with innovative solutions and (3) BOP markets must become part of companies' core businesses, requiring changes in the functioning of both firms and developing countries.





The Prahalad's framework is made of five elements: BOP markets opportunities of growth and profits for large companies, twelve principles of innovations for the BOP, ecosystems to support BOP businesses, weak formal institutions in developing countries harm private sector, and results of BOP businesses (profits and social transformation). The framework can be seen in figure 1. It will be explained further below

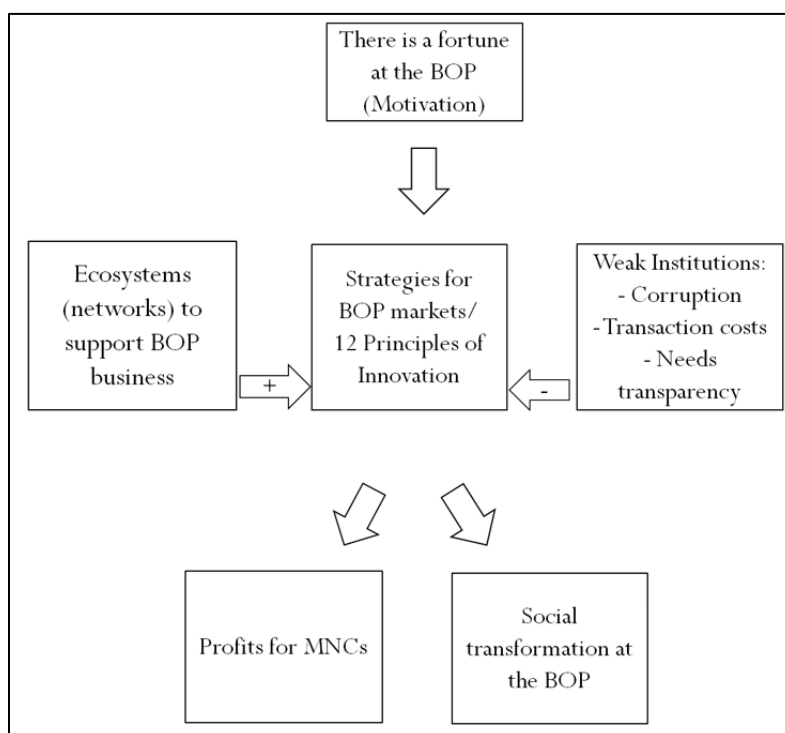


Figure 1: Prahalad (2004)'s framework for poverty alleviation
Source: Prahalad (2004)

According to Prahalad (2004: p. 21), the base of the pyramid markets is constituted of 4 billion people who are not properly served and have a total value of US\$ 13 trillion in purchasing power parity (PPP). For Prahalad (2004, p. 4), BOP markets can become "the largest and fastest growing markets in the world".

But BOP population are not having their needs properly met. BOP consumers are generally served by monopolies of local firms in their communities, which sell to them low quality and expensive products and services. Multinational Companies (MNCs) and large national companies can serve profitably these markets providing better and cheaper solutions but they need to develop innovative solutions to do it effectively.

Prahalad (2004) pointed out 12 principles of innovation to support large companies to develop products for the BOP population. The first principle of innovation is **focus on price**



performance combination instead of just prices. Although price is an important element to succeed in BOP markets, it is not the only variable that companies have to pay attention. Thus, companies need to rethink and redesign the most part of its performance price combination. It means companies must develop affordable products or services with high performance for the poor improving at 30 to 100 times its price performance combination level.

The second principle of innovation is **developing hybrid solutions**. They will not come from old technologies created in developed countries. Innovations in the BOP markets require the latest technologies be adapted creatively to the hostile and poor infrastructure existing in developing countries.

The third principle of innovation is **building up scalable and replicable solutions** across different countries, cultures and languages. Due to the hard price performance combination equation returns low margins for BOP business, companies have to focus in volume to return its investment. But the most BOP markets are made up of small and poor countries. So, the BOP solutions need to be scalable and replicable to enter these diverse markets.

The fourth principle of innovation is to use **environmentally friendly solutions**. Products and services created in developed countries spend a lot of resources meanwhile population of developing countries spend less resources even being the majority of the Earth's population. So, when large companies start to sell more products and services to the poor, they cannot sell as they do in richer countries because just our planet will not support it.

The fifth principle of innovation is to **identify the functionality of solutions**. Products or services created in developed markets do not work in BOP ones. It is necessary to understand the functionality required in BOP markets. Therefore, it is important that companies think beyond affordable prices and business case to aim to know and understand BOP consumers' needs in details.

The sixth principle of innovation is **process innovation**. It is a key point to create affordable products or services for the poor. The way of supplying is as important as what to supply because of the existing poor infrastructure in developing countries.





The seventh principle of innovation is **deskilling of work**. Education and training are scarce in the most BOP markets. Therefore, is necessary to adapt work to existing skills. Thus, companies have to reduce the skill demands at different stages.

The eighth principle of innovation is **consumer education**. Companies that want to serve the poor need to invest significant amount to educate these customers teaching them how to use their products or services. There are places in BOP markets not covered by TV and radio signals. So, it is necessary to innovate in educational processes to serve these populations.

The ninth principle of innovation is **designing for hostile infrastructure**. BOP markets are placed in areas with poor infrastructure and hostile environments. So, designing of products or services for the BOP consumers have to take note these hurdles.

Tenth principle of innovation is **interface**. Designing interfaces must be planned carefully because there is huge heterogeneity among BOP consumers (cultures, languages, skills, etc) and most of them are using products or services by the first time in their lives.

The eleventh principle of innovation is **distribution systems**. They are crucial to reach BOP markets properly. The rural and urban markets, with high dispersal and high-density populations respectively, are opportunities to create new distribution systems.

The twelfth principle of innovation is **developing platforms** that easily add new features. Large companies have to keep track of evolution in BOP markets and continuously change its products/ processes because BOP markets are very dynamic.

The BOP businesses need to be supported by an **ecosystem** of different types of organizations with diverse motivations, traditions and sizes as multinational companies, large local companies, non-governmental-organizations (NGOs), cooperatives, small and medium-sized enterprises (SMEs), and development agencies (Parmigiani, Rivera-Santos & Rufin, 2010). The private sector and social organizations involved in the ecosystem are dependent each other and they work together to create wealth and social transformation at the BOP (Hahn & Gold, 2014; Kistruck, et al., 2013; Parmigiani, Rivera-Santos & Rufin, 2010).

MNCs may not have legal control over the entire ecosystem, nor may have direct influence on all members of the network (Kistruck, et al., 2013; Rivera-Santos & Rufin, 2010). However, MNCs can provide framework, the processes, and intellectual direction, by which the ecosystem is governed and operated (Prahalad, 2004; Rivera-Santos & Rufin, 2010).





Prahalad (2004) states a negative view of governments and broader **formal institutions** of developing countries pointing out corruption and low enforcement of laws as the main barriers to the flourish of private sector in these countries. Some scholars created the concept of “institutional voids” to characterize such problem in developing countries (Khanna & Palepu, 1997).

Thus, Prahalad (2004) argues that developing countries must build the capacity of facilitating commercial transactions to enable the development of their private sector. Prahalad (2004) calls it “transaction governance capacity” (TGC), being the State of developing countries responsible for its implementation. TGC has four elements: laws to protect property, micro regulations, social norms, and institutions for enforcement.

In the first part of his book, Prahalad (2004) did not mention any kind of partnership between private sector and governments to improve institutional environments in developing countries. Indeed, Prahalad (2004: p. 96) claimed that governments tend to overregulate private sector because they assume that such overregulation will protect the poor.

For Prahalad (2004), BOP businesses can be a source of growth, profits and innovation for MNCs, being good alternatives for companies which are facing hard competition in saturated markets of developed countries. Moreover, BOP ventures can lead to poverty alleviation and even social transformation at the BOP. According to Prahalad (2004), BOP businesses in partnership with social organizations can generate benefits of respect, choice, and self-esteem to the poor, helping the BOP to overcome the poverty trap.

3. KARNANI’S APPROACH TO POVERTY ALLEVIATION

In his book “*Fighting Poverty Together*”, Aneel Karnani gathers his critics to the Prahalad’s BOP concept he wrote in older articles (Karnani, 2007a, 2007b, 2009), and also proposes his own strategies to alleviate poverty. Karnani (2011) argues that private sector, governments and civil society (NGOs, charities, etc) have distinct roles in the challenge of poverty alleviation.

Karnani (2007a, 2007b, 2011) argues that poverty alleviation must have two primary emphases: the first one is increasing the income of the poor creating employment opportunities suited to them. Thus, the main role of business sector is generating jobs to the poor. The second



primary emphasis is that governments must be responsible to provide adequate public services to the poor such as education, health, sanitation, etc.

Karnani (2011)'s approach has also two secondary emphases: the first one is selling beneficial and affordable products and services to the poor, but there are limited markets for it, contrary to the Prahalad's view. The second one is government's appropriate regulations to protect the poor who are generally vulnerable.

Moreover, Karnani (2007b, 2009, 2011) argues for de-emphasizing the Prahalad's BOP approach because it does not work well. He points out some failures in Prahalad's BOP proposition. Below it will be discussed these failures. The framework for poverty alleviation with the roles of private sector, governments and civil society proposed by Karnani (2011) is in figure 2.

	Poor as producers	Poor as consumers
Business	Provide employment opportunities	Sell products and services that the poor can afford and that are beneficial to the poor
Government	Facilitate business growth and job creation	Provide basic public services
	Increase the employability of the poor	Regulate markets to protect vulnerable consumers
Civil Society	Catalyst, advocate, and watchdog to ensure that both business and governments fulfill their responsibilities	

Figure 2: framework for fighting poverty
 Source: Karnani (2011)

Regarding private sector (business), according to Karnani (2007a, 2007b, 2011), its main role in alleviating poverty is offering jobs suited to the poor, viewing them as producers, because jobs will raise the income of the poor, truly improving their standards of life. These jobs will come mainly from labor intensive and low-skills sectors.

Karnani (2011) points out selling products and services to the poor as a role business can play to fight poverty, but its importance is limited. Karnani (2011) argues that BOP markets are much smaller than Prahalad (2004)'s estimates (US\$13 trillion in PPP). Karnani (2007b , 2011) estimates world's poor population in 2.5 billion people, who make up a market of US\$ 1.1 trillion in PPP. In addition, Karnani (2007b , 2011, 2012) states that usually BOP markets



do not allow economies of scale, because they are small, and geographically and culturally diverse. In this context, local SMEs serve better these markets than MNCs.

Karnani (2011) also affirms that the unmet needs of the poor do not necessarily constitute markets. A market exists only if there are buyers willing and able to pay a price that cover all costs (economic and operational). Besides, selling products and services to the poor just can be a strategy for poverty alleviation if they are beneficial and useful to the poor. So there are few markets for socially useful products to the BOP.

Karnani (2011) argues successfully selling to the poor does not need to lead to a rethinking in business strategies, it just requires get back to basics in business. Companies have to dramatically reduce their costs, probably reducing quality, to make affordable goods that meet the poor's constrained income. So, firms have to make the appropriate cost-quality trade-offs from the perspective of the poor to develop products and services to them. Significantly decreasing quality maybe unethical sometimes, but the best reference point for quality is the tough situation of the poor not the standards of developed countries (Karnani, 2011).

Karnani (2011) points out telecommunication sector as an exception for this low-cost-low-quality strategy, namely the expressive growing cell phones markets in Africa, China and India. Karnani (2011) states that technological advances, the learning curve, and economies of scale are responsible for the deep cost reduction of cell phones, allowing mobile telecom operators to sell cheap and technological products and services to the poor.

For Karnani (2011), the major cost for firms serving BOP markets is the cost of educating potential clients, because they are ill-informed and have educational deficits, often being illiterate. Another high cost factor in doing business with the poor is distribution channels. Creating distribution that accesses the poor is essential but is expensive and can lead to commercial failures, mainly if it is proprietary (vertical integration), exclusive, and based on one-product (Karnani, 2011). Karnani (2011) points out best distribution strategies enjoy existing infrastructure and use economies of scope.

Karnani (2011) also states MNCs seek to solve the distribution problem doing alliances with NGOs to benefit from their strong legitimacy and contact channels with the poor. These partnerships are useful in making pilots operations, enjoying NGOs' existing distribution channels to initiate operations in BOP markets, but they cannot be employed to scale up





businesses. Scaling up ventures allied with NGOs does not work because they lack resources, capital and have different work processes compared with MNCs.

Karnani (2011) argues that trying to combine socially useful products with company's profitability is already a great challenge, BOP businesses often make it even harder including other social and environmental objectives such as generating employment, developing environmentally friendly solutions and improving public health, etc. For Karnani (2011), multiple objectives can lead to conflicts, since these goals are constrained by the limited pool of resources of any organization.

Therefore, Karnani (2011: p. 135) recommends business aiming to sell to the poor to "focus on ensuring the product being marketed is in fact useful to the poor, affordable by the poor, and that [business] is economically profitable to enable scaling up".

Regarding the role of governments of developing countries in alleviating poverty, Karnani (2007a, 2007b, 2011) affirms that governments must address basics needs of the poor as education, health, sanitation, clean water, infrastructure, etc. Meeting these needs will increase the poor's productivity but serving the BOP is important for itself for giving dignity and well-being to the poor.

Another role for governments is to create appropriate regulations to protect the poor consumers from market failures. These failures mainly come from (1) information asymmetries - given the poor are vulnerable and ill-informed, they can be exploited by businesses' activities; (2) and externalities as threats to public safety, and environmental damage and others negative externalities. For Karnani (2011), governments can indirectly support businesses fighting poverty increasing employability of the poor training them to acquire skills demanded by labor markets; also, governments can facilitate job creation by decreasing the costs of doing businesses. And more generally, governments can create sound rules to allow businesses to grow and thrive.

Considering the role of civil society, Karnani (2011) argues that it must foster social change, advocate, and watchdog businesses and governments' responsibilities. More specifically, for Karnani (2011), civil society has a role of being catalyst for change partnering with businesses on initiatives that benefit the poor, bringing its knowledge, legitimacy and understanding of local needs to these alliances. Besides, civil society may advocate in favor of



the poor's interests; and watchdog to ensure businesses and governments fulfill their legal and normative expectations.

4. RESEARCH METHODOLOGY

This is a study based on Yin (2011)'s and Miles and Huberman (1994)'s guidelines. As proposition I analyzed the principles of innovation used in M-PESA in Kenya based on Prahalad (2004)'s approach for BOP markets. As the unit of analysis, I adopted the innovation principles used in M-PESA in Kenya. The logic that I employed to link data to proposition was the construction of explanation of why and how in M-PESA in Kenya was employed successful Base of the Pyramid innovation principles employed by the multinational company Vodafone. And as the criterion to interpret findings I identified and compared a rival explanation: the work of Karnani (2007a, 2007b, 2009; 2011, 2012), regarded as one of Prahalad's main critics (Landrum, 2007; Kolk et al., 2014). So, I also sought to verify the Prahalad's BOP recommendations to build a BOP business.

This study analyzed previous studies, reports, and other secondary sources about M-PESA. Such sources were used to identify the Prahalad's and the Karnani's BOP management suggestions for fighting poverty in M-PESA in Kenya, and compare them. Although basing our research on archive or secondary data instead of primary data may be regarded a severe limitation, I covered most of relevant literature about M-PESA until 2016. In this way, I sought to provide a theoretical contribution to both BOP and M-PESA literatures.

5. RESULTS AND DISCUSSION

In this section, I explain how the innovation development of M-PESA in Kenya was successful by pointing out Prahalad's principles of innovation meanwhile comparing such principles with the Karnani's approach to poverty alleviation as well as other studies and secondary data. In the end of this sections, I discuss about the M-PESA outcomes. In table 1, it is presented a summary of the Prahalad (2004)'s BOP principles of innovation in M-PESA in Kenya in comparison with the Karnani (2011)'s propositions. Also, in table 1, one can observe the factors that influenced the success of M-PESA innovation based on Prahalad (2004) and Karnani (2011) propositions.





Table 1: Comparison between Prahalad (2004)'s and Karnani (2011)'s approaches in explaining M-PESA innovation in Kenya

Principles of innovation for the Base of the Pyramid Business	Prahalad	Karnani	Factors Influencing Successful BOP innovation		
			Motivation	Ecosystems	Formal Institutions
Focus on price performance	YES	YES	Prahalad - NO Karnani - YES		
Developing hybrid solutions	NO				
Building up scalable and replicable solutions	Scalable - YES Replicable - NO	YES			Neither
Environmentally friendly solutions	YES				
Solutions functionality must meet the poor needs	YES			Prahalad - NO Karnani - YES	
Process innovation	YES				
Deskilling of work	YES	YES			
Consumer education	YES	YES			
Designing for hostile infrastructure	YES				
Interfaces must take account of the poor limitations	YES				
Distribution channels that access the poor	YES	YES			
Developing platforms that easily add new features	YES	YES			

Source: Author

5.1. PRINCIPLES OF INNOVATION IN M-PESA

• *1st BOP principle of innovation: Price performance combination*

M-PESA was created to promote financial inclusion to the unbanked population in Kenya, who mostly are poor people (Hughes & Lonie, 2007). Due to its creation motivation, M-PESA was designed to offer affordable services to poor Kenyans (Hughes & Lonie, 2007; Mas & Radcliff, 2011).

M-PESA is an electronic money platform that enables electronic payments and provides other financial services through cell phones (Hughes & Lonie, 2007; Mas & Morawczynski, 2009). M-PESA has transformed simple handsets into electronic wallets, providing accessibility and safety to its customers because they do not need to have a bank account to use M-PESA to move money fast, securely and across long distances straight to another cell phone user (Hughes & Lonie, 2007; Mas & Morawczynski, 2009; Eijkman, Kendall & Mas, 2010). M-PESA costumers manage an electronic account into their handsets that is secure through PIN code protection supported with a 24 hours/7 days per week service provided by Safaricom



(Hughes & Lonie, 2007; Mas & Morawczynski, 2009), and they can deposit and withdraw cash in a network of 81,025 outlets across Kenya (Safaricom, 2014).

M-PESA costumers appreciate quality of the service, according to a survey, more than 95% of them say M-PESA is quicker, easier to use, safer, more convenient, and cheaper than alternative transfer services (KSD Kenya, 2009). Before M-PESA, unbanked Kenyans transferred money using riskier options such as carrying cash through bus drivers, friends or by themselves (often subjected to robberies in roads); or using more expensive options such as the services of Postal banks and Western Union outlets, which also have much lower coverage services than M-PESA network of outlets (Mas & Radcliff, 2011; Jack & Suri, 2014).

M-PESA also offers affordable prices considering average minimum wages in Kenyan urban areas in 2015 are between KSh 13,592 (US\$ 137,82) and KSh 17,199 (US\$174,40)¹; and in rural areas they are between KSh 5,436 and KSh 6,780 (Business Daily, 2015).

Tariffs in M-PESA are as lower as the following: sending values between KSh 10 (US\$ 0.10) and KSh 49 (US\$ 0.50) to M-PESA costumers costs KSh 1 (US\$ 0.01), and between KSh 50 and KSh 100 costs KSh 3. For M-PESA users withdraw values between KSh 50 and KSh 100, they pay KSh 10 and between KSh 101 and KSh 2,500 they pay KSh 27. Registration in M-PESA (opening an account), depositing cash in outlets, withdrawing cash until KSh 50 in outlets by unregistered users, sending values until KSh 100 to unregistered users, and buying airtime are free services (Safaricom, 2015).

These findings are in agreement with Prahalad (2004)'s first BOP principle of innovation, since M-PESA provides a modern electronic money service that has good quality and it is affordable for poor people in Kenya. Also, it is in accordance with Karnani (2011)'s work that affirms only in cell phone markets is possible to deliver technological services at affordable prices to the poor.

Coming back to the issue of motivation to launch the M-PESA business, it was born in an unusual way. M-PESA was conceived by the commitment of Vodafone's executive responsible for sustainability/corporate social responsibility issues in that time. He had the role

¹ All conversions from Kenyan Shellings (KSh) to US Dollars (US\$) was made using the Exchange rate of 1 US\$ = 98.63 KSh at june 29, 2015.





to make Vodafone addresses the Millennium Development Goals, an UN initiative that engages private sector to develop poverty alleviation initiatives (Hughes & Lonie, 2007).

Playing his role, he decided to compete in a challenge fund set up by the UK government's Department for International Development. The fund made available 15 million pounds for joint investments with private sector that would help improve access to financial services in Africa and Asia. Vodafone was awarded nearly one million pounds and it decided to develop this project in Kenya in partnership with its subsidiary Safaricom (Hughes & Lonie, 2007).

Thus, that motivation to start M-PESA is aligned with Karnani (2011)'s framework that states business can contribute to poverty alleviation selling affordable and useful services to the poor, rejecting Prahalad (2004)'s BOP business case that MNCs seek to develop business to serve the poor aiming to earn high profits.

The origin of M-PESA also arouses the issue of the influence of formal institutions in BOP business, specifically the role of governments. M-PESA was created due to the UK government's support in providing financial resources to Vodafone develops a financial inclusion project in West Africa. This fact contradicts both Prahalad's and Karnani's work.

Another interesting finding is that the igniting role to start M-PESA came from an executive outside top management and not related to Vodafone's core business. Thus, M-PESA can be regarded as an example of intrapreneurship, entrepreneurship that occurs within an existing organization and intentionally deviates from the organization's customary (Antoncic & Hisrich, 2003). This intrapreneur behavior is not found in both Prahalad's and Karnani's works. Indeed, it is an advance in BOP business employed by MNCs literature, being called as social intrapreneurship (Minna et al., 2012; Venn & Berg, 2013).

Contrary to most of the BOP literature, Halme et al. (2012) found that social intrapreneurs in MNCs face serious obstacles and have few resources to develop their new businesses aiming to serve the poor. In line with this finding, according to Susie Lonie, one of the co-founders of M-PESA in Kenya (Yin, 2015):

Until it was successful, Vodafone didn't really want to know. [M-PESA] was funded entirely by the Challenge Fund until the launch. The only Vodafone employees working on the service right up about two months before the launch were Nick Hughes [former Vodafone Sustainability executive] and I, and then one or two more team members until the launch. That is why the project is called M-PESA instead of Vodafone M-PESA, because the group didn't want its name associated with it. It was





only a small CSR project that the directors were not interested in because it didn't really fit into anything the UK or Vodafone Group was doing.

In fact, M-PESA was developed by a small team, which most of the members were workers from a UK technology start-up and some Safaricom's employers who did not receive salary for this extra service (Hughes & Lonie, 2007).

- **2nd BOP principle of innovation: Developing hybrid solutions**

The most of cell phones used in African countries like Kenya do not have high technologies such as smartphones does in developed countries. Kenyans use more basic models. Then, Vodafone decided to offer M-PESA services in an application found in simple handsets since the earliest moments of the project in London (Hughes & Lonie, 2007).

Vodafone chose to provide the service via SMS (text messaging). M-PESA is accessed driving menu by SIM toolkit, which is the standard software on all SIM cards that is present within the simplest handsets. (Hughes & Lonie, 2007; Mas & Morawczynski, 2009; Mas & Radcliffe, 2011) In this way, M-PESA has adopted the best choice combining usability, security and cost for the Kenyan context (Hughes & Lonie, 2007).

Thus M-PESA allows people transfer money anytime and anywhere where there is the Safaricom's cell phone coverage. Also in M-PESA agents (outlets) customers can cash in and cash out money easily and safely just typing simple commands in their cell phones through a nationwide network of 81,025 outlets across Kenya (Mas & Morawczynski, 2009; Eijkman, Kendall & Mas, 2010; Safaricom, 2014). So Safaricom and Vodafone have been offering a modern mobile money service combining creatively an old technology (SMS) with a vast retail outlets network to overcome the poor infrastructure of Kenya's banking system (Hughes & Lonie, 2007; Mas & Radcliff, 2011).

Based on these findings, the development of M-PESA has not mixed old technology with new technology, contrary to the Prahalad (2004)'s 2nd BOP principle of innovation. Indeed, M-PESA is not based on a new technology, it is based on a new application of an existing technology (Hughes & Lonie, 2007).

- **3rd BOP principle of innovation: Building up scalable and replicable solutions**

Safaricom is successfully scaling M-PESA in Kenya as the service is used by 70% of Kenyan population (Jack & Suri, 2014). Due to the success of M-PESA in Kenya, Vodafone also replicated the service to other countries where it has operations: Tanzania, South Africa,





Democratic Republic of Congo, India, Mozambique, Egypt, Lesotho, and Romania (Vodafone, 2015). Although in none of these countries, the service has reached the Kenyan M-PESA scale (Heyer & Mas, 2011).

Heyer and Mas (2011) pointed out factors within countries that influence the success of a mobile money service: extension of latent demand for transactions (remittances, governmental benefits, and utility bills), range and quality of existing transaction alternatives, regulatory environment, density of retails across the country, and cell phone market situation (penetration rate and network coverage).

One of these factors related with this study is the regulatory environment (formal institutions) concerned with the mobile money service. Many countries overregulate mobile money services, harming mobile telecom operators which aim to provide such services. (Heyer & Mas, 2011).

Although before M-PESA the Central Bank of Kenya (CBK) did not have any regulation about mobile money services; during the M-PESA's pilot project and earlier operations, the CBK had a *laissez-faire* regulatory approach, allowing Safaricom and Vodafone develop M-PESA to closely fit Kenyan market (Hughes & Lonie, 2007; Heyer & Mas, 2011; Mas & Radcliffe, 2011).

The Kenyan regulation over mobile money service was made after M-PESA has had a solid business model, and it was designed to meet both the CBK's and Safaricom's interests (Mas & Radcliffe, 2011; Buku & Meredith, 2013). This good relationship between the CBK and M-PESA developers is usually explained by the commitment of the CBK to promote financial inclusion since it was made aware of low levels of banking penetration in Kenya (Heyer & Mas, 2011; Mas & Radcliffe, 2011; Buku & Meredith, 2013).

Although a fact little discussed in this relationship is that Kenyan government owns 35% of Safaricom's shares (Vodafone owns 40% of Safaricom's shares) (Safaricom, 2014), raising the question if the Kenyan government has other interests with the success of M-PESA.

Thus, as M-PESA reached an expressive scale in Kenya, it is partially in accordance with the Prahalad (2004)'s 3rd BOP principle of innovation. However, as Vodafone was not able to replicate the scale of Kenyan M-PESA in other countries, we cannot affirm M-PESA is totally in line with the 3rd BOP principle of innovation.





Moreover, regarding the influence of governments, M-PESA example is contrary to both Prahalad's and Karnani's works, since neither the Kenyan government overregulated or harmed M-PESA development (Prahalad's negative view of governments) nor the Kenyan government (CBK) took a distant role for regulating the service (Karnani's view of the role of government to alleviate poverty). Instead, the Kenyan government was open and supported Safaricom's and Vodafone's effort to promote banking inclusion in the country.

- **4th BOP principle of innovation: Environmentally friendly solutions**

M-PESA does not significantly impact the environment because it is a handset's application. Although Safaricom in partnership with a Chinese telecommunication company released in the market the world's first solar-powered cell phone in 2009 (Ombok, 2009). The handset is made from recycled materials and has a built-in solar panel that charges the phone using the sun's rays. It costs as little as under US\$ 40 (Ombok, 2009).

Safaricom launched such handset because more than 90% of cell phone users in Kenya do not have access to electricity, so they have to walk to the nearest town to charge their handset battery with merchants (Ombok, 2009).

Thus, the goal of this innovation was to overcome the poor infrastructure in Kenya allowing more people have access to cell phones and avoiding currently customers waste their times looking for places to charge their handsets. Moreover, Safaricom is engaged in develop its corporate sustainability. Since 2013 Safaricom elaborates, measures and publishes annually sustainable goals in its Sustainability Report (Safaricom, 2014). Such findings are in line with the Prahalad's 3rd BOP principle of innovation.

- **5th BOP principle of innovation: Identify the functionality**

M-PESA was developed by a committed team in Kenya and this team was supported by Safaricom on the ground (Hughes & Lonie, 2007; Mas & Radcliffe, 2011). This team was able to understand both the environment where the service needed to work and detailed product requirements (Hughes & Lonie, 2007; Buku & Meredith, 2013).

M-PESA was developed by this team during a pilot project that involved nearly 500 customers spread over three locations: Nairobi's city center, a Nairobi's slum and a small town in rural area (Hughes & Lonie, 2007).





In the early stage of the pilot project, the team identified the guidelines they would have to follow to develop M-PESA based on their analyze of the Kenyan environment. According to Hughes and Lonie (2007: p. 69-70), who worked in pilot project, the guidelines were:

- To understand the systems and capabilities of Safaricom, which would have to manage M-PESA after its official launch;
- The service was specifically targeting the unbanked population;
- The e-money must always exactly match the real money to avoid creating currency (discussed later);
- The consumer interface would have to be a simple model cell phone;
- It was necessary to identify customers with a real market need to use the service;
- The service needed retail outlets to act as M-PESA agents, where consumers could go to deposit cash into or withdraw cash from their e-money accounts.

Initially, developers wanted the service would work to improve microcredit repayments for a local Micro Finance Institution (MFI), aiming to meet the initiative's financial inclusion purpose (Hughes & Lonie, 2007). Vodafone team wanted to enjoy the MFI's existent group of poor clients who demanded financial services (Hughes & Lonie, 2007). But it was hard to conciliate the processes between M-PESA and the MFI because M-PESA processes were more agile and flexible than the local MFI. Then the partnership failed (Hughes & Lonie, 2007).

The pilot project was planned to last two months but it lasted two years. Although this significant delay can be seen as pilot plan's failure, because of this amount of time spent, the team assessed customers' needs well ahead of processes requirements and was able to monitor transactions patterns and understand customer feedback (Hughes & Lonie, 2007).

Due to this feedback, the team reoriented the service towards domestic remittances market; since it is common practice in Kenya urban male workers send money to their families in rural villages. Indeed, Kenya can be regarded as a divided country because many immigrants left their family's home in rural areas to seek better job opportunities in the cities (Hughes & Lonie, 2007).

So the pilot project was crucial to understand customers' needs because it allowed Safaricom had realized to enjoy the gap in Kenyan remittances market (Hughes & Lonie, 2007;





Mas & Morawczynski, 2009). This gap in market was expressive, given more than 20,000 people registered in M-PESA within the first month of the service's launch, such growth was much higher than was planned (Hughes & Lonie, 2007). The pilot project was so successful in understanding the Kenyan poor needs that most of Kenyans and even people in the West believe that M-PESA is an innovation made by Kenyans (Polak & Warwick, 2014).

The facts above confirm Prahalad's 5th BOP principle of innovation, since M-PESA functionality was made with a deep understanding of Kenyan poor's banking needs during a long pilot project. Although the same pilot project development arouse an objection to Prahalad (2004)'s advice in building ecosystems made of businesses and social organizations to support BOP ventures, given the partnership between Vodafone and the MFI failed. This alliance is explained better by the Karnani (2011)'s advice for partnering with NGOs only to initiate pilot projects.

- **6th BOP principle of innovation: Process innovation**

Before M-PESA, transferring money was risky, expensive and slow in Kenya, due to facts such as hostile environment (robbery danger) and poor infrastructure (low banking access) (Hughes & Lonie, 2007; Mas & Morawczynski, 2009). Safaricom has changed it providing a fast, secure and low-cost service to move money. It combines cell phone technology with mobile telecom operator's network of outlets to offer a money transfer and payments service (Mas & Morawczynski, 2011; Jack; Suri, 2014).

Safaricom had to create new processes to transform its mobile telecom structure into a banking service. Such process will be explained in the following: a Safaricom customer has to subscribe in M-PESA, opening his or her M-PESA account, then this customer can deposit or withdraw money at M-PESA retail outlets (Hughes & Lonie, 2007; Mas & Morawczynski, 2009; Mas & Radcliffe, 2011).

To send money to someone, customer turns cash into M-PESA electronic value or e-money, and then follows simple instructions on his or her cell phone to load his or her M-PESA account. A message confirming transaction and showing balance account is sent to the customer (Hughes & Lonie, 2007; Mas & Morawczynski, 2009). The receiver is sent a message too telling information about the money transfer that he or she has received. Then this receiver can go to an M-PESA outlet showing that message as a receipt and his or her ID card to cash out money (Hughes & Lonie, 2007; Mas & Morawczynski, 2009).





A problem M-PESA outlets face is liquidity management (Mas & Radcliffe, 2011). It happens if outlets take excessive customer cash deposits, they run out of e-money which they load customers' electronic accounts; if agents do excessive withdrawals, they will accumulate a lot of e-money, then lacking cash available to customers (Davidson & Leishman, 2011). So, M-PESA agents often have to rebalance their holdings of cash versus e-money.

Such rebalance is usually done through the banking system by agent aggregators that set up accounts in banks near M-PESA outlets under their responsibility, and outlets personnel usually go daily to the nearest bank branch to either deposit or withdraw cash from their account (Mas & Radcliffe, 2011). Transference of cash between retail outlets' and the aggregators' bank accounts are then offset by opposite transferences of e-money (Davidson & Leishman, 2011). Other choices are when the agent aggregators physically pick up or deliver cash from M-PESA outlets, or ask the outlet to do so at a nearby aggregator office (Mas & Radcliffe, 2011).

Findings above are accordance with Prahalad's 6th BOP principle of innovation, given Safaricom is providing a modern electronic money service through innovative processes to overcome the poor banking infrastructure in Kenya.

- **7th BOP principle of innovation: Deskilling of work**

Safaricom has kept tight control over M-PESA customer experience aiming to build trust in the system and the outlets (Mas & Ng'weno, 2010). Initially, Safaricom engaged a local firm to conduct agent training programs, evaluation and to do periodic on-site supervision in all retail outlets (Mas & Ng'weno, 2010; Davidson & Leishman, 2011). Later Safaricom took over the role in educating new outlets, requiring the owner or manager of each new outlet to attend a full-day session in Safaricom House in Nairobi, which he or she needs to pass an exam to be an authorized M-PESA agent (Davidson & Leishman, 2011).

Some M-PESA outlets are SMEs and small airtime sellers that employ diskilled workers (Mas & Morawczynski, 2009; Safaricom, 2015). Thus, Safaricom had to design processes to offer a modern mobile money service using relatively simple tasks to be operated by small outlets, mainly in rural areas (Mas & Morawczynski, 2009; Eijkman et al., 2010). Safaricom demands each outlet employs at least two people to handle the M-PESA processes below (Safaricom, 2015):





- Registration of M-PESA Customers;
- Depositing cash into registered customers M-PESA accounts;
- Executing cash withdrawals for registered M-PESA customers;
- Executing cash withdrawals for non-registered M-PESA customers;
- Customer education;
- Compliance processes to follow Safaricom's "Know Your Customer" and Anti-Money Laundering policies;
- Branding of their outlets following Safaricom marketing guidelines

Safaricom pays close attention in the quality of services provided to its consumers. Therefore, it offers training to its agents, and monitoring them. Moreover, the work processes required in M-PESA are not specialized what helps outlet's employees perform a good job providing a modern mobile money service. Such findings are in line with Prahalad (2004)'s 7th BOP principle of innovation and also with Karnani (2011)'s main strategy to business alleviate poverty that is provide jobs suited to the poor.

- **8th BOP principle of innovation: Consumer education**

During the pilot project, the M-PESA development team identified consumer training as being the biggest challenge in providing the service. They realized people who were familiar with cell phones learnt much easier how to use M-PESA than people who were not (Hughes & Lonie, 2007).

Another key point was to build trust in the new mobile money service, since most of Kenyans just handled money using cash without any other experience with modern electronic banking services (Mas & Ng'weno, 2010).

Knowing this challenge, Safaricom launched M-PESA with a significant advertising campaign on TV and radio (Hughes & Lonie, 2007; Mas & Ng'weno, 2010; Mas & Radcliffe, 2011). Meanwhile, Safaricom was reaching poorer places with massive outreach through road shows and tents that traveled signing new customers up, explaining the service and demonstrating how to use it (Mas & Ng'weno, 2010). Mas and Radcliffe (2011) estimates Safaricom invested about US\$ 10 million in the first two years of M-PESA launch. Such





expressive investment paid off, since M-PESA reached 6.2 million clients at the end of this time (Mas & Radcliffe, 2011).

Moreover, since the service was launched, M-PESA agent's employees are responsible for educating customers using the service (Mas & Morawczynski, 2009; Mas & Ng'weno, 2010; Davidson & Leishman, 2011).

Facts above support both Prahalad (2004)'s 8th BOP principle of innovation of educating customers, and Karnani (2011)' work which he stated consumer education is the largest cost in BOP business, although such costs were much greater in the first two years of M-PESA.

- **9th BOP principle of innovation: Design for hostile infrastructure**

Many Kenyans left rural areas to seek jobs in the cities, most of them are men who left wives and children at home (Hughes & Lonie, 2007; Mas & Morawczynski, 2009). Therefore, there is a huge demand for remittances from urban to rural areas (Mas & Radcliffe, 2011; Jack & Suri, 2014). Before M-PESA, because of the poor banking infrastructure in Kenya and absence of technology-enabled alternatives, the most of low-income Kenyans used informal methods to send money home (Hughes & Lonie, 2007). Some instances were people who gave money to friends or family members traveling back to the rural areas; money was also traditionally transferred through bus and *matatu* (shared taxi) companies (Hughes & Lonie, 2007; Mas; Morawczynski, 2009). All cases are risky because the money may not reach its final destination, and highway robbery is common in Kenya (Mas & Morawczynski, 2009; Jack & Suri, 2014).

PostaPay, a money-transfer service offered by the Post Office, is a formal option. Although PostaPay has a presence in rural areas, many people complain that the service is inefficient and frequent cash shortages are reported (Mas & Ng'weno, 2010).

Thus, M-PESA has solved the money transfer problem overcoming the poor infrastructure and hostile environment in Kenya providing a safer, cheaper, faster and more convenient service than other alternatives (Hughes & Lonie, 2007; Mas & Morawczynski, 2009). Such findings are in accordance with Prahalad (2004)'s 9th BOP principle of innovation of designing products/services for hostile infrastructure in BOP markets.

- **10th BOP principle of innovation: Interface**





M-PESA was created to provide banking access for people without bank accounts through cell phones, but some Kenyans weren't familiar with mobile phones, mainly people from rural areas (Hughes & Lonie, 2007). So, the service needed to have an easy usability for allowing poor people without experience with technologies to use it (Hughes & Lonie, 2007; Mas & Morawczynski, 2009).

The M-PESA user's interface is driven by an application (SIM toolkit) that runs from user's handset (Hughes & Lonie, 2007). The service can be accessed directly from cell phone's menu facilitating the user to find and use it quickly and easily. The menu prompts the user to put all the needed information, one piece at a time, based on the type of transaction requested (Hughes & Lonie, 2007; Mas & Morawczynski, 2009).

M-PESA developers wanted to build a platform useful for as many people as possible (Hughes & Lonie, 2007). Therefore, the service is available in two languages: English, more spoken in urban areas, and Swahili, a tribal language more spoken in rural areas (Hughes & Lonie, 2007; Mas & Morawczynski, 2009). The name M-PESA itself shows the inclusive purpose of the service. "M" means mobile and "Pesa" means money in Swahili (Hughes & Lonie, 2007). These findings are well in line with the Prahalad (2004)'s 10th BOP principle of innovation, since M-PESA interface was designed to deal with the limitations of rural poor people in Kenya.

- **11th BOP principle of innovation: Distribution**

M-PESA has overcoming the lack of banking infrastructure by providing a mobile money service that helps its customers to avoid the risks of transferring their money physically, offering them the choice of transferring their money comfortably using their cell phones (Hughes; Lonie, 2007).

M-PESA fundamentally depends on cell phone coverage to offer its services. Since the last decade, Africa has facing an expressive rise in cell phone penetration. The African cell phone penetration rate jumped from 12,4% in 2005 to 71,2% of population in 2014 (ITU, 2015). At the end of 2014, Kenya's cell phone penetration rate reached 82,6% of population (Communications Authority Of Kenya, 2014). Such high cell phone penetration allows Safaricom to provide M-PESA to most of Kenyans.





But also, M-PESA services are based on a network of outlets that allow customers to deposit and withdraw cash. Initially, Safaricom built up its M-PESA outlets network enjoying its network of airtime retailers (Hughes & Lonie, 2007). But after its launch with the expressive increase of customers, Safaricom start to recruit new M-PESA agents beyond its airtime retailers such as banks, MFIs, registered SMEs, and other retailers with a significant distribution network like petrol stations, distributors, supermarkets (Davidson & Leishman, 2011; Safaricom, 2015). Each M-PESA agent must have at least three retail outlets to provide the service (Safaricom, 2015).

Such findings are in line with both Prahalad (2004)'s 11th BOP principle of innovation and Karnani (2011)'s work, since Safaricom has been building M-PESA distribution channel enjoying its existent retail outlets or contracting third parties, offering 81,025 outlets across Kenya to its clients (Safaricom, 2014).

- **12th BOP principle of innovation: Developing platforms that easily add new features**

When M-PESA was launched it just offered services such as deposits or withdraws cash at agent stores, transfer money person-to-person and buying prepaid airtime (Hughes & Lonie, 2007; Hughes & Lonie, 2007; Mas & Ng'weno, 2010; Mas & Radcliffe, 2011). Although its developers had aimed to add more services because they realized latent demand for new kinds of mobile banking services; they preferred to get used to work with the complex task of providing a nationwide transfer money service (Hughes & Lonie, 2007; Mas & Ng'weno, 2010).

M-PESA launch was a risky strategy involving a massive logistical challenge (MAS; NG'WENO, 2010). In the first months after launch, there was a great mess among customer and retail outlets that caused several days' delays to reach customer service hotlines (Hughes & Lonie, 2007; Mas & Ng'weno, 2010; Mas & Radcliffe, 2011). User and retail outlets errors were frequent since everyone was new in using the service (Hughes & Lonie, 2007; Mas & Ng'weno, 2010; Mas & Radcliffe, 2011).

Later, when Safaricom established M-PESA operations it added new services such as bill payments; salary payments; withdrawal through ATMs; an international remittances service allowing to send money from the UK to Kenya in partnership with Vodafone (there are many Kenyans immigrants living in the UK) and M-KESHO, a service partnered with Kenya's Equity Bank that allows M-PESA customers to open saving accounts in that bank, earning





interests on their money and accessing credit and insurance products (Mas & Ng'weno, 2010; Mas & Radcliffe, 2011).

Such facts are aligned with the Prahalad (2004)'s 12th BOP principle of innovation, since M-PESA developers were able to build a platform open for new applications to enjoy the opportunities from a lacking market like Kenya. Moreover, M-PESA has opened to Vodafone the new global market of international remittances from developed countries to developing countries. Such market is estimated in US\$ 435 billion in 2014 (World Bank, 2014).

5.2. M-PESA OUTCOMES

M-PESA is a large and profitable BOP business. In 2014, M-PESA accounted for 18% of Safaricom revenues, which is a figure of KSh 26.56 billion (US\$269.32 millions) (Safaricom, 2015). A BOP business of this magnitude is rare (Simanis, 2011), and there are few studies that report BOP business' financial performance (Kork et al, 2014).

Regarding the social transformation for the poor, 43% of Kenyan population has banking access only through M-PESA (Intermedia, 2014). M-PESA is used by 66% of Kenyans below the poverty line², which 79% of these users hold M-PESA accounts. Also, 70% of Kenyan rural population is using M-PESA services, which 79% of these users hold M-PESA accounts (Kaffenberger, 2014).

Moreover, Jack and Suri (2014) assessed that M-PESA users are able to keep their consumption levels when their income suffers shocks, while nonusers face a fall in their incomes. In this way, the remittances sent via M-PESA are helping the Kenyan poor people when they face troubles. Such findings evidence M-PESA is improving the lives of the poor in Kenya as Prahalad (2004) stated BOP business positively improve poor people's lives.

Thus, M-PESA results fit Prahalad (2004)'s prediction that BOP business can generate both high profits for large companies and social transformation for the poor. The findings are in accordance with Karnani (2011)'s work as well, since M-PESA is a useful service that is benefiting the poor in Kenya.

² Kaffenberger (2014) calculated the poverty line using the mark of \$2.50/day in purchasing power parity.



Also, regarding the issue of BOP business results, Karnani (2011) claims that Prahalad (2004)' BOP approach seeks multiple objectives. As shown above M-PESA generates both economic and social results, but the business directly seeks to be economically sound, although Safaricom's advertise appeals for sentimental campaigns as "changing lives" (Mirabaud, 2009; Mas & Ng'weno, 2010). Indeed, Karnani (2011) criticizes the so called BOP 2.0 that emphasizes BOP ventures have to seek and assess their "social impact" (London & Hart, 2011). However, as Simanis and Milstein (2012) pointed out poverty alleviation was a by-product of a profitable business in the Prahalad (2004)'s original BOP concept. So, this study regard as compatible both the Prahalad (2004)'s view of "social transformation at the BOP" and Karnani (2011)'s view of "useful and beneficial products for the BOP" that result from BOP business. A summary of the Prahalad (2004)'s BOP strategies findings in M-PESA in Kenya in comparison with the Karnani (2011)'s work is in table 1.

6. CONCLUSIONS

Our study intended to recall the original BOP concept developed by Prahalad and Hart (2002), Prahalad and Hammond (2002), and Prahalad (2004) that MNCs can serve the base of the pyramid markets by earning high profits and improving the poor's lives at same time. More specifically, our research aimed to study the development of an innovative service by an MNC that was successful in entering BOP markets.

I chose to research the mobile money service M-PESA in Kenya developed by Vodafone, which has been managed by its subsidiary Safaricom. The innovation development of M-PESA in Kenya was selected because M-PESA significantly generates profits for an MNC as well as improves Kenyan poor's lives, and also C.K. Prahalad himself pointed out it as a successful BOP business.

To perform a more solid analysis, our study verified Prahalad (2004)'s approach comparing it with the Karnani (2011)'s approach to poverty alleviation, mainly because he is regarded as a fierce critic of Prahalad's BOP approach (Kolk et al., 2014).

Our study found eleven out of the twelve Prahalad (2004)'s BOP principles of innovation in M-PESA in Kenya. The only exception was the 2nd Prahalad (2004)'s BOP innovation principle of developing hybrid solutions, although the 3rd Prahalad (2004)'s BOP principle of innovation was not totally found, since Vodafone was not able to replicate the scale of Kenyan M-PESA in other countries. Such finding evinces that is difficult for MNCs





successfully replicate economies of scale in BOP business across different developing countries as was pointed out by Karnani (2011).

Indeed, although the majority of the Prahalad (2004)'s BOP principles of innovation was identified in M-PESA in Kenya, the findings was also aligned with the Karnani (2011)'s work. According to Karnani (2011), the main fact that explains the success of M-PESA is that cell phones market is one exception of market which is possible to sell technological, useful and beneficial products/services to the poor.

Moreover, Karnani (2011)'s approach explained better the factors that influence successful BOP strategies than Prahalad (2004)'s approach. Regarding the motivation to launch the BOP business, M-PESA was created by Vodafone because it aimed to play its role to promote Sustainable Development by improving financial inclusion in Kenya. Ironically, one of the few large BOP businesses developed by an MNC was not created looking for a "fortune at the BOP" as Prahalad (2004) suggested in his BOP business proposition.

Considering the ecosystem to support BOP business, M-PESA was built without forming alliances with social organizations. Indeed, Vodafone's pilot team tried to partner with a local social MFI, but the alliance failed. Although it was useful for providing targeted clients to the team which had developed the service addressing these clients' needs.

The influence of government in M-PESA was not supported by neither Prahalad (2004)'s nor Karnani (2011)'s approaches. An unusual role of governments directly supporting companies was present in two phases. Firstly, M-PESA was born because of the seed funding received by the UK government. Secondly, one of the key factors for the success of M-PESA in Kenya was the cooperation between M-PESA developers (Vodafone and Safaricom) and Kenyan government (CBK) to accord in elaborating a sound regulation for the new mobile money service (Mas & Morawczynski, 2009; Mas & Radcliffe, 2011a). Such explicit supportive role of governments has not been studied in previous BOP researches, therefore, opening room for a new research field in BOP literature.

Another key point not covered neither by Prahalad (2004)'s nor Karnani (2011)'s frameworks is that M-PESA conception was initiated by a social intrapreneurship initiative. Such issue is little studied in BOP literature and given the example of M-PESA it deserves to be better researched, mainly in MNCs BOP ventures because most of the BOP literature





disregards conflicts that arise when employees seek to develop business with social purposes within large companies as MNCs (Halme et al., 2012).

Since the twelve Prahalad (2004)'s BOP principles of innovation were published, such recommendations were not studied (with exception of Prasad and Ganvir (2005)). However, our study sought to fill this gap analyzing the successful example of M-PESA in Kenya. Although the most of the twelve Prahalad (2004)'s BOP strategies was found in such example; the problem of replicating the scale of the business in another countries harms Prahalad (2004)'s proposal of MNCs serving BOP markets, since MNCs' advantage in economies of scale across borders does not seem applied in BOP businesses. Such evidence supports Karnani (2011)'s disbelief in MNCs role in fighting poverty selling to the poor.

As our study was not based on primary data, it is a significant limitation in analyzing just one case of a BOP business. Although, despite this limitation, our research was able to arise two issues not covered in previous studies about BOP business, and that they were key points that explained some part of the success of M-PESA in Kenya: (1) innovation in a BOP business can come from social intrapreneurship; which demands flexibility from MNCs to accept employees' ideas that deviate from its core business; and (2) governments can play direct supportive role in building BOP business, since innovations at the BOP are risky and can change sector's structures.

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