

Master Thesis Business Administration

Selling Pure Water to the Poor People

The best practices for water purifications systems when entering the Base of the Pyramid in emerging economies

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Preface

After having followed with great enthusiasm the premaster and master course of Business Administration at the University of Twente, I finalize my master study with this master thesis. The thesis is based on a topic that was discussed during the master course Management in Emerging Economies, namely Base of the Pyramid. I have chosen for this topic because it fascinated me during the course, it is a modern topic, and there is still a lot to discover in this domain.

When looking back, writing this thesis has been a challenge, but at the same time it has been a very valuable learning experience. I think that my characteristics perseverance and analytical insights are strongly improved.

During this graduation project, several people have helped and supported me throughout the process. However there are some persons I would like to thank personally.

First of all my supervisor Huub Ruel, for introducing me to the domain Base of the Pyramid. I have learned a lot from the thoughts and experiences you have shared with me, and from your advices on my approach. You have been of great help to keep the right focus in my research.

Also I would like to thank all interviewees for participating in this research and providing insights about the 'Base of the Pyramid' and all the other aspects this research includes.

Finally I would like to thank my family for the support they gave me during these past months and the years before. Thank you for your patience and for having been able to share all my ideas and doubts with you.

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Management Summary

The largest part of the inhabitants of emerging economies is formed by the Base of the Pyramid (BOP), people that earn individually less than 2 dollars per day (Prahalad & Hammond, 2002). This market is interesting for Western companies, because with four billion customers it represents a vast potential untapped market opportunity. Western companies that want to enter the BOP market find it difficult to decide how to enter the market.

To narrow the subject down, this study focuses on how companies with solar based water purification systems should enter the BOP in emerging economies. Nowadays the lack of clean drinking water is still a large problem. It is estimated that 2.1 billion poor people still lack access to safe water currently. The central research question of this thesis is formulated:

What are the best practices for solar based water purifications systems when entering the BOP in emerging economies?

The aim of the study is to provide insights into the characteristics of the three best practices creating mutual value, forming local partnerships, and local product development. Furthermore it needs to be determined what the degree of importance of these best practices is, and how these best practices possibly can be combined, and the relationship needs to be found between the best practices and the exogenous variables and endogenous variables where companies are dealing with.

In order to answer the research question, six representatives of NGOs and five persons who are considered to be experts on the topic 'Base of the Pyramid' are interviewed. The semi-structured interviews are held with one subject at a time, are recorded in full, and transcribed afterwards.

It turns out that the best practice creating mutual value needs to be attained by creating employment. From past experiences, interviewees argue that it is a misconception to think that people from the BOP are not helpful because they are less educated. Giving local training or letting them work with technical simple products are options to enhance the employment rate of people at the BOP.

Regarding the best practice forming partnerships, there are many possibilities for companies. Partnerships can be formed with local NGOs, international NGOs, local businesses, embassies, and consulates. The interviews make clear that it is conceivable that different types of partners are needed throughout the process. Multiple sources are recommended to get a more neutral perspective on how the developing country is shaped.

It is argued that local product development is important because with this best practice local needs can be met better. As a matter of fact, in practice companies are not willing to develop products locally. For big organizations, the central strategy of the main office is too important. Besides local product development it could be useful to conduct pilots. It gives an indication if a product or service will become successful.

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List of Abbreviations

BOP	Base of the Pyramid
GNP	Gross National Product
IB	International Business
JV	Joint Venture
MBA	Master of Business Administration
NGO	Non-governmental Organizations
TOP	Top of the Pyramid

1. Thesis Outline

1.1. Introduction to the thesis: The Drinking Water Market at the BOP

Many people all over the world do not have clean drinking water every day. To give an indication how serious the global drinking water problem is, the non-profit organization Blue Planet Network gives a striking comparison on their website: 6,000 children die every day due to the diseases related to the lack of access to safe drinking water, inadequate sanitation and poor hygiene, and this is equivalent to 20 jumbo jets crashing down every day.¹

The concerning situation that is characterized with this comparison is based on recent data from WHO and UNICEF (2012). The findings of their research show that an estimated 2.1 billion poor people still lack access to safe water currently. This includes 900 million who do not have access to an improved water source, and 1.2 billion who do have access to an improved water source, but where the water is not safe. These poor people live at the Base of the Pyramid (BOP), which means that they earn individually less than 2 dollars per day (Prahalad & Hammond, 2002). One of the specific BOP markets is the BOP drinking water market, and this measured market covers large parts of the world. It is situated in the continents Africa (11 countries), Asia (7), Eastern Europe (5), and Latin America and the Caribbean (7) and is estimated on \$11.3 billion (Hammond, 2007). The BOP share of total spending in measured markets ranges widely. Asia has the largest BOP share, at 68%, and in Latin America and Eastern Europe, the BOP share is 45%. In Africa the BOP share is 60%. Within the BOP drinking water markets, there are stark disparities between urban areas and rural areas, as is revealed by an analysis of WHO and UNICEF (2012). Data of these different areas was disaggregated, and subsequently it turned out that circa 96% of the urban population globally used an improved water supply source in 2010, compared to 81% in the rural area. Fortunately, the data from WHO and UNICEF (2012) do not only reveal discouraging figures. There is a significant increase in the population that gained access to improved water sources between 1990 and 2010. Nevertheless, because of the massive growth in the urban population and the large amount of people in the rural area that still uses unimproved water sources, large progress still needs to be made.

There are many reasons for this immense water problem. De Carvalho, Graf, Kayser, and Vousvouras (2011) state that poverty, and lack of safe water, is determined by many factors. The income of the people at the BOP is logically an important factor, but also factors such as access to and type of housing, legal status (or the lack thereof), and other region-specific. More specifically, Hammond (2007) argues that urban water networks are aging, that rapid urbanization is increasing demand faster than networks can expand, that many people live in water-stressed regions, and that water sources are being polluted by industrialization, agricultural runoff, and lack of sanitation services.

¹ <http://blueplanetnetwork.org/water>

To extent safe water access to the poor, a range of enterprises have developed technologies to provide access to clean water for BOP households and communities in an affordable way. De Carvalho et al. (2011, p. 5) describe the four most important ones:

Pumping & Harvesting: Installations to pump underground water or collect rainwater: e.g. protected wells with pumps, rainwater harvesting cisterns.
Most effective in areas where raw water is basically clean and where population density is low. These solutions are promoted largely by government, donors and NGOs.

Devices, Flasks & Tabs: Consumable disinfectant products, mostly chlorine-based, distributed in liquid or tablet forms. Durable filtration devices and filters, using different purification technologies.
Most appropriate and cost-effective solutions for populations in small villages, where water does not require complex treatment. They are promoted by both NGOs and commercial players, in areas with limited or no reliable public water service.

Plants and Kiosks: Mini-water-treatment stations: collective installations for more heavily polluted and/or brackish water, suitable for small towns and villages.
Most cost-effective in areas where water is brackish/heavily polluted, with a relatively high population (rural or urban). These solutions are promoted and operated by (social entrepreneurs), often in collaboration with local or regional authorities.

Pipes and Taps: Piped distribution networks: collective networks used to transport treated water to homes or public stand posts.

Figure 1: De Carvalho et al. (2011)

The appropriateness of each solution for areas with little or no access to safe water at an affordable price depends primarily on two factors (De Carvalho et al., 2011, p. 4):

- The population density: the more dense an area, the more economic sense it makes to invest in collective treatment and distribution infrastructure.
- The level of pollution in the water: the more polluted the water, the more expensive its treatment and the final price to the consumer; and the more discriminating people will be in choosing to use clean, expensive water for drinking purposes only.

Notable is that the world's urban population makes much more use of piped water connections. In urban areas 80% has piped water connections, compared to only 29% in rural areas. Further, the rate of increase in piped water on premises has stagnated over the last 20 years (UNICEF & WHO, 2012). The rate of increase has been higher in rural areas, but coverage remains low.

Because of the difficulty to implement piped water connections, other solutions need to be used. De Carvalho et al. (2011) argue that devices, flasks, and tabs are among the most affordable solutions to provide safe water to millions of households worldwide who live in rural areas with limited water pollution. Nevertheless, as mentioned before, the number of people in rural areas that still use unimproved water sources is still very high (UNICEF & WHO, 2012).

1.2 Research Problem

Many companies from the developed world have developed devices, flasks, and tabs to reach the rural areas of the BOP. Case studies done by De Carvalho et al. (2011) show that projects done by Antenna Watasol Tinkisso, IDE/Hydrologic Ceramic Water Purifier, and Unilever Pureit Filter have the goal to reach the high demand of purified drinking water in these rural areas. However, these organizations do not have results regarding social impact, economic sustainability, scalability and replicability, and environmental impact. In addition, discussions with the Dutch firms Nedap Naiade and SolarDew revealed that they are looking for ways to enter the BOP market.

To determine in which way companies from developed countries with a water purification system can do business in developing countries, it is wise to come up with best practices. To identify these best practices, it is important to obtain a clear view of the BOP market itself and the current success of the companies doing business in the BOP market.

1.3 Research Aims and Research Question

There is little known about which best practices enable companies with water purification systems to profitably deliver clean drinking water to the BOP. Therefore, the aim of this research is to find out what these best practices are for foreign companies with devices, flasks and tabs when doing business with the BOP.

In order to receive an answer on this question, scientific literature regarding this topic will be reviewed, secondary data will be examined, and qualitative empirical research will be conducted. The scientific literature will provide scientific knowledge about the literature available on relevant topics these topics include Base of the Pyramid (BOP), Entering Emerging Economies, and Foreign Direct Investment. Hereafter, based on this literature review, a research model will be formed. Subsequently, secondary data will provide more information on the characteristics and processes of the characteristics and processes of the BOP market.

Next, qualitative empirical research will be conducted. The outcome of the interviews will reveal the insights of experts about their belief of the best practices of firms when entering the BOP. Therefore, in order to achieve the stated research goal, the central research question of this thesis is:

What are the best practices for solar based water purifications systems when entering the Base of the Pyramid in emerging economies?

1.4 Relevance of the Research

The study on the best practices for solar based water purification systems has both scientific and practical relevance. Looking from a scientific point of view, Rivera-Santos and Rufin (2010) state that there has been no attempt, to systematically examine what characteristics of BOP environments lead to specific aspects of BOP business models.

The social relevance of this study is already made clear in the introduction. Nowadays the lack of clean drinking water is still a large problem, 2.1 billion people still lack access to safe water (UNICEF & WHO, 2012). Conversations with companies that want to enter the BOP market with the solar based water purification systems revealed that they still find it difficult to decide how to enter the market. Therefore, the recommendations of this study are valuable for these organizations.

1.5 Research Strategy

This research attempts to answer the question what the best practices are for solar based water purifications systems when entering the BOP in emerging economies. First of all, it has to be stated that the research strategy of this master thesis will be deductive. This means that based on specific, recent theories a research model is developed and hypotheses are formulated.

The study is composed as follows: Chapter 1 started with an introduction on the drinking water market at the BOP which gives insight into the subject. Furthermore, in this chapter the research problem, aims, question, relevance and strategy have been stressed out.

In chapter 2, the literature review is conducted. With help of recent scientific articles and books the study topics will be analyzed and discussed. These topics include: Base of the Pyramid, Entering Emerging Economies, Strategy Emerging Economies, Foreign Market Entries, Business Model Emerging Economies, and Institutions Emerging Economies. The vast majority of the articles are published in the last 10 years. Predominantly, the search databases Web of Science and JSTOR are used. The purpose of the theoretical framework is to gather all the necessary knowledge about the endogenous and exogenous factors that companies have when doing business with the BOP, and the best practices that influence the performances of these companies. Based on the theoretical framework, a research model is developed.

To see if this research model is supported in practice, interviews are executed with 11 interviewees. Six representatives of NGOs (non-governmental organizations) and five persons who are considered to be experts on the topic 'Base of the Pyramid' were asked about their experiences, their ideas and their opinion about the research model. How this research is exactly conducted and how the results are measured is extensively described in the chapter about methodology (chapter 3).

The findings of the interviews can be found in chapter 4. The interviews are transcribed and can be found in the appendix. Quotes were used to support and clarify the interpretations.

Chapter 5 concludes with a discussion on the findings of the theoretical and practical implications by reflecting existing literature on the findings of the interviews. Finally, the limitations of this study and recommendations for further research are presented.

2. Literature Review

2.1 Outline of the Chapter

The purpose of this section is to provide a theoretical framework for the study by analyzing the existing literature on several topics regarding organizations from developed economies that want to enter emerging economies and want to reach the BOP. First, the focus is on organizations in general, and later on solar-based water purification systems.

The existing literature related to the main issue will be reviewed, in order to give an accurate overview of the published scientific work regarding this specific area and to provide a decent background for the research paper's investigation by gaining a necessary insight into the related study topics. The theoretical framework starts off by explaining globalization in relation to the BOP. Subsequently, the specificities of BOP environments (the exogenous factors) will be explained. Hereafter, the endogenous factors will be discussed, namely previous experiences, network, localized knowledge, and skilled talent. Later on, as a consequence of the exogenous factors and the endogenous factors the three best practices will be described. Lastly, the literature will eventually form the basis for the business model, which will be the starting point for the empirical data collection.

2.2 The Urge for Business Expansion into the BOP Market

To explain why organizations want to enter the BOP market, it is useful to review the development of international management. Som (2009) states that the 1980s and 1990s saw an upheaval in economic thinking which brought major societal changes such as the liberalization and globalization of most economies. During these two decades, firms conducted their business in a dynamic world of international business. Many global corporations arose.

According to Som (2009) there are three imperatives for becoming a global corporation: The economic, strategic, and growth imperative. The economic imperative is related to the fact that becoming a global corporation achieves economies of scales and scope. Thereby, the corporation can extend the life cycle of its products by introducing them in developing markets. Strategic imperative implies the importance of competitive positioning for organizations. Oligopolies want to defend and build competitive capabilities. Going global also creates learning capabilities. New information can be obtained about products, processes, and technologies. Lastly, Som (2009) mentions the growth imperative. For a company, to stay interesting as a company for stakeholders, it is necessary to either grow and perform.

Since the developing world created more than 75 emerging and post-socialist economies with a combined population of more than three billion people, this is an interesting new potential market for organizations. To do business in this market, organizations have to do business with the 'base of the pyramid'. This is the majority of the potential customers in emerging economies and they have and earn individually less than 2 dollars per day (Prahalad & Hammond, 2002). The term BOP has become

fashionable as global corporations realize that there are about 5 billion customers around the world who have been ignored until recently. These potential customers are different and their needs are different, too. Figure 2 shows the economic pyramid. Tier 5 represents the BOP.

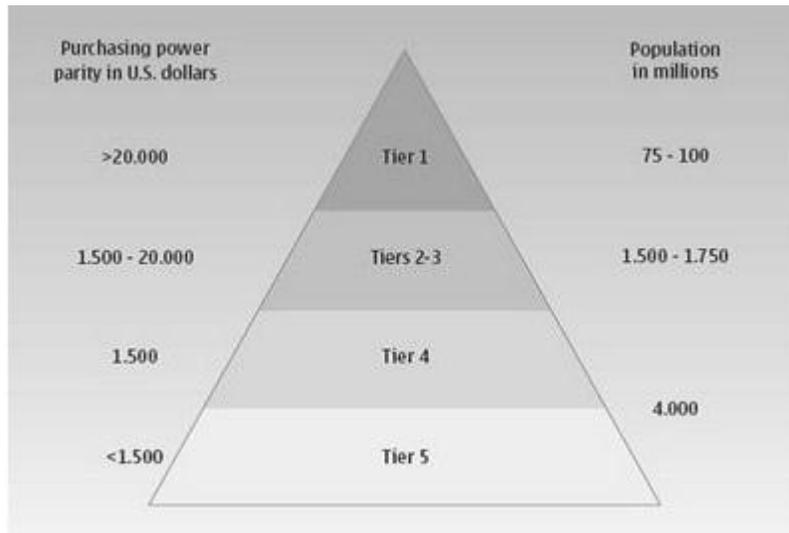


Figure 2: The Economic Pyramid. Source: Prahalad & Hart (2002)

2.3 Exogenous Factors

In order to identify the best practices that companies should dispose, first the specificities of BOP environments need to be explored. From the company's point of view, these are the exogenous factors. These exogenous factors originate from outside, relate to external factors.² In this case, with exogenous factors, the assumed barriers for companies when entering the BOP-market are meant. From literature, it occurred that two exogenous factors are highly distinctive at the BOP-market: The original market characteristics at the BOP and the institutional context.

2.3.1 Market Characteristics at the BOP

According to Prahalad (2002), the author of the concept Bottom of the Pyramid, low-income markets present a prodigious opportunity for the world's wealthiest companies to seek their fortunes and bring prosperity to the aspiring poor. Companies that want to do business in emerging economies will face tremendous opportunities. That is why more and more companies see opportunities of doing business with the BOP. With established markets becoming saturated, BOP markets are becoming attractive for

² <http://dictionary.reference.com/browse/exogenous?s=t>

many companies. London and Hart (2004) argue that as many as four billion customers represent a vast potential untapped market opportunity. Nakata and Weidner (2012) even mention that the BOP segment represents the most significant remaining, or unaddressed, global market.

Contrary to appearance, the BOP market does have financial resources. The purchasing power parity (PPP) of the BOP is \$1500 or less (Prahalad & Hammond, 2002), but there is clearly more that can be uncovered. The vast majority of the populations operate primarily in the large, but hidden, informal economies that are not recorded in official gross national product (GNP) or PPP statistics (London & Hart, 2004). Across the globe, it is estimated that the informal sector includes more than \$9 trillion in hidden (or unregistered) assets. In addition, Prahalad and Hammond (2002) mention that most entrepreneurs and customers in BOP markets are poorly served by low-quality vendors or are actively exploited by predatory suppliers and intermediaries, suggesting the possibility of generating both profits and consumer surplus. Although companies face opportunities when entering the BOP, it is definitely difficult to enter the market. Entering emerging economies presents unique challenges for companies as well. These challenges include level of income, irregularity of BOP incomes, and geographic dispersion.

A. *Level of income* As mentioned before, the BOP customers have annual purchasing power parity of \$1500 or less (Prahalad & Hammond, 2002). Authors have different views whether this is problematic or not. Prahalad and Hammond (2002) state that it is incorrect to assume that the poor are too concerned with fulfilling their basic needs to ‘waste’ money on nonessential goods. Instead, they state that the poor often do buy “luxury” items. Thereby, consumers at the bottom of the pyramid pay much higher prices for most things than middle-class consumers do, which means that there is a real opportunity for companies.

However, Karnani argues in his paper “Fortune at the Bottom of the Pyramid: A Mirage” (2007) that the profit opportunities for large companies are modest. The costs of serving the markets at the BOP can be very high, and he disagrees that the poor often buy ‘luxury’ items.

B. *Irregularity of BOP incomes* Besides the low level of income of people at the BOP, Dawar and Chattopadhyay (2000) also mention their variability of income flow. They state that daily wage earners tend to have little stock of money, only a flow. Therefore, people living at the BOP typically cannot predict their revenues, even in the short run. This has a consequence that they tend to make purchases only to meet their daily needs, and have little capacity to build inventory. Dawar and Chattopadhyay (2000) conclude that the marketing implications are far-reaching. Not only pack sizes and price points are affected, but it turns out that also consumers’ trade-off purchases across much wider array of product categories are affected.

C. *Geographic dispersion* Another challenge of companies entering emerging economies is the geographic dispersion of the BOP markets. Unlike the developed world, distribution channels in BOP markets can be fragmented or non-existent and the task of simply getting products to people can be a major hurdle to overcome (Anderson & Markides, 2007, p. 8). Companies need to think about a way to reach the customers of the BOP, and need to develop a new way of producing, delivering or distributing products or services.

Prahalad (2002) does not think the geographic dispersion is not an insurmountable problem for firms. The author states that it can also be surprisingly cheap to market and deliver products and services to the world's poor. Because many of them live in cities that are densely populated today and will be even more so in the years to come.

In conclusion, it can be stated that the market characteristics at the BOP lead to both big opportunities and challenges for entering companies. The untapped market with an amount of 4 billion customers is a big opportunity for companies. However, there are also challenges present at the BOP that need to be taken into account. These are the low level of income of the customers, their irregular incomes, and the geographic dispersion.

2.3.2 Institutional Context

Besides the BOP market characteristics that influence the entry of foreign companies, the different institutional context of emerging economies plays an important role. Institutions are described by North (1990) as the "rules of the game" in a society or, more formally, are the humanly devised constraints that shape human interaction. Two types of institutions can be distinguished: Formal, such as rules that human beings devise, and informal such as conventions and codes of behavior. North (1990) states that institutions influence and determine strategic behavior of organizations.

Companies from developed economies are faced with different institutional context, when doing business with the BOP. The institutional differences between companies' domestic markets and the BOP markets are referred to as the *inter-institutional distance* (Webb, Kistruck, Ireland, & Ketchen Jr., 2010). North (1990) states that activity within developed economies is dominated by formal mechanisms, such as property rights, codified laws, and enforceable contracts. These formal institutions can be considered as market-supporting. Thereby, Webb et al. (2010) state that informal institutions offer a secondary influence in developed economies.

In contrast to developed economies, the formal institutions in emerging economies are weak. Institutional infrastructures to support a market-based system are still weak or missing (Hoskisson, Eden, Lau, & Wright, 2000). The reason why formal institutions do not support economic activity very strongly in BOP markets is that the infrastructure and supporting devices of formal institutions are undeveloped. It is often a problem that BOP markets lack effective enforcement agencies that can preserve property rights and root out criminal activities (Webb et al., 2010).

Proceeding further, in addition to the fact that companies need to pay attention to the different institutional context between developed economies and emerging economies, different BOP markets can be quite diverse (Karnani, 2007). Difference between BOP markets is referred to as *intra-institutional distances* (Webb et al., 2010). It is argued by Webb et al. (2010) that even when companies effectively recognize and exploit opportunities within a BOP market, they face significant challenges in trying to expand to additional BOP markets. This means that growth into new undeveloped markets may

require that the multinational adapt knowledge to take into account specific nuances of the local culture and/or markets, as well as develop local infrastructures for each of the broader markets. It is important to look at institutions within particular combinations of configurations, and exploring the nature of institutional complementary and conflicts within those contexts (Jackson & Deeg, 2008).

Formal and informal institutions have impact on organizations that want to enter emerging markets. Estrin and Prevezer (2010) found out that there are four most significant dimensions of institutions in the literature in terms of effects on the creation of new firms: Property rights and contracting; regulation and especially labour regulation; access to finance and credit; and infrastructure.

Because of the institutional burdens, social ties become very important in emerging economies. In other words, social networks substitute for weak institutions. Therefore, London and Hart (2004) state that for organizations reaching low-incomes markets in the emerging economies may require a different strategic approach. According to the researchers it involves bridging the formal and informal economies. As a consequence, Danis, De Clercq, and Petric (2011) argue that the relationship between associational activity and new business activity will be stronger in emerging than in developed economies. Participation in voluntary associations is associated with higher rates of new business activity, but the potency of this relationship increases in emerging compared with developed economies (Danis et al., 2011).

De Soto (2000) explains that the informal sector functions in practice works on the principle of supply and demand. It is the place where individuals resort to if the costs of obeying the law outweigh the benefits (De Soto, 2000). Furthermore, the scholar states that informal social boundaries often dominate over formal legal documentation. Relationships are grounded primarily on social and not on legal contracts. Subsequently, De Soto (2000) continues that members are not liable for authorities outside their own social contract. The local powers are the most important for the members and the boundaries exist and are respected. The informal sector rarely operates antisocial and causes no chaos. Contrary, it is the only way for the members to organize their lives and their transactions (De Soto, 2000).

Interestingly, London and Hart (2004) state that organizations that value and leverage existing social capital, have achieved success in informal markets. As an example, they say that most successful microloan programs targeting the poor rely on group lending and peer pressure. When used in low-income markets in the developing world, this design has created payback rates that even banks in the developed world would envy (London & Hart, 2004).

The question that arises is how the institutional context of emerging economies will develop in the future. Will it converge to developed economies and will the emerging economies implement more formal institutions? Scholars have different views on this issue. According to Ahlstrom and Bruton (2006), this can be expected. The authors argue that more formal institutions will be introduced and will take hold at different times. Slowly the formal institutions would be created to fill gaps in emerging economies, but there would still be many domains of an economy where there are few formal

institutions in place. Hoskisson et al. (2000) argue that as a consequence enterprises in different markets and different countries may be expected to adopt market-based strategies at different times and rates. However, London and Hart (2004) argue that emerging economies should not be viewed as following a homogeneous pattern of economic development in which all markets are evolving toward a more Western-style business environment. Although the wealthy elite in these countries may participate in global capitalism, the vast majority of the population has been excluded from this economic system.

In sum, the institutional context in emerging countries is currently very different from the institutional context in developed countries. Two types of institutions can be distinguished: Formal, such as rules that human beings devise, and informal such as conventions and codes of behavior. Companies that want to enter emerging economies need to be aware that formal institutions are weak, which leads to a different approach. Making use of social ties in emerging economies is very beneficial. It is difficult to proclaim how the institutional context of emerging economies will develop, several scholars have different views on this.

2.4 Endogenous Factors

With endogenous factors, the categories of factors are meant that proceed from within, that are derived internally. These factors have no apparent external cause.³ They should contribute to successfully entering the BOP market by companies. These factors include previous experiences, network, localized knowledge, and skills of talent.

2.4.1 Previous Experiences

Schuster and Holtbrügge (2011) argue that this factor is critical for international expansion. It explains the process of internationalization of companies into the BOP. The authors consider the lack of experiential knowledge of companies as a large obstacle for international expansion. The study of Schuster and Holtbrügge (2011) revealed that companies were able to enter BOP-markets as they learned about market conditions and consumer needs while operating in high-income segments and consequently started to build up commensurable knowledge basis for entering the BOP-segment. With a richer knowledge and a lower perceived risk, firms will seek new business opportunities in markets with a higher psychic distance. This argumentation would also explain why only some companies in a specific industry enter BOP-markets while others do not realize these opportunities, as not all companies have the specific knowledge base or current activities in these countries.

Companies can maintain business activities in TOP-markets (Top of the Pyramid) before they decide to enter BOP-markets in the respective country. It is evident that there are large differences between the BOP and the corresponding TOP-segment with regard to trust in business and institutional actors,

³ <http://dictionary.reference.com/browse/endogenous?s=t>

educational background, income levels, infrastructural conditions, common norms etc. and demand decisions about the commitment form. Nevertheless, local employees can be confronted with market conditions and consumer needs of BOP-consumers while serving the high-income segment. As a result of this personal experience, the companies acquired knowledge of low-income segments which enabled them to identify possible business opportunities (Schuster & Holtbrügge, 2011). It is recommended to not only manufacture locally, but become embedded by investing beyond organizational borders, and establish strong and long-term relations with non-market partners, and get closer to BOP customers (Reficco & Márquez, 2009). Companies that have experience in an emerging economy, have an advantage over companies who are new. Those new companies must enter new markets on their own and spend resources on detecting and exploiting business opportunities.

2.4.2 Network

Having pointed out what the informal market includes, Rivera-Santos & Rufin (2010) found out that as a consequence there are important and systematic differences between BOP networks and TOP networks. Relative to TOP networks, BOP networks are likely to be less centralized, wider in scope, less dense overall (but also containing high-density clusterings), and contain more structural holes. BOP network ties are more commonly direct and informal, are actualized more frequently, and involve a multiplicity of domains of interaction among network members. The diversity of BOP network members is greater, and BOP networks are more unstable and unpredictable in their formal aspects but also more stable and resilient in their informal aspects. As the results of London and Hart (2004) suggest, firms will need to develop social embeddedness, which allows them to understand and leverage the strengths of the market environment at the base of the pyramid. As said before, when entering BOP markets, firms with a capability in social embeddedness are most likely to be successful.

2.4.3 Localized Knowledge

Organizations that want to do business in emerging economies need to explore new opportunities by acquiring localized knowledge. Only when the opportunities are identified, organizations need to possess the skills required to successfully exploit an entrepreneurial opportunity (Pisano, Ireland, & Hitt, 2007). This localized knowledge includes information about local culture and markets, the requirements for gaining a competitive advantage in the markets, and what is necessary to develop effective relationships with important local stakeholders such as government entities, distributors and suppliers. It is advisable for firms to be engaged in opportunity-seeking behaviors, to explore efficiently and effectively a wide breadth of knowledge to identify opportunities. Nevertheless, attention needs to be paid to quickly and efficiently exploiting an opportunity as well. This needs to be done by forming stable routines around a specific stock of knowledge. Pisano et al. (2007) argue that firms usually over-emphasize exploration or exploitation to the neglect of the other, eventually leaving these firms in a rigid position incapable of meeting market and competitive demands.

2.4.4 Skills of Talent

Farndale, Scullion, and Sparrow (2010) state that when companies do business in multiple countries, their ultimate aim is to transfer capability. This involves monitoring the implementation of relevant policies and practices, encouraging an appropriate corporate culture, establishing the necessary networks, and ensuring all parts of the organization are sensitive to the needs of international staff. Therefore, it is important that highly skilled, highly flexible, mobile employees are working for the company. Nevertheless the international mobility of employees in emerging economies is hard to achieve, because Farndale et al. (2010) state that retention of knowledge workers is a major issue for companies in emerging markets. There is a lack of necessary skills of talent in emerging economies. Individuals are often not prepared to be mobile both at the individual level, and at the level of the relative differences between predominantly internal or external labor markets in different national contexts. Thereby, defensive behavior within business or geographic regions can result in less efficient flows across the firm as a whole, which reduces the effectiveness (Farndale et al., 2010).

2.5 Best Practices

The best practices of organizations contribute to successfully entering the BOP market. Based on the literature and the exogenous and endogenous factors, three best practices are derived.

2.5.1 Creating Mutual Value

A best practice that could benefit companies when entering BOP markets is creating mutual value. Mutual value arises when a synergistic connection is created between business strategy and poverty alleviation. Although the BOP literature has gained popularity by this suggestion, the majority of research in the BOP domain has focused on the prospect of serving BOP consumers and on the capabilities that ventures must create to successfully operate in the informal economy (London, Anupind, & Sheth, 2010). Nevertheless, London et al. (2010) state that by employing business strategies that alleviate local poverty, a venture will also generate greater economic returns.

Elaydi and Harrison (2010) also recognize the importance of mutual value. These two scholars examined two different motivations behind strategic choice in BOP markets: strategic intent and market extension. They state that firms motivated by strategic intent may result in best efforts to engage in real poverty alleviation. This approach capitalizes on the hopes, aspirations, and imaginative nature of the impoverished, firms with strategic intent engage the community and grow with them. Conversely, entrance in BOP markets by a market expansion strategy, which involves extending existing services to increase immediate sales revenue, may exploit consumers with low consumption ability and have little or negative impact on poverty alleviation.

According to Karnani (2007), the private sector can play a key role in poverty alleviation by viewing the poor as producers, and emphasize buying from them, rather than selling to them. The scholar argues that this can be done by making markets more efficient such that the poor capture more of the value of their outputs. Certainly, the best way for private firms to help eradicate poverty is to invest in upgrading the skills and productivity of the poor, and to help create more employment opportunities for them. Most people in development economics do not have the skills, vision, creativity, and persistence to be true entrepreneurs (Karnani, 2007). Companies can focus on growth in labor intensive industries, and increase labor productivity by achieving scale economies and upgrading the skills of employees. The profit motive alone is enough to drive companies in this direction.

London et al. (2010) investigated the challenges that are faced by BOP producers and they concluded there were six constraints. Constraints on value creation, referred to as *productivity constraints*, relate to a producer's ability to access affordable and high-quality raw material, financial, and production resources. Constraints on value capture, called *transactional constraints*, relate to a producer's ability to access the marketplace, assert market power, and obtain secure and consistent transactions. When ventures want to address these constraints, they develop specific sequencing and investment strategies based on the type of product being sourced and the type of constraint being addressed. Out of the research of London et al. (2010) came that overcoming transactional constraints necessitated an investment strategy that balanced the need for local presence with the value of economies of scale. Responding to productivity constraints required coordinating the availability of a bundled set of resources, even if the BOP venture did not provide each of these resources.

In conclusion, ventures focus on serving BOP customers, and to generate greater economic returns ventures it would be wise for ventures to focus on mutual value creation. Creating more value for the BOP creates more value for the venture. There are productivity and transactional constraints for BOP producers, which can be addressed.

2.5.2 Forming Partnerships

Companies that are going to enter an emerging economy, have the possibility to cooperate with local partners. Partnerships can be formed with the so-called traditional partners such as national governments and large local partners, or with non-traditional partners who include non-profit organizations, community groups, local governments and even village-level governments (London & Hart, 2004).

Regarding non-traditional partners, London and Hart (2004) argue that successful BOP strategies rely heavily on them. Webb et al. (2010) emphasize this by stating that the number of alliances between companies and NGOs that are being formed with the purpose of recognizing and exploiting opportunities in undeveloped markets is increasing. There are obviously reasons why alliances between companies and NGOs are useful. Firstly, NGOs have knowledge about social issues, especially at localized

levels, which companies want to acquire (Webb et al., 2009). NGOs can have access to important information on target customers and the overall business environment that was not available in the corporate sector. According to Rondinelli and London (2003) alliances may be the only option for companies interested in accessing the knowledge held by NGOs since internal development of such expertise may be too costly, inefficient, and time-consuming for most companies, and merger with or acquisition of an NGO is highly unlikely. Secondly, cooperation between NGOs and private companies can also be attributed to the fact that environmental responsibility is an increasingly important issue for stakeholders. Recently corporation's external relationships with NGOs are more than adversarial or philanthropic (Rondinelli & London, 2003).

A partnership between a corporation and a nonprofit organization is defined as a cross-sector alliance (Rondinelli & London, 2003). These two organizations have fundamentally different governance structures and missions, and therefore this partnership often results in tension and mutual distrust. Therefore, Rondinelli and London (2003) argue that in order to form and manage cross-sector alliances successfully, both corporate and NGO managers need to understand what types of alliances work best, how to use existing expertise in building and maintaining alliances, and what new skills are needed to pursue collaborations across sectors. Rondinelli and London (2003) categorized three types of relationships between corporations and NGO, from low-intensity to highly intensive: Arm's-Length Relationships, Interactive Collaborations, and Intensive Environmental Management Alliances.

London and Hart (2004) argue that companies that have strategies that relied primarily on traditional partners were unsuccessful. According to the scholars, these partners were as far removed, in terms of business knowledge of low-income markets, as the firms trying to launch the venture. However, the study done by Meyer et al. (2009) contradicts this opinion by arguing that a joint venture (JV) is the best entry mode for a company when entering an emerging economy. In this way, companies have a business agreement and cooperate. Meyer et al. (2009) state that there are three modes of entry involving foreign direct investment: greenfield, acquisition, and joint venture. The entry strategies of companies that enter emerging economies is directly influenced by the market-supporting institutions. According to Meyer et al. (2008), the best entry strategy for companies entering emerging is joint venture. Whereas the institutional framework is weak in developed countries, JVs can used well to access many resources. Therefore, greenfield entry is not recommended because weak institutional frameworks make it more difficult to access resources via market transactions. Entry by acquisition is sensitive because the financial markets vary considerably. In developed countries, the institutional framework does not ensure transparency, predictability, and contract enforcement.

Summing up, partnerships are recommended when doing business in emerging economies. The non-traditional partners can help with gaining knowledge about the social issues and it creates environmental responsibility. Thereby, joint ventures can be used well to get access to many resources.

2.5.3 Local Product Development

It is evident that reaching the BOP-market with a new product requires considerable differences comparing with a developed market. As already mentioned 4.2.1, level of income, irregularity of BOP incomes, and geographic dispersion represent challenges for companies when doing business with the BOP-market. Operating in subsistence marketplaces requires that firms develop a thorough understanding of the unique characteristics of subsistence consumers and the marketplaces where they live. (Weidner, Rosa, & Viswanathan, 2010) According to Nakata and Weidner (2012), companies that intent on addressing the BOP, must create products that are tailored for this target and its unique circumstances. Firms do this by thinking and acting locally to address the specific aspects of subsistence marketplaces and the many differences between different settings.

Anderson and Markides (2007) argue that strategic innovation takes place when a company identifies gaps in an industry positioning map, goes after them, and these gaps grow to become big markets. Three gaps are identified:

- A new WHO: Which consumers to reach within the BOP;
- A new WHAT: Products or services that are adapted to the unique needs of both customers and distributors at the BOP;
- A new HOW: a new way of producing, delivering or distributing products of services at the BOP.

WHO: As stated in 4.2.1, the BOP segment represents the most significant remaining, or unaddressed, global market (Nakata & Weidner, 2012). There is plenty of under- and non-consuming customers to go around. Therefore, Anderson and Markides (2007) state that strategic innovation is not so much concerned about discovering new *Whos*.

WHAT: According to Anderson and Markides (2007), to persuade BOP customers to buy a product or service there are two challenges: Affordability and acceptability.

Affordability Anderson and Markides (2007) state that in developing markets, the goal is not so much to discover new benefits for the product, but to offer or adapt products that might well have been created in the West to consumers that are significantly poorer. Therefore, the price-performance ratio has to be changed drastically. This can be done by reducing or eliminating features from a product or service might be one way to deliver reduced prices. Another possibility is to design products for shared use or to serve in smaller serving sizes. However, it would be too simple to assume that all the market wants is cheap products. Successful innovations address more the segment's lack of money.

Acceptability Besides affordability, Anderson and Markides (2007) argue that because of cultural, societal, religious or even political reasons, it might not be possible to simply offer products designed for developed world customers to those in the developing world. For companies that want to serve the BOP market it can be necessary to modify the product need to gain acceptability for the product or service (Anderson & Markides, 2007).

In addition to affordability and acceptability, Nakata and Weidner (2012) examined more product attributes that are critical by BOP customers to its acceptance. These attributes include visual comprehensibility, adaptability, relative advantage, and compatibility.

Visual comprehensibility The degree to which a new product is intuitively comprehended through its design and packaging.

Adaptability The degree to which products are already adapted or easily adaptable to conditions of scarcity and hostility.

Relative advantage The extent to which the product helps to overcome the buyer's economic, physical, psychosocial, and/or knowledge deprivations are seen as especially advantageous.

Compatibility This translates into the new product by accounting for and being consistent with the consumption habits of the poor (Nakata & Weidner, 2012).

London and Hart (2004) emphasize co-inventing custom solutions as a successful BOP market entry. Local partners could actively contribute to venture conceptualization by adding local content to the product design. Thereby, out of their research appeared that in successful ventures, it is very important to maximize the functionality of the product offering. This often includes having the product and business model development co-evolve.

On the other hand, unsuccessful initiatives tend to rely on controlling the adaptation of existing products. The focus is on the weaknesses in the environment, they make substantial efforts to protect property rights, including preventing user or distributor modification. These ventures view the value proposition in terms of the product itself, and often complete the development process at a centralized and geographically distant location, prior to designing the business model.

HOW: A big challenge in serving BOP markets is to ensure the availability of products and services. It is the extent to which consumers and others in the value chain are willing to consume, distribute or sell a product or service. Distribution channels can be fragmented or non-existent and the task of simply getting products to people can be a major hurdle to overcome. A new way of producing, delivering or distributing products or services is needed (Anderson & Markides, 2007).

Another dimension is awareness, which relates to the degree to which customers are knowledgeable about product or services. In the BOP market, customers are often inaccessible to conventional advertising media, building awareness can be a significant challenge for companies wishing to serve low-income consumers in the developing world (Anderson & Markides, 2007).

Weidner et al. (2010) state that the ability to rely on local members of the community to share product experiences and offer demonstrations to members of their peer group is key to success.

Furthermore, London and Hart (2004) state that entrepreneurship by local distributors was encouraged by providing flexibility in how the final product or service could be marketed or delivered.

In conclusion, strategic innovation is about which consumer to reach within (WHO), the products or services that need to be adapted to the unique needs of both customers and distributors of the BOP (WHAT), and the new way of producing, delivering or distributing products or services at the BOP (HOW). Most of the attention goes out to the WHAT and HOW.

2.6 Summary Literature Review

There are three imperatives for becoming a global corporation: The economic, strategic, and growth imperative. The economic imperative is related to the fact that becoming a global corporation achieves economies of scales and scope. Strategic imperative implies the importance of competitive positioning for organizations. Regarding the growth imperative, it is important to grow and perform, to stay as a company interesting for stakeholders.

The Base of the Pyramid (BOP) is very interesting for companies that want to go global. The BOP is a group of potential customers in emerging economies and they have and earn individually less than 2 dollars per day. However, the market is untapped with an amount of 4 billion customers which means that it is a big opportunity for companies.

In order to identify the best practices that companies should dispose when going global, first the specificities of BOP environments need to be explored. These are called the exogenous factors and consist of market characteristics at the BOP and the institutional context. The market characteristics at the BOP that need to be taken into account are the low level of income of the customers, their irregular incomes, and the geographic dispersion. Regarding the institutional context, companies that want to enter emerging economies need to be aware that formal institutions are weak, which leads to a different approach. Making use of social ties in emerging economies is very beneficial. It is difficult to proclaim how the institutional context of emerging economies will develop, several scholars have different views on this.

With endogenous factors, the categories of factors are meant that proceed from within, that are derived internally. These factors have no apparent external cause. They should contribute to successfully entering the BOP market by companies. These factors include previous experiences, network, localized knowledge, and skills of talent. Lack of experiential knowledge of companies is large obstacle for international expansion. Thereby, informal network is important to create social embeddedness, localized knowledge is useful to explore new opportunities, and highly skilled and mobile employees are important to benefit the international staff.

The best practices of organizations contribute to successfully entering the BOP market. Based on the literature and the exogenous and endogenous factors, three best practices are derived. First, mutual value is recommended for companies when doing business in at the BOP. Ventures focus on serving BOP customers, and to generate greater economic returns ventures it would be wise for ventures to focus on mutual value creation. Creating more value for the BOP creates more value for the venture.

Next, partnerships are recommended when doing business in emerging economies. The non-traditional partners can help with gaining knowledge about the social issues and it creates environmental responsibility. Thereby, joint ventures can be used well to get access to many resources.

Lastly, reaching the BOP-market with a new product requires considerable differences comparing with a developed market. Therefore, local product development is important. Strategic innovation is about which consumer to reach within (WHO), the products or services that need to be adapted to the unique needs of both customers and distributors of the BOP (WHAT), and the new way of producing, delivering or distributing products of services at the BOP (HOW). Most of the attention goes out to the WHAT and HOW.

3. Methodology

This section discusses the methodology of the research. The process towards developing a solid and valid answer to the research question will be described. This includes the research approach, the sample of respondents, the way the data is collected, and how the data is analyzed.

3.1 Introduction

For conducting a research various strategies can be applied, such as an experiment, survey, case study, action research, grounded theory, ethnography, or archival research (Saunders, Lewis, & Thornhill, 2008), from which no strategy is superior or inferior to any other and neither are mutually exclusive. Within present research, a case study is going to be used. According to Babbie (2007) a case study is “the in-depth examination of a single instance of some social phenomenon, such as a village, a family, or a juvenile gang.” The study follows as a deductive approach. As stated by Saunders et al. (2008), this approach involves the testing of a theoretical proposition by the employment of a research strategy specifically designed for the purpose of its testing.

Referred to this study, the single instance is the Base of the Pyramid. Recent literature on the topics Base of the Pyramid, foreign market entries, and emerging economies has been studied and linked together. Hereafter, a research model has been derived. Consequently, based on this research model the research question and the sub questions were formulated. These questions are used for the interviews. More about this study is mentioned in the next paragraph.

By examining this instance, an attempt is made to answer the main question of this study, namely:

What are the best practices for solar based water purifications systems when entering the BOP in emerging economies?

This study will be predominantly exploratory. Open questions are going to be asked to discover what is happening and to gain insights about the topic. This sort of study is particularly useful to clarify the understanding of a problem (Saunders et al., 2008).

3.2 The Sample and the Setting

It is important to decide what or whom to study, which is called the units of analysis or units of observations (Babbie, 2007). This needs to be done before conducting the research. In social science research, the most typical units of analysis are individual people (Babbie, 2007). Additionally, it is important to define the population and the research sample. The population for a study encompasses who we want to draw conclusions about. The units of analysis in this study are representatives of NGOs and BOP experts.

For this research, interviews were executed with 11 interviewees. These interviewees can be divided in two groups. The first group consists of five representatives of NGOs. As already mentioned in 4.5.2, Webb et al. (2010) argue that NGOs have knowledge about social issues, especially at localized levels,

which companies want to acquire. NGOs can have access to important information on target customers and the overall business environment that was not available in the corporate sector. The reason to interview representatives of NGOs is based on the literature study. The second group consists of five persons who are considered to be experts on the topic 'Base of the Pyramid'. This group includes members of organizations that worked at the BOP and lecturers.

Next, it needs to be considered which sampling techniques are going to be used. Sampling techniques enable the researcher to reduce the amount of data needed to collect by considering only data from a subgroup rather than all possible cases or elements. Sampling techniques available can be divided into two types (Saunders et al., 2009). Firstly there is probability or representative sampling, which is the selection of sampling techniques in which the chance, or probability, of each case being selected from the population is known and is not zero. Secondly there is non-probability sampling, which is a selection of sampling techniques in which the chance or probability of each case being selected is not known. For selecting samples of both groups, we used a non-probability sampling method: purposive sampling.

Interviewees (N=11)

Group 1: Representatives of Non-Governmental Organizations

Associations that are dedicated to establish a fair world without poverty.

N1: Oxfam Novib

N2: Care Nederland

N3: Cordaid

N4: Aqua for All

N5: SNV World

N6: ZOA

Group 2: Experts

E1: Director Trade Policy DSM

Several activities of multinational DSM focus on the BOP. These activities include for the largest part nutrition which takes place in Africa, South-East Asia and Latin America. Another activity is materials which takes place in India, Bangladesh, and Pakistan. Within their innovation center of DSM, there is a BOP group.

E2: Associate Business Development at BOP Innovation Center

The BOP innovation Center points out to organizations how to innovate for BOP. It is especially on the side of business development, from strategy into action. It is an intermediary for the development of market-driven innovations.

E3: M.Sc. at TNO Science and Industry

TNO can be seen as a knowledge provider, or as a knowledge generator. It investigates all sides, all facets of society. The knowledge TNO has could be very beneficial for developing countries.

E4: Professor of Private Sector & Development ISS

International Institute of Social Studies in The Hague, part of Erasmus University Rotterdam. It is a highly diverse international community of scholars and students from the global south and the north, which brings together people, ideas and insights in a multi-disciplinary setting which nurtures, fosters and promotes critical thinking and conducts innovative research into fundamental social problems.

E5: Vice president Focus on Vision

Focus on Vision is a Social Venture that aims to bring the joy of proper eyesight to the world. Many hundred millions of people have poor vision that can simply be solved by wearing eyeglasses. That is why Focus on Vision has developed Focusspec®, a pair of glasses that is self-adjustable and not expensive.

3.3 Conceptualization

The research consists of two different factors, which include exogenous factors and endogenous factors. In addition, organizations need to be focusing on the best practices when doing business in emerging economies. The exogenous factors, endogenous factors and the best practices will be conceptualized with help of the literature review (chapter 2).

Exogenous factors: In this case, with exogenous factors, the assumed barriers for companies when entering the BOP-market are meant. Out of the literature, it occurred that two exogenous factors are highly distinctive at the BOP-market: The original market characteristics at the BOP and the institutional context.

Market characteristic factors:

The typical characteristics of BOP markets. These can be classified under:

- Level of income
- Irregularity of BOP incomes
- Geographic dispersion.

Institutional factors:

The “rules of the game”, the humanly devised constraints that structure human interaction. There are two types of institutional factors:

- Formal institutions: legislation, judicial system, economic system
- Informal institutions: societal rules, agreed on behaviors, shared beliefs, shared cognitive maps

Endogenous factors: The categories of factors that can be influenced by a company are meant. These factors should contribute to successfully entering the BOP market by companies. These factors include previous experiences, localized knowledge, networks, and management practices.

Previous Experiences: Companies who have experience in an emerging economy, have an advantage over companies who are new. Those new companies must enter new markets on their own and spend resources on detecting and exploiting business opportunities.

Network: There are important and systematic differences between BOP networks and TOP networks. When entering BOP markets, firms with a capability in social embeddedness are most likely to be successful.

Localized Knowledge: Organizations that want to do business in emerging economies need to explore new opportunities by acquiring localized knowledge. Only when the opportunities are identified, organizations need to possess the skills required to successfully exploit an entrepreneurial opportunity.

Skills of Talent: This involves monitoring the implementation of relevant policies and practices, encouraging an appropriate corporate culture, establishing the necessary networks, and ensuring all parts of the organization are sensitive to the needs of international staff.

When analyzing the literature, it can be concluded that an organization needs to be focusing on the best practices when doing business in emerging economies. This is especially the case when the organization lacks knowledge of the exogenous factors, or insufficiently possesses the endogenous factors. The three best practices all have a different focus.

Forming partnerships As said before, when knowledge is missing about social issues in emerging economies, partnerships are recommended. This means, that when organizations needs help with dealing with the institutional context partnerships can be a solution. Thereby partnerships can be of value when previous experience is missing, the organization does not have BOP networks, or when localized knowledge is missing.

Creating Mutual Value Greater economic returns can be generated by creating mutual value. This positively influences the market characteristics, because the incomes of the BOP costumers will be higher and more regularly. In addition, the chance that local, skilled talent can work for the organization is higher. It positively influences the skills of talent.

Product Development Focusing on product development means that a lot of attention needs to be paid to WHO needs to be reached with the product or service and HOW these consumers are going to be reached. This means that the product or service is going to be adapted to the market characteristics of the BOP. Thereby, the knowledge will be enlarged.

The endogenous factors, exogenous factors, the practices and the best practices for companies entering the BOP are in a certain way connected with each other. The endogenous factors and exogenous factors influence the practices of companies when entering the BOP. When companies decide to positively respond to these factors, these companies can influence the factors by making use of the three best practices. This can be seen in figure 3:

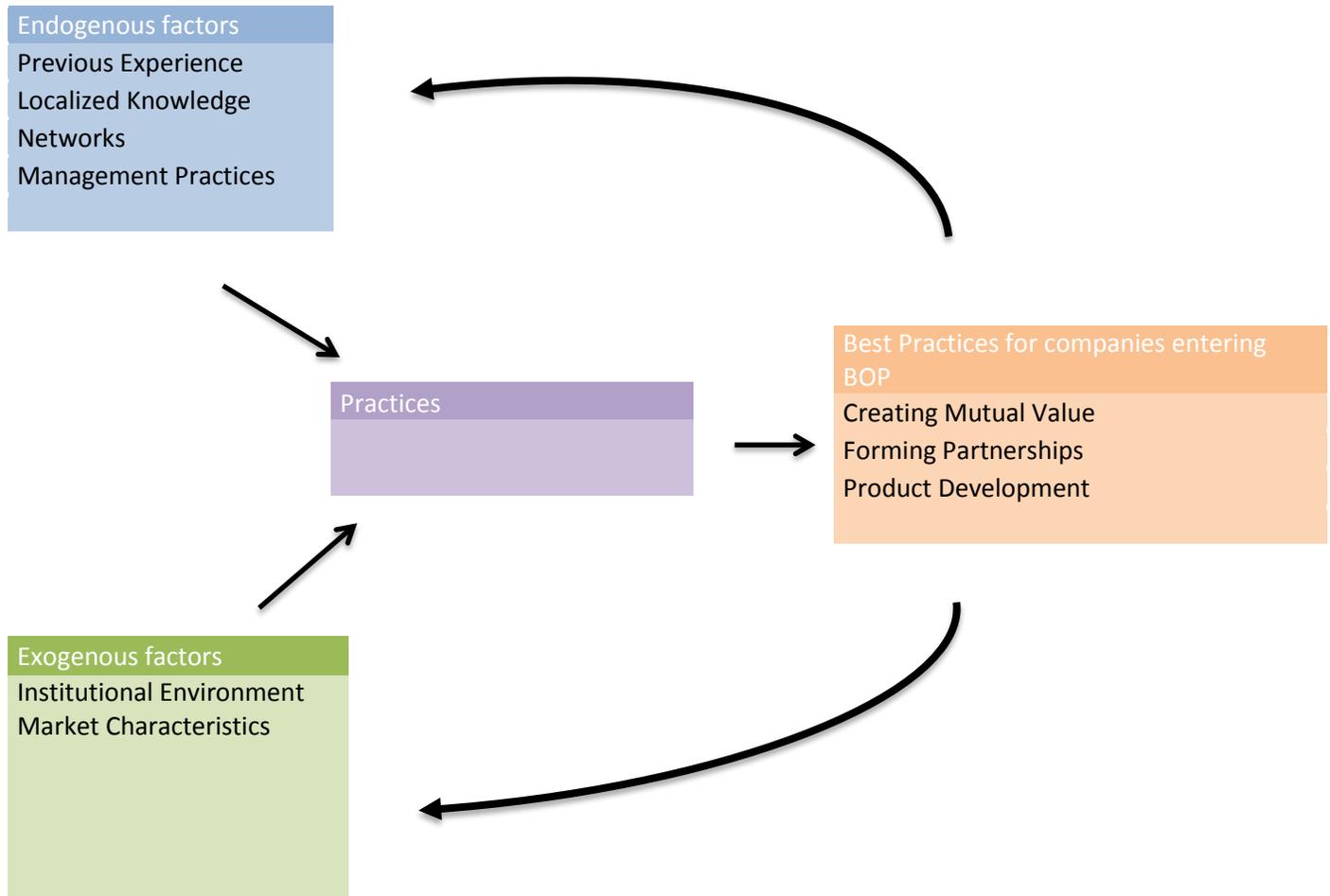


Figure 3: Research model

The best practices can be applied on the water purification systems. With local selling points mutual value can be created, with partnerships the BOP market can be reached easier, and with product development the water purification systems can be adapted well to the needs of the BOP market.

3.4 Research Instruments

The research question will be answered by conducting semi structured interviews. The reason why this sort of research is chosen, and what it exactly involves will be described below.

The ways within research to collect data are often summarized under qualitative research or quantitative research (Saunders et al., 2008). Qualitative methods are often used to understand processes, while quantitative methods are often used to validate models (Palinkas, Aarons, Horwitz, Chamberlain, Hurlburt, & Landsverk, 2011). In this study we have chosen for qualitative methods, as we want to gain insights about the topic BOP. The term qualitative research refers to social research based on field observations that are analyzed without statistics. It always takes place in the field, that is, wherever the subjects normally conduct their activities (Dooley, 2001). Conducting qualitative research is commonly used in research and is applicable to many research questions. (Barriball & While, 1994).

Researchers use interviews for various purposes. Harrell and Bradley (2009) gave the two most important ones. Firstly, they can be used as primary data gathering method to collect information from individuals about their own practices, beliefs, or opinions. They can be used to gather information on past or present behaviors or experiences. Secondly, interviews can be used to gather background information or to tap into the expert knowledge of an individual. For instance, interviewing a subject-matter expert on a new policy.

Semi-structured interviews belong to the qualitative methods. To get a good understanding of the subject, this will be discussed first. It consists of a variance of methods, like interviews, observation and field notes (Shadish, Cook, & Campbell, 2002). The study was executed by conducting semi-structured interviews. In semi-structured interviewing, a guide is used with questions and topics that must be covered. The interviewer has some discretion about the order in which questions are asked, but the questions are standardized, and probes may be provided to ensure that the researcher cover the correct material (Harrell & Bradley, 2009). Semi-structured interview is perhaps the most used 'pluralist midway compromise'. It offers respondents a chance to elaborate on their fixed-choice answers that hard, comparable and rich, meaningful data can ensue. It collects detailed information in a style that is somewhat conversational. It is often used when the researcher wants to delve deeply into a topic and to understand thoroughly the answers provided (Dooley, 2001).

In semi-structured interviews the researcher will have a list of questions to be covered, although these may vary from interview to interview. This means that some questions in particular may be omitted, given a specific organizational context that is encountered in relation to the research topic. The order may also be varied depending on the flow of the conversation. On the other hand, additional questions may be required to explore the research question and objectives given the nature of events within particular organizations. The nature of the questions and the ensuing discussion mean that data will be recorded by audio-recording the conversation or perhaps note taking (Saunders et al., 2008).

The semi-structured interview not only gives interviewers some choice in the wording to each question, but also in the use of probes (Hutchinson & Skodol-Wilson, 1992). Probes elicit additional information or

clarify responses. It maximizes the potential for interactive opportunities between the respondent and the interviewer. This helps to establish a sense of rapport and reduces the risks of socially desirable answers (Patton, 1990). The standard probes are neutral and elicit further information without biasing the respondent's answer (Harrell & Bradley, 2009).

An overview of the main themes and questions of the semi-structured interviews is included in appendix 2. The validity and reliability of the interviews is warranted by careful preparation and feedback from the respondents. As soon as an appointment was made for an interview, the participant was provided with an overview of the main questions and themes. In addition, during the interview process the participant was informed about the research procedure and his or her rights. Because there were interviewees who wanted to be treated anonymously, decided is to keep all interviewees anonymously.

3.5 Method of Analysis

The semi-structured interviews were held with one subject at a time, and have been recorded in full. Afterwards, these recording have been transcribed. In addition, during the interview notes were made. These memos recorded anything that attracted attention. The transcripts are read through and notes were made throughout the reading, to come up with on general themes within the transcripts. The aim of this is to become immersed in the data (Burnard, 1991). Headings were written down to describe all aspects of the content and a final list of categories was made. Because half of the interviewees is a representative of an NGO, it is fairly obvious that the heading 'Forming Partnerships' is quite extensive. There was much knowledge about this subject present. To support and clarify the interpretations, quotes are being used. Ultimately, the way of analyzing the data should contribute to clear conclusions that answer the research question.

4. Results

After having explained the method of gathering all the necessary empirical data, the results of this data will be presented in this section. As mentioned before, most of the data is retrieved from semi-structured interviews with representatives of NGOs and experts of the subject BOP. In addition, one meeting has been observed to complete the data. The subjects covered have been discussed previously in the literature review. These subjects include the BOP market, the drinking water market at the BOP, creating mutual value, forming partnerships, and local product development. The interviews are transcribed and can be found in the appendix. Quotes are being used to support and clarify the interpretations. Based on these results, a conclusion can be drawn for this study.

4.1 The BOP Market

All interviewees agree that doing business with the BOP has its difficulties for companies from developed countries. The institutional environment and the market characteristics are very different

which means that companies have to deal with new situations. The interviewee of BOPinc describes doing business with the BOP as follows:

BOPinc: *“The fun of the BOP market is that you will be challenged to the ultimate. You are doing it from a piece of entrepreneurship. You have to be touched. But an entrepreneur must by definition be touched. Good entrepreneurs are always driven, they possess passion.”*

Because of the big challenges at the BOP, the financial risks are high. This is mainly the reason why the Dutch business sector is reluctant to invest. The interviewee of BOPinc continues:

BOPinc: *“The Dutch business sector has little money to invest. The biggest problem in the Netherlands is that we have many small and medium sized companies which are simply very reluctant to invest and often the reason for this is not a lack of knowledge or understanding but simply the lack of focus.”*

However, companies that can develop a business model that is appropriate for the BOP can become very successful companies. Interviewee ISS expects that in the future new, large middle classes will arise in the world. Probably, the new generation in Europe and Northern-America will be less rich than the previous one, and emerging economies like Brazil, China, South Africa, and India will grow. Therefore, a new business model needs to be created that considers the large medium segmentation. Instead of large volumes with low added value, the production in the future should be easily adjustable. Businesses should take into account different preferences of countries. This means that the market becomes a more diverse market, which will be larger as well. When companies are focused on the specific needs of the BOP, then these companies are well prepared for the upcoming large middle classes.

ISS: *“You could say that if you do not accept the challenge, you are ultimately doomed to fail. I can say that I think we now live in a transition period, if you want to see it. My expectation is that those companies who succeed in developing a business model that takes into account the specific needs of various customers are going to be the success stories of the future.”*

In sum, the BOP market is a very challenging market. This is mainly due to the financial risks that companies encounter. Nevertheless, because of the changing world economy it could be wise to focus on the BOP market. Adjusting services and products to the specific needs of various customers becomes more and more important. By focusing on the BOP market, companies can be well prepared for that.

4.2 The Drinking Water Market at the BOP

As already stated in the introduction, the global drinking water problem is immense with an estimated 2.1 billion poor people still lack access to safe water WHO and UNICEF (2012). Seven interviewees have particular insights in the drinking water market at the BOP and they all conclude that is not easy to serve this market with a solar based water purification system. There are several problems that arise. First of all it is a big problem to get insights of the context. As the BOPinc interviewee mentions: *“You cannot go to a market analysis agency and acquire the political, economic, social, technological insights of a country.”* This makes it very difficult for a company to identify what is exactly the target group for the product. Interviewee TNO has an interesting point of view on this regarding the drinking water market:

TNO: *“At the BOP, where the people have practically no money to spend, there are two situations. You either have bad drinking water and you die, or you have good drinking water and there is nothing to worry about. And what happens then? Customers who really need clean drinking water are dead, which means they are no customers. Those who have clean drinking water are not interested.”*

Thereby, it is important that the local people at the BOP are getting aware of the importance of clean drinking water. Eventually it will have effect on their health and productivity. One interviewee argues that *“because of the contaminated water, people are ill and are weakened consequently, but these people have learned to live with it. It is questionable whether people give priority to clean drinking water the way they should (TNO).”* Other interviewees agree with this statement. However, they state that not only the people at the BOP are conscious of the poor eating and drinking habits.

Cordaid: *“You can say ‘yes there is arsenic in this water’, but arsenic is a slow killer. It is not like I drink it and I directly get sick. I mean only if people drink it for 30 years, it is bad for their health. But look around you, how many people smoke, although they realize that it is harmful?”*

Additionally, another interviewee who has experience with the drinking water market argues:

Aqua for All: *“Social return on investment seems very attractive, but people need awareness that this is the case. Humans often do not act rational. ‘There are more things we are getting ill from.’ People are only limited susceptible for the health message. Here in the Western World we still eat fast-food and we smoke cigarettes. We get accustomed to it.”*

To make people aware of the positive influence of clean drinking water can be done in several ways. The interviewee of Cordaid states: *“Everyone needs to be aware how bad their current drinking water is, by dropping a strong campaign.”* For small corporations, it can be difficult to drop a strong campaign because they do not work with a large budget. Therefore, the interviewee of Aqua for All suggested it is possible for multiple corporations and NGOs to start a campaign for healthy water in general. In this way, more interests are represented. However, one NGO is reserved with marketing campaigns:

ZOA: *“People need to understand that healthy drinking water is good for you. But it will not work if it is recalled against them every day. Putting up posters does not work either. That does not have the right effect, just like the commercials of the government in The Netherlands. At some point, you have heard it so often that you will remember it, but is it changing your behavior? Not really. Many posters are often hung around wells, but I have never seen it really work.”*

Instead of marketing campaigns, Interviewee ZOA has the opinion that conversations are taking place.

ZOA: *“I have seen it work when real conversations have taken place with the people. If you convince a few people in clusters, then they will convince the rest of the group in their turn. Repetition is important, start conversations with people and ask them questions.”*

Another way of reaching the local people and show them importance of healthy drinking water is by making the product aspirational and modern.

Aqua for All: *"You should not only look at the rationale, but you should make the product and the packing attractive. Make it aspirational and modern. For example look at Unilever, how they are doing it with soap. People are starting to believe in it, and adapt their own lifestyle to it."*

Cordaid: *"Sometimes you have to be aware, and that mistake is often made, that people are quite willing to pay for comfort. Amongst others, if you give the person a high standing. That is just something the African and Latino are willing to pay for."*

In the extension of creating a new lifestyle for people and to let people be proud of their water system, it is important not to give the product away for free:

DSM: *"You can choose to sell products or you can choose to give them away for free. We thought about it ourselves. When you give products away for free, it gives a different relation between the user and the object. If he paid for it himself, he is far more involved with it, and he wants the product to keep on working."*

Focus on Vision: *"You should not just give away something. Even if they only give a dime for it. You have to give people their self-esteem, the pride that they have purchased something. You will only be careful if it costs you your own money. It will realize you the effort it costs."*

It is notable that during the interviews many interviewees emphasized that only thinking of selling the product, also called product delivery, is not enough for making a project a success at the BOP. It is important to have a solid business model with attention paid to 'after-sales'. When an organization is able to produce locally the simple equipment, and the right resources are available, then still the company needs to be assisted by an organization that can provide spare parts. It is important that there is an organization that ensures that the products that are on the market can be used permanently. This needs to be organized well. Without specifically asked to this subject, interviewees came up with examples:

DSM: *"We have seen with our 'Water for Life' project that at the moment there are no spare parts available and no one can tell you how to repair, then the device stops being used. At that moment they demolish the device, and will use the separate components for something else. The people from our organization noticed that in many places the devices were no longer used the way they were originally intended for. That is actually the reason why our water project has faltered."*

ZOA: *"We have the experience with water filters in Cambodia that when you share a series of water filters, they will not be replaced after a year because they are not available anymore. So we quit with this. We now don't distribute anything that is not locally replaceable."*

Two other interviewees emphasize the importance of maintenance as well.

TNO: *"Such a water system, for me that seems way too complicated. After 6 months such a thing is broken and there is no one who knows how this thing works, so it is not going to be repaired, there is no back up. The control of the system can be easy and understandable, but the maintenance is very difficult."*

You need to have a certain capacity in the local society, which understands what you bring to them as an outsider.”

Care: *“The challenge is that you set up a system where people in remote areas can keep contact with suppliers and people for maintenance, service centers so to speak. That is actually the greatest difficulty, how do you ensure that you have a sustainable system design where suppliers can serve the people in remote areas. I honestly do not have a direct answer.”*

Summarizing, interviewees agree that it is difficult to serve the drinking water market. The insights of the context are missing, which makes it difficult to identify what exactly the target group for the product is. Another difficulty is that people at the BOP are insufficient aware of the importance of clean drinking water. Interviewees come up with different ideas to make people aware. Dropping strong marketing campaigns and start conversations are the options. Another way to reach the BOP is to make the product aspirational and modern. To get people really involved with the product it is important to not give the product away for free. During the interviews, it was many times emphasized to pay attention to the after-sales. To make water purification a success on the long term, maintenance and replacement of products need to be available.

4.3 Creating Mutual Value

Mutual value arises when a synergistic connection is created between business strategy and poverty alleviation, and all interviewees (N=11) agree that this is important. They think that this needs to be done by creating employment. As a positive consequence, the network will be enlarged. The product will be better known in the community. The Oxfam interviewee argued that *“local people working for the product can also promote to other people in the community.”* It is a very good way to create goodwill.

Cordaid: *“Because you offer as many people as possible employment, it is the best marketing channel there is. The best marketing channel is the people who are working for you with satisfaction.”*

It is often said that creating mutual value is a prerequisite for being successful at the BOP. Two interviewees stress the importance of creating mutual value:

SNV: *“If you create employment, purchasing power goes up. If purchasing power goes up, you get more customers. Because the purchasing power goes up, the safety is increasing.”*

DSM: *“If you are engaged with this type of projects to help the bottom of the world, when you succeed in creating better life for the local people, then they will develop larger demand patterns. Thereby perhaps they want to purchase your materials and nutrients.”*

When mutual value can be created at the BOP, first it needs to be considered in which way the local people can cooperate with the foreign company. As stated by the Oxfam interviewee: *“It depends on how well people are able to be trained, and what the skills and knowledge of those people are.”*

Nevertheless, it is a misconception to think that people from the BOP are not helpful just because they are less educated in general:

Focus on Vision: *“You can just teach illiterates something. Illiterate does not mean that you are stupid. That is the shame of so-called experts that sometimes people claim to be. They can really make me angry. It is completely dependent on the cradle in which you were born.”*

DSM: *“When it is possible to train people, then you have to train them locally. We usually prefer the principle of 'train the trainer'. Someone tells you how to do everything and that person should send it further into the local organization.”*

In particular Care Nederland, one of the NGOs, believed that it is important for local people to help in the production, and saw for themselves an active role in this in the future. They had the opinion that real jobs should be created so that the local people have money for their living. This could only work when multiple parties collaborate.

Care: *“We think we see a role for us, we can help by organizing curricula, courses, where local people are going to be trained. For most organizations, it is probably not profitable to have an expat in the local country or to set up a unit where their installations will be repaired. We want to have a very close cooperation with several similar organizations. We have knowledge of the local context to be able to offer solutions that help multiple interests. While you serve different interests, you create a sustainable solution. We have looked for solutions and that is something we would gladly think about with other parties.”*

Besides the importance of offering training to local people, it is useful to think of the type of products that need to be produced. In developed economies, many products are made by highly advanced machines that are difficult to work with. It is advisable to make the production process in such a way, that people without much education can work with it.

BOPinc: *“For example a very technological advanced product, it may not work with local people. It may be that the essence of the product works, but it requires action from people, and it requires a procedure to execute.”*

Besides offering training to the local citizens, another solution is to make the product very simple, so it is easy for local people to work with. When you have easy parts to work with, even an illiterate or a blind person can help producing. A good example is Focus on Vision:

Focus on Vision: *“The local people produce our products, or at least assemble them. People do not get very special training, I teach them what they need to know in a morning. This is because the product is so simple to produce. I love the managerial concept of KISS: Keep It Short and Simple. That is one of the few ideas that I embrace. To keep the production short is not always easy, but the production procedure definitely needs to be Simple.”*

In conclusion, all interviewees agree that it is important for a company to create mutual value. Often it is said that it is a prerequisite for being successful. This needs to be done by creating employment. Even

though people from the BOP are less educated in general, it is a misconception to think that they are not useful. To give them training is a possibility, even as letting them work with technical simple products.

4.4. Forming Partnerships

Companies from developed countries entering the BOP can cooperate with partners such as local NGOs, international NGOs, local businesses, embassies and consulates. Because it came clear that local NGOs and internationals cannot be put on the same level, a distinction is made between them. It is possible that successful BOP strategies rely heavily on them. As one interviewee states it:

BOPinc: *“Partnerships is not a goal on itself. It is a tool to achieve something. You cover the things that you normally cannot cover yourself. But that is nothing new for a company.”*

When business is going to be done with the BOP, different types of partners are needed throughout the process. From idea to implementation, during the whole journey it must be examined what is needed. The interviewee of BOPinc refers to this as making use of transformational partnerships.

BOPinc: *“Transformational partnerships is an important aspect of BOP. It is not self-evident that partners that are important at the start are still needed at the end. In the beginning, you may need partners that give you the roots, the community, the engagement. They can give you BOP insights because reports of particular countries are not present. When my product is introduced, when I have put down my brand a little, when I have built relationships with communities, then some partners are no longer needed. Then I need to form other partnerships that I may already have formed during the ride. For example, I need to deal more with local governments, to manage and maintain licenses in the local context.”*

Next, four different partnerships will be discussed: partnership with local NGOs, partnership with local businesses, partnership with international NGOs, and other partnerships.

a. Partnership with Local NGOs

Forming a partnership with local NGOs is considered important because local NGOs possess localized knowledge and they often have an extensive network. On the other hand, it is difficult for businesses from developed economies to cooperate with local NGOs. It is hard to communicate on the same level.

TNO: *“When you talk about NGOs, I think you definitely need to make a dichotomy between locally formed NGOs and international NGOs. In my work I also had to cope with many local Indian NGOs, but they work in a very different way than for example the Dutch foundation SNV.”*

Another aspect to keep in mind is that it is very well possible that the distances between the contacts in a certain country and the target group is to some respects very big, perhaps even bigger than from people outside the country. This makes it hard to be informed about the target group.

ISS: *“For example, someone who is born in Ghana, but comes from a wealthy middle class, has actually just as little contact with the actual target group, as let’s say a benevolent student who cannot imagine very well how it is like to live in rural areas in Ghana. From the U.S. or Europe it is often recommended to*

start a partnership with someone from the local country. However, it is not sure if that person really belongs to that target group.”

The Interviewee of ZOA underlined this:

ZOA: *“Let the people who provide feedback be real people from the ground. Because soon you will get into contact with people from organizations, who are highly educated, who are urban dwellers from the better neighborhoods. It is likely that they live there for a long time and that they are aristocrat, or that they just started to live there and are nouveau riche, and always look down on the rest.”*

The language could be a problem when finding local partners as well. Very often, the ‘people from the ground’ are not well educated. As a consequence they do not speak English very well. The interviewee of ZOA states:

ZOA: *“It is very difficult to find someone who can understand English, but is also open minded and open to people from poor neighborhoods as equal to consider. In the translation, it very often goes wrong. People express their own opinions because you do not speak the local language, and all kinds of assumptions and prejudices come up.”*

By forming partnerships with local NGOs, but also with other partnerships, it could be advisable to have more sources. That is important because organizations are very dependent on how their local partners see the country where they belong to. By having more partners, a more neutral perspective of the developing country is shaped.

ISS: *“You have to remember that you are very dependent on how your partner sees the country where he or she belongs to. For example, if you ask Geert Wilders or Diederik Samsom (both members of the Dutch parliament) how The Netherlands looks like, what the demands are, what are our challenges are, and how our institutional environments look like, you obviously get two very different stories. Regarding partnerships, you see that many international companies have a very limited view on the partners where they want to cooperate with in a certain country.”*

b. Partnership with Local Businesses

When starting a partnership with local businesses, it is important to realize that countries with a BOP have different business cultures. In developed countries, it is usual to think forward, to plan ahead for multiple years. The mindset of people at the BOP is different: they frequently think forward for the maximum of two years.

TNO: *“To what extent is doing such business in such countries focused on sustainability? Here in the Netherlands we plan forward how the company should look like in 10 years. But in BOP countries people can calmly say it’s good if I just have living for the coming two years. A very short view so to speak. Perhaps it is a good business plan when living in such countries, but their timeline is probably different than ours. I talk about this with some experience.”*

Furthermore, it is necessary that a local partner is reliable. A first thing to do is to check the financial capability. As the interviewee of DSM argues:

DSM: *“When you have a potential manufacturer for your device, you must find out if he is actually able to do what you expect from him. Does he have financial capabilities, can he get assistance from other resources that help him to set up his business. If a business partner is found you can give him many responsibilities, but first he must have proven to be reliable.”*

c. Partnership with International NGO's

Most of the interviewees agree that it is recommended for companies from developed economies to cooperate with international NGOs. Networking in particular was often referred to as being very important. As the interviewee of Oxfam states: *“Networking is important because it creates support for a specific project, it acquires knowledge, and it gives insights into opportunities, risks, and limitations.”* In addition, international NGOs can very well contribute to the lack of experience that many companies have. All NGOs spoken to are active at the BOP for many years and all of them are interested to look for new opportunities.

DSM: *“In order to gain experience, you often need the help of other NGOs, such as Oxfam Novib. They have lots of local knowledge. Both Greenpeace and IUCN are NGOs that are very well aware of local needs too. They provide us information and help us with good advice. They have knowledge and if you are working with them and can help them too, then you strike two birds with one stone I think.”*

Only one Dutch organization has bad experiences regarding potential partnerships with NGOs:

Focus on Vision: *“NGOs are not open to invest in inventions and the like. Directors are richly paid and are busier with themselves. In my quest for distribution, I could not cooperate with the established order. They should remove their blinkers. They are only busy to maintain themselves. So I do not believe in partnerships.”*

A reason for this negative critic could very well be lack of experiences of NGOs dealing with private organizations. Cooperation of companies with NGOs is only going on for the last few years. An issue can be the different interests.

Oxfam: *“We are still very much searching, with which companies we can do something. Sometimes we are approached by a company and sometimes we have to search ourselves. However, the question is what the shared interests are. A company has a commercial interest and we have a development interest.”*

However, NGOs realize that public-private partnerships are interesting in the future. As one NGO argues: *“The activities that NGOs can do are limited. You need the development of the economy to alleviate people from poverty. NGOs cannot do it alone.”*(Care). As a consequence attitudes of NGOs and companies need to change. Three NGOs share this opinion:

Care: *“Personally, I think NGOs still have a rusty way of thinking about partnerships with ventures. As if all companies have bad intentions when forming partnerships with NGOs. Their attitude, their own culture has to change in a certain way. In my point of view, there is nothing wrong with collaborations with companies, in fact it is strongly needed. But also private organizations need to make some effort to understand where NGOs are coming from and how they think.”*

ZOA: *“The different interests of companies and NGOs do not bite each other. As long as the different organizations accept each other as they are. We are not the advertising agency of the company, and that we should not be that. We are concerned with a goal and the company wants to make a profit by contributing to the same goal. I see no problem in this. I have no ethical problems of cooperating with them either. Focused on the broader goal we must combine our forces.”*

Oxfam: *“Only since a few years we are engaged in with the field of business. Previously we were mainly involved with them to see what the business is not doing well. Do they adhere to environmental regulations and labor rights? Are they doing business with small farmers in a responsible way? How do they behave in countries where regulations are less well regulated? We acted more like a watchdog, checking how companies behave. Gradually it shifted a bit. We now look for ways how to cooperate with companies. That is the case now for about two years.”*

An important aspect to take into account is how public-private partnerships should be created. Perhaps a due diligence can be one of the options. Since NGOs do not have much experience with partnerships, it should be useful to think of which arrangements should be made.

Care: *“Something that is bothering me a bit and where we have to look for is how these partnerships can be created. Primarily when looking at the financial side. If organizations see us primarily as being customers, which means that we buy from them, then it does not make very much sense. The risk should not only be for the NGO. What kind of arrangements do you need to make? I think that is something that many NGOs need to know. And also for businesses I think that is a challenge, how to shape the cooperation.”*

Only Cordaid comes up with some sort of solution for this.

Cordaid: *“When a smart solution is worked out within a public private social partnership, there are three important points of interest. There needs to be a good governance structure, the solution needs to be financially sustainable, and the solutions need to be innovative, from 2012.”*

Looking more into detail to the three points of interest:

1. Cordaid elaborates the governance structure with law firms. Questions that need to be answered are: What will be the legal personality? Who collects the money? Who is responsible to whom? What decisions are there between the parties so it will go well? Interviewee Cordaid: “That mistake is often made is that we all believed in the goodness of man, that partnerships always proceed smooth.”

2. Financially sustainable means, that the business model will earn itself back. Eventually you need enough money to have the maintenance in good order, and to scale for a greater market. Interviewee Cordaid: *“It is not a sustainable solution when you need to invest developing money in a project constantly.”*
3. Innovative solutions from 2012 are important for the ecological sustainability. Interviewee Cordaid: *“Think of inclusive innovation, that basically means high tech, low cost innovation.”*

d. Other Partnerships

The data that was gathered from the interviews indicated that forming a partnership with the local government is especially important with respect to the local institutional environment. The local government can provide information, but they also need to be informed. Stated by the interviewee of Oxfam: *“The local government should always be involved. They are needed for registration, and to tell you what to do. Otherwise the local government feels being ignored.”* An explanation from another NGO:

ZOA: *“The local government has local knowledge, but is also useful for other affairs. As soon as you set up infrastructure for instance, they need to manage it because they have the responsibility. They have certain standards. We can set up something fun, but it should be acceptable and manageable.”*

It can be difficult in BOP countries to get into contact with the local government. An expert interviewee underlines that local governments in BOP countries work different than in developed economies.

TNO: *“When you start a business in the Netherlands, then you go to the municipality and you ask for a permit. However, in the BOP, it works totally different. For example in India, there is no good governance. It is difficult to figure out who to talk to. When you are an entrepreneur in India, the government is virtually invisible for you. You cannot have much faith in them.”*

Therefore, cooperating embassies and consulates can help companies. The interviewee of Oxfam recommends this: *“To get involved with the local government, the embassy can help. Maybe not financially, but with their network they can give information what is going on in the country.”* Another explanation why cooperating with embassies and consulates is recommended:

DSM: *“Use the embassies and consulates a lot. They have knowledge available about the local situation and the local markets. They possess networks that can help you to exploit local contacts. That is very important.”*

To sum up, companies from developed countries entering the BOP can form partnerships with local NGOs, international NGOs, local businesses, embassies, and consulates. Throughout the process, it is possible that different types of partners are needed. Therefore, transformational partnerships are important when doing business at the BOP. When forming partnerships it is advisable to possess multiple sources, to get a more neutral perspective on how the developing country is shaped. A

partnership with a local NGO is considered to be important because of their local knowledge and for their network. A disadvantage can be that the distances between the contacts in a certain country and the target group can be very big. Thereby, the different language can be a problem as well. When forming a partnership with a local business, attention needs to be paid on the different business culture. Instead of planning ahead multiple years, at the BOP businesses do not look forward further than two years. International NGOs are important for their network and their experience with the BOP. All interviewed NGOs are interested to look with companies for new opportunities. Public-private partnership have not taken place often, therefore a difficulty could be the lack of experience of the organizations. Interviewees stated that the attitudes of both NGOs and companies need to change. When creating a partnership, points of interest are the governance structure, the financial sustainability and the innovative solutions. Forming partnerships with the local government is especially important with respect to the local institutional environment. Sometimes it can be difficult in BOP countries to get into contact with the local government. Embassies and consulates can help companies with getting into contact.

4.5 Local Product Development

To develop a thorough understanding of the unique characteristics of subsistence consumers and the marketplace, companies could consider developing products (partly) locally. As interviewee Cordaid states: *“the more you develop products locally, the stronger your product.”* Companies want to design products that meet local needs. The interviewee of ISS states: *“On different places the local needs often vary.”* Nevertheless, in practice it appears that companies are not always willing to develop products locally:

DSM: *“For the BOP market local product development is less obvious. The solutions that we have devised are sometimes found regionally, but often we devise in consultation with others. If you mean with local product development that new product applications are developed in a certain country, than I can say that does not happen often. Although it may have as advantage that you are closer to the buyers’ market.”*

One of the reasons is that especially for large organizations it is difficult to give sub offices enough control. For these organizations it is difficult to create bilateral flows of information to a large extent. Mostly it is more a dependency relationship.

ISS: *“This is a tension that you see in practice very often. Imagine that a multinational is active in about 80 countries. When the main office makes itself vulnerable and is easily influenced to operate differently, then of course it becomes very complicated. Many times on those main offices, they see an employee from Ghana who has new ideas, and this guy tells enthusiastically about it to the main office. The main office says: ‘Yes, but yesterday there was someone from China with new ideas and tomorrow someone from Peru will come’. They cannot start with implementing ideas from sub offices, they need to focus on the central strategy.”*

NGOs think that the reason why local product development is not part of many organizations is that specific knowledge is not available at the BOP. The Interviewee of Oxfam argues: *“It depends on the complexity of the product.”*

Care: *“Technological development and knowledge, if you really talk about the lowest level, is not available. If you talk about the development of technological systems, there is most of the time simply no knowledge. They can only give you information about their needs and what the requirements are, and why. And that information you can use then to improve your system where technological knowledge is, and where the resources are there”.*

Instead of local product development, three interviewees suggest that starting a pilot in developing countries could be a good idea to see if a product can become successful. As the interviewee BOPinc states: *“A pilot can be interesting, because everyone wants proof. Proof, in whatever form. If I am doing a big investment, I want to see demonstrated that it works. A good plan.”*

Oxfam: *“Always do a pilot, try your product on a small scale. Are people happy, how is it going with maintenance? Is there competition?”*

The NGO Care recommends conducting a pilot too. They even see an active role for themselves:

Care: *“We may of course think along if certain technologies pilots in certain areas.”*

In summary, local product development is considered to be important because local needs can be met better. However, in practice it appears that companies are not willing to develop products locally. It can be difficult for the main office to give sub offices more control, because for the main office it is important to follow the central strategy. Besides local product development, it could be useful to conduct pilots. It gives an indication if a product or service will become successful.

5. Conclusion and Discussion

This thesis examined what possibly best practices for solar based water purification systems could be when entering the BOP in emerging economies. Based on the literature and the exogenous and endogenous factors, three best practices are derived, namely creating mutual value, forming local partnerships, and local product development. The aim of the study was to provide insights into the characteristics of these best practices, what the degree of importance of these best practices is, and how these best practices possibly can be combined. Furthermore, the relationship needed to be found between the best practices, the exogenous factors and endogenous factors. In order to achieve the stated objectives, the central research question of this thesis has been formulated:

What are the best practices for solar based water purifications systems when entering the BOP in emerging economies?

This chapter starts off with a conclusion that is drawn based on the results of the interviews. Consequently, the next paragraph discusses these results.

5.1 Conclusion

All interviewees agree that doing business with the BOP has its difficulties for companies from developed countries. Since the BOP market is a very challenging BOP market, companies are reserved to enter the market because of the financial risks. However, it has been argued that it could become a big advantage to do business in the BOP, since the world economy is changing rapidly, and it is likely that a large middle class will emerge. Because of the changing world economy, with consequently more demand for adjusted services and products, companies that are active on the BOP can have a head start and can become the success stories of the future. Probably many companies are not aware of this advantage, because it is not mentioned often.

Regarding the drinking water market, where this study is focusing on, interviewees conclude that it is difficult to serve a target group of water purification systems, because the insights of the context are missing, and people at the BOP are insufficiently aware of the importance of clean drinking water. By dropping strong marketing campaigns, making the product aspirational and modern companies could better serve the local people.

The best practice creating mutual value needs to be attained by creating employment. From past experiences, interviewees argue that it is a misconception to think that people from the BOP are not helpful because they are less educated. Giving local training or letting them work with technical simple products are options to enhance the employment rate of people at the BOP. Hopefully, companies entering the BOP are going to make use of local people instead of working with expats.

For companies there are possibilities to form partnerships with local NGOs, international NGOs, local businesses, embassies, and consulates. The interviews made clear that it is conceivable that different

types of partners are needed throughout the process. Multiple sources are recommended to get a more neutral perspective on how the developing country is shaped.

It is argued that local product development is important because local needs can be met better. As a matter of fact, in practice companies are not willing to develop products locally. For big organizations, the central strategy of the main office is too important. Besides local product development it could be useful to conduct pilots. It gives an indication if a product or service will become successful.

5.2 Discussion

In this section, the aforementioned findings will be discussed. This will be done by addressing theoretical and practical implications.

Theoretical Implications

Degree of Importance of the Best Practices

The first theoretical implication is the degree of importance of the three best practices. In the studied literature, all three best practices were considered important when doing business with the BOP. Authors mentioned several reasons to underline the importance. A company needs to create mutual value, so local poverty will be alleviated and ventures will generate greater economic returns. (London et al. 2010). The scholars London and Hart (2004) argue that strategies of successful BOP market entries rely heavily on partnerships, in particular because NGOs have a lot of knowledge about local social issues. Local product development is important because firms need to develop a thorough understanding of the unique characteristics of subsistence consumers and the marketplaces where they live (Weidner, Rosa, & Viswanathan, 2010).

When looking at our results from the interviews, it can be concluded that the interviewees do not attach the same degree of importance to the three best practices. The interviewees confirm the importance of mutual value and forming partnerships and are acquainted with benefits from the literature. However, the best practice local product developing is considered less important. In practice, it appears that organizations are not always willing to develop products locally. Reasons are the focus on the central strategy of companies and that the specific knowledge is not available at the BOP. Interviewees argued that technological development and knowledge are not available at the lowest level. Instead, conducting a pilot is recommended when doing business at the BOP. It gives the producer an indication whether a product or service will become successful in a specific BOP country.

Combination of Best Practices

The findings that derived from the conducted interviews show that best practices can be combined to give the best result. To start, the best practices mutual value and forming partnerships can be combined. When a company wants to create mutual value, it can be very wise to create that by forming partnerships with international NGOs. It is usually not profitable for companies to set up a unit where installations need to be repaired by local people. However, NGOs have close cooperation with several

similar organizations and have knowledge of the local context to be able to offer solutions that help multiple interests. Another best practices combination is local product development and forming partnerships. As said before, especially conducting a pilot is recommended when doing business at the BOP. It gives the producer an indication whether a product or service will become successful in a specific BOP country. From our study it appeared that NGOs see an active role for themselves in this. They can think along if certain technologies work, and can help with conducting pilots.

Nuances

Our findings suggest that the existing literature about doing business at the BOP misses some of its nuances. Regarding mutual value we found that two suggestions were given how the skills can be upgraded and the productivity can be improved. Firstly, many times it was indicated it is very well possible that people are being trained. Teaching illiterates is a good option, which can be done with the concept 'training the trainer'. Secondly, it is recommended to avoid working with technological advanced products, but instead keeping the working process simple. In this way, the local people do not need a comprehensive training program, but can be learned what they need to know in a morning. The use of the managerial concept of KISS is important: Keep it Short and Simple.

Regarding the best practice forming partnerships, we found that it is useful to make a distinction between local NGOs and international NGOs. Local NGOs possess localized knowledge and often have an extensive network, but a disadvantage is that it is difficult to communicate with these NGOs on the same level, because of the difference in culture. International NGOs have as a particular advantage that they can contribute to the lack of experience that many companies have with the BOP. Thereby, scholars have emphasized that the number of alliances between companies and NGOs that are being formed with the purpose of recognizing and exploiting opportunities in undeveloped markets is increasing (Webb et al., 2010). Our results confirm this statement, however international NGOs still do not have much experience with partnerships. These NGOs still look for ways how to cooperate with companies. An important aspect to take into account is how public-private partnerships should be created. The alliances are still in its infancy.

Exogenous and Endogenous Factors

The literature made clear that when a company is going to do business at the BOP, there are three best practices that benefit the business when it lacks knowledge of the exogenous factors, or insufficiently possesses the endogenous factors. Our results show that in practice, the best practices benefit different exogenous factors.

Regarding the best practice mutual value, this can particularly benefit the endogenous factors network. When employment is created, the network will be enlarged. The best practice forming partnerships is more versatile. Local NGOs are important because they possess localized knowledge and they often have an extensive network. International NGOs can very well contribute to the lack of experience that many companies have. The local government is especially important for the institutional environment. The local government can provide information about it, but they also need to be involved to succeed in registration of the company. The findings from the literature study about local product development

confirm the findings of the interviews. Local product development and also conducting pilots in the BOP is important to develop a better understanding of the market characteristics. In the different BOP markets the local needs vary often, and by implementing this best practice the knowledge of the market characteristics will improve.

Practical Implications

Local people at the BOP need to become aware of the importance of clean drinking water. Eventually it will have an effect on their health and productivity, and the social return on investment is high. However, we found out that it is questionable whether people give priority to clean drinking water the way they should. To make people aware of the positive influence of clean drinking water can be done in several ways. Firstly, strong campaigns are important. Multiple corporations and NGOs should start a campaign for healthy water in general. In this way, more interests are represented. Thereby, having extensive conversations with local people is important to convince them. When a few people in clusters are convinced, they will convince the rest of the group in their turn. Informal institutions are very important at the BOP. Next, reaching the local people with a water purification system can be done by making the product aspirational and modern. We found out that when local people are starting to believe in a new product, they adapt their own lifestyle to it.

When companies decide to do business with the BOP for the first time, it is advisable that they start forming partnerships. With which parties these partnerships need to be formed depends on which knowledge it needs of the exogenous factors, and which endogenous factors it still needs to have. When the decision is going to be made to form a partnership with an NGO, there are things to keep in mind. As said before, public-private partnerships are still in its infancy. These partnerships are only created recently, and both the public and private sector lack experience with this. Only one NGO could give useful advice when starting a public-private partnership. Three points of interest were given. First, elaborate the governance structure with law firms. Second, the business model used for partnership needs to be financially sustainable. Third, the ideas for the business model need to be innovative, from 2012. Innovative solutions from 2012 are important for ecological sustainability.

5.3 Limitations

Due to design choices and circumstances, this study has limitations, as is the case with all studies. These limitations about doing business at the BOP will indicate that there is still enough that is unclear and that could be researched further.

The fact that the sample size of this study contains 6 representatives of NGOs and 5 experts of the topic BOP imposes limits on the statistical validity of this study. The logically following conclusion is that one should be cautious with generalizing outcomes of this study.

Another limitation is that the study is conducted at a certain moment in time. This has as a consequence, that possible changes or trends cannot be discovered. Economic situations and emerging countries are highly subject to change. By conducting a follow-up study, this limitation could be crossed out.

Next, conducting semi-structured interviews can have possible limitations. This way of interviewing is chosen to delve deeply into a topic and to understand thoroughly the answers provided, but it demands a lot from the interviewer. It might be possible that the interpretation of the answers differs from the actual meaning behind them. Thereby, the semi-structured interviews were all recorded. This can have a negative effect on the answers given, perhaps the interviewees did not want to share all their information.

Lastly, this study followed a deductive approach. The specific expectations and the questionnaire were developed based on the literature review. A possible limitation could be that not all literature on the subjects Base of the Pyramid has been used. This could consequently have a negative impact on the continuation of the study. However, because the extensive literatures research this is not a likely scenario. Thereby the interviewees did not indicate missing elements in the research either.

5.4 Suggestions for Future Research

As said by Rivera-Santos and Rufin (2010), no attempt has been made to systematically examine what characteristics of BOP environments lead to specific aspects of BOP business models. To provide a clear insight into this subject, it would be wise to have more research done. It would overcome some of the limitations of this research. Therefore, some suggestions for further research are presented:

1. A first suggestion for further research is to conduct more studies on the subject Western companies entering the BOP and to focus on different units of analysis. Successful companies at the BOP, representatives of local companies and local NGOs could have a different point of view and that can benefit on the current findings. By increasing the units of analysis, the generalizability of the findings would be increased too.
2. Secondly, the institutional environment and market characteristics probably differ widely when comparing BOP countries. To determine the impact of these exogenous factors on market entry for Western companies, it would be valuable to compare the BOP countries on exogenous factors. Hereafter, an analysis could be made why certain companies are successful in particular BOP countries.
3. A third suggestion for further research would be to compare successful Western companies in the BOP on their endogenous factors. It could become clear what the effect is of previous experiences, localized knowledge, networks, and management practices on successful market entry in the BOP.

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Appendix I Interview Protocol

Success factors and barriers for solar based water purifications systems when entering the BOP in emerging economies

Interview protocol for:

- NGOs
- Experts on topic

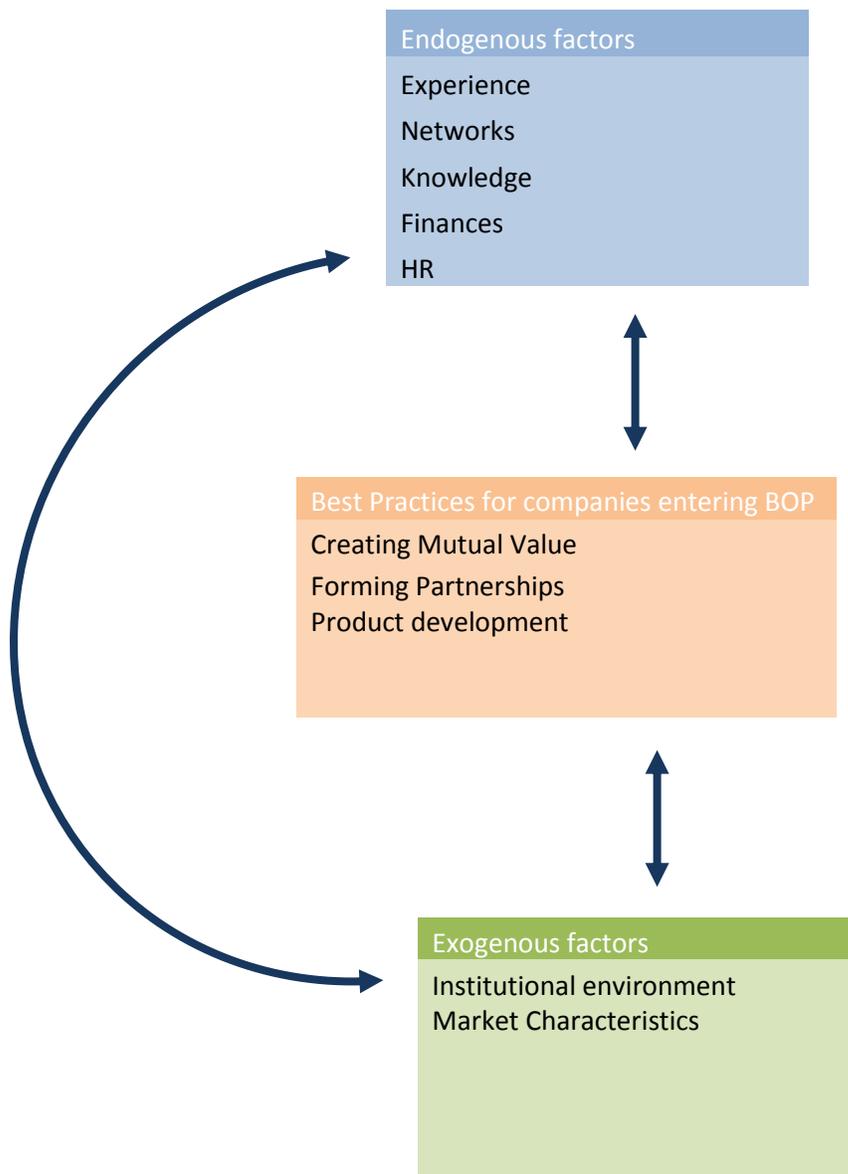


Figure: Research model

Part 1 (Dutch private sector)

Part 1 differs per group of interviewees

- 1. According to my research, this company has had success in doing business with the Base of the Pyramid (BOP). Can you elaborate more on the importance for this company of doing business with the BOP?**
 - *Percentage of turnover*

- 2. Which countries at the BOP dominated for your organization in the last few years and why?**

- 3. Please give a description of the process from deciding to do business in a country with a BOP to actually doing business in that country?**
 - *Reasoning for doing business at the BOP?*

Part 2

- 4. What do you think are the main barriers for foreign companies that want to do business with the BOP, and why?**

For instance:

Market characteristic factors:

The typical characteristics of BOP markets. These can be classified under:

- level of income
- irregularity of BOP incomes
- geographic dispersion.

Institutional factors:

The “rules of the game”, the humanly devised constraints that structure human interaction.

- Formal institutions: legislation, judicial system, economic system
- Informal institutions: societal rules, agreed on behaviors, shared beliefs, shared cognitive maps

5. What factors do you think are determinative for foreign companies for being successful with their business with the BOP, and why?

For instance:

Creating Mutual Value:

Mutual value arises when a synergistic connection is created between business strategy and poverty alleviation.

Forming Partnerships:

Partnerships can be formed with the so called traditional partners such as national governments and large local partners, or with non-traditional partners who include non-profit organizations, community groups, local governments and even village-level governments.

Local Product Development:

Thinking and acting locally to address the specific aspects of subsistence marketplaces and the many differences between different settings.

Part 3

Water Purification Systems

Demands of the market

- What is the situation of clean drinking water in developing countries? How do people in developing countries obtain clean drinking water?
- Is there need for water purification systems? If so, in which countries? Who are in need and what do the needs include? Who are the potential buyers?

Products

- What do you think are the pros and cons of water purification products?

Sale

- How are water purification systems sold in developing countries? Is it different than in developed countries?
- Can you talk about the commercial channels?
- How to reach a potential buyers?

Role of the government

- Does, or should the government play a role in sales (both promotional as hindering)?
- What is the meaning of laws and regulations in developing countries?

Thank you for your participation!