

University of Twente

Partnerships for Base of the Pyramid technology from a SME perspective



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**Partnerships for
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Preface

This thesis completes my master programme in Business Administration at the University of Twente in Enschede. I selected this topic based on a discussion in the course "International Management" on the Base of the Pyramid (BoP). Due to my personal experiences of witnessing poverty during journeys to Brazil and South Africa, I was delighted by the idea of viable business that alleviates poverty. In addition, I have been interested in the downsides of the approach since then.

Even though C.K. Prahalad already triggered the academic BoP debate in the early 2000s, the proposition is still at an early stage and many phenomena have not been researched yet. The existing gaps provided me with the opportunity of an in-depth study on cross-sectional cooperation between small and medium-sized enterprises (SMEs) and non-governmental organizations (NGOs) within the BoP framework.

Looking back on the entire project, I experienced both challenges and valuable experiences. Thus, firstly developing the research topic, secondly getting access to experts and key informants, and finally the assessment of all gathered qualitative data improved my perseverance and analytic skills. Overall, in addition to the entire education programme the master thesis enriched my understanding of science in business administration and business development beyond traditional markets.

During the graduation project several people contributed to the research. Unfortunately, it is not possible to thank everyone by name. Nevertheless, I personally expressed my gratitude to everyone involved in recent months. However, I would like to especially express my thanks in this preface to:

- Both my first and second supervisor Tiago Ratinho and Kasia Zalewska-Kurek. They guided me from the beginning to the end of this project and helped me to keep the focus.
- Huub Ruel, former lecturer of the course "International Management". Thanks for presenting the BoP debate to me. It definitely initiated this master project.
- All interviewees for participating in this research. Sharing your extensive knowledge and experiences with me built the base for this research.

Management summary

This research investigates the characteristics of cooperation between small and medium-sized enterprises (SMEs) and non-governmental organizations (NGOs) within the framework of the Base of the Pyramid (BoP) concept. While the BoP is an increasingly important field in international business, some BoP mechanisms remain under-researched. However, limited attention has been paid to Western SMEs to SME-NGO alliances and their impact on technology for BoP markets. Additionally, only little is known about the influence of SME-NGO tandems on environmental obstacles in BoP markets. Thus, this study seeks to fill in these gaps by answering the main research question: *“How do SME-NGO alliances influence technology and exogenous obstacles?”*

To examine the relations between aforementioned variables, this study employs a qualitative single case study. Data collection was conducted through 12 semi-structured interviews with informants of both SME and NGO backgrounds and by means of several documents and memos. Subsequently, the investigation tests a hypothesized research model which was developed in accordance with existing BoP literature.

As a predominant result, there is no main effect of SME-NGO duos on the design of technology. Co-creation between both actors in order to create BoP products does not regularly take place. Apparently, SMEs are neither interested in co-developing technology with NGOs nor capable of it. Nevertheless, the study revealed that cooperation mitigates some exogenous factors such as corruption or cultural and educational differences. In contrast, governmental obstacles are too dominant to be alleviated by SME-NGO pairs. Despite the abovementioned advantages in relation to environmental conditions, there is an indication that cooperation rarely improves the financial self-sustainability of market initiatives. This study substantiates that Western BoP projects reach profitability only if NGOs finance the initiative. SMEs cover their costs and create revenues for themselves only through subsidies from NGOs or governments. This aspect is in contrast to the BoP concept that market initiatives have to create revenues to sustain themselves.

Beyond those results directly related to the main research question, further features of SME-NGO alliances are revealed. Firstly, SMEs preferably cooperate with NGOs of similar size. Secondly, SME-NGO partnerships are characterized by a funding-buying relationship.

Thirdly, BoP projects enhance the local livelihood of technology applicants for the period that their funds persist. Fourthly, the research sheds light on actors who possess a merged role between enterprises and NGOs. They pursue both financial and philanthropic objectives and are frequently companions of SME-NGO alliances. To this group belong social entrepreneurs as well as social consultants.

Finally, all results are discussed in relation to the existing literature. The discussion rejects some BoP concepts due to being inapplicable to an SME setting, while some are substantiated. Therefore, this study contributes to the academic discourse from an SME perspective.

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List of abbreviations

BoP	Bottom (base) of the pyramid
CC	Corporate Citizenship
CSR	Corporate Social Responsibility
e.g.	Exempli gratia (for instance)
EIP	Embedded Innovation Paradigm
i.e.	id est (that is)
MNC	Multinational Corporation
MPI	Multidimensional Poverty Index
NGO	Non-governmental organization
PPP	Purchasing power parity
RFID	Radio-frequency Identification
R&D	Research and Development
SIP	Structural Innovation Paradigm
SME	Small and medium sized enterprise
ToP	Top of the Pyramid
UN	United Nations
USD	US-Dollar

1 Introduction

1.1 Research background

For decades, governments and non-governmental organizations (NGOs) have tried to eradicate poverty in underdeveloped or developing countries (United Nations Development Programme, 2012). As a result, academic studies on poverty alleviation were mainly focused on the fields of public policy, public administration and development (Karnani, 2007).

Recently, poverty relief has gained an increasing interest from international business researchers. This special attention from business academics was initiated by the US-scholar C.K. Prahalad and his colleagues A.L. Hammond and S.L. Hart in 2002. Prahalad and associates proposed that international companies were capable of alleviating poverty by including people with low income, living in so-called second or third world countries, into their business models. The principal features of the inclusion of low-income segments are conducting profitable business and subsequently enhancing the livelihood of locals. Thus, Prahalad coined the concept of the base of the Pyramid (BoP). As the targeted poor are characterized by low incomes they form the vast base of the world's income pyramid (Prahalad & Hammond, 2002; Prahalad & Hart, 2002). Furthermore, the base of the income pyramid constitutes the majority of the global population. According to most recent data, there are 4.4 billion human beings earning individual wages below the widely acknowledged poverty line of 5.50 US-Dollars (USD) per day in purchasing power parity (PPP) (Appendix A, Povcalnet).

Since international business scholars became interested in the BoP proposition, many phenomena and themes have been researched and discussed. In particular, the existing body of knowledge emphasizes the importance of BoP networks as a success factor for market initiatives of enterprises from developed countries (Laasonen, Fougère, & Kourula, 2012). Furthermore, there exists consensus for the relevance of cooperation between Western corporations and NGOs within BoP networks. Despite the widespread agreement on the significance of such cross-sectional partnerships, only a few studies have investigated company-NGO partnerships within the BoP framework. Namely, Perez-Aleman & Sandilands (2008), Rein & Stott (2009), Dahan, Doj, Oetzel, & Yaziji (2010) and Klein & Siegmund (2010a) researched enterprise-NGO cooperation. However, all of these studies were mainly focused on cooperation between large multinational corporations (MNCs) and

NGOs. As a result, only little is known about the specific settings and micro-mechanisms between small and medium-sized enterprises (SMEs) and NGOs within the BoP field.

In addition to the research gap concerning partnerships between SMEs and NGOs, the BoP discourse provides only some pieces of research on Western technology sold to BoP markets. Despite few studies focusing on technology for the BoP, Prahalad and his co-authors developed different concepts for Western technology aimed at low-income markets (Prahalad, 2004; Prahalad, Di Benedetto, & Nakata, 2012). These models are commonly accepted in the BoP debate. Prahalad derived these widespread concepts from different success stories he was involved in or witnessed (Prahalad, 2004). However, these success stories mainly show characteristics of anecdotal evidence as opposed to well-designed research. Therefore, it is necessary to examine stronger pieces of evidence related to the existing theoretical framework

Besides the research gap on cooperation and technology, a further aspect has to be taken into account: environmental conditions at BoP markets. Most scholars acknowledge the pertinence of exogenous conditions. As every market initiative copes with environmental circumstances, these have to be considered for the SME-NGO and technology setting described above. It is evident that conditions such as governmental, legal, cultural, language and educational ones influence the financial and social performance of BoP ventures. The term financial performance defines BoP projects in financial terms such as profitability, financial management, and revenues for local entrepreneurs. In addition, improvements in local livelihoods are described by the term social performance.

The identified research gaps on SME-NGO cooperation in BoP networks, on Western technology for low-income markets and on environmental conditions give the researcher the opportunity to examine these fields in detail. The corresponding research objectives and questions are outlined in the following sub-chapter

1.2 Research objective and question

The first research objective is to study the mechanisms between SMEs and NGOs in BoP networks because the existing discourse does not provide any information on the features of SME-NGO tandems. Conversely, there is some knowledge about the cooperation between larger multinational corporations (MNCs) and NGOs. Nevertheless, SMEs from Europe or the US persist at the BoP (Gold, 2003; Paton & Halme, 2007) The number of SMEs even

exceeds that of MNCs serving the BoP (Hahn, 2009). Thus, studying the SME-NGO sphere adds valuable insights to the BoP debate.

The second research objective tackles the adaptation of Western technology to BoP markets. As indicated, Western technology for low-income markets has hardly been the unit of analysis in BoP research up until now. Nevertheless, there is no doubt that BoP markets deviate strongly from Top of the Pyramid (ToP) markets. Yet Western technology is not totally applicable to underdeveloped or developing markets. BoP technology from developed countries definitely requires adaptation due to local demands and circumstances. Therefore, this thesis examines the technological responsiveness to local BoP circumstances of Western SMEs cooperating with NGOs.

Additionally, foreign companies active in BoP markets have to cope with numerous exogenous obstacles. Such environmental issues affect the performance of Western market initiatives, but are only slightly swayed by companies from abroad. Therefore, special attention will be paid to exogenous obstacles in relation to SME-NGO partnerships in this thesis. It is assumed that partnerships mitigate the negative effects of hindrances.

Based on the presented research gaps and the pervasive relevance of exogenous difficulties at the BoP for Western firms, the research objective contains four different aspects. These aspects lead to the research questions presented below.

- Firstly, analysing the main characteristics and micro-mechanism between cooperating SMEs and NGOs. The analysis illuminates the foundation of such partnerships
- Secondly, studying the impact of cooperation on technological responsiveness. The underlying assumption of this aspect is a positive effect of NGOs on SMEs' understanding of BoP settings
- Thirdly, identifying exogenous variables that are hindrances to Western SMEs and that are mitigated by SME-NGO cooperation
- Fourthly, examining how cross-sectional partnerships enhance both the social and financial performance of technology-related BoP ventures. This is of special interest for all parties involved

The shown aspects result in the main research question:

How do SME-NGO alliances influence technology and exogenous obstacles?

Linked to the main research question are four sub-questions, which can help answer the main question:

How are SME-NGO alliances characterized?

How do partnerships influence the technological responsiveness of Western technology?

How do cross-sectional partnerships alleviate exogenous obstacles at low-income markets?

How do partnerships affect the financial and social performance of BoP technology?

1.3 Research strategy and outline of the thesis

The first stage of the research consists of a literature review in order to get an in-depth understanding of the BoP approach. Existing concepts and models are presented and interconnected in relation to the research questions. For a better understanding of the theoretical frameworks presented, the literature review illustrates the development of the BoP debate from 2002 until today. Of further interest are findings on BoP networks and the roles of SMEs and NGOs within them. In compliance with the research objectives, BoP technology is discussed in the literature review. The literature review concludes with a research model.

Chapter 1 begins with an introduction to the topic, which provides background information and insights into the BoP approach, the research objective, and the research itself. In addition, the research strategy is outlined. Chapter 2 presents the literature review with a focus on network theory, enterprise-NGO partnerships, and technology within the BoP framework. Chapter 3 illustrates the applied methodology of the research. Specifically, information on the research design, the data collection, interviewees, and the type of interview are presented. In Chapter 4 the outcomes of the study are presented. Chapter 5 concludes and discusses the most important findings related to the literature review, clarifies the limitations of the study, and makes recommendations for future research.

2 Literature review

2.1 Systematic literature review

Chapter 2 provides the framework for this thesis. It illustrates the body of knowledge about the BoP proposition and its concepts such as BoP networks, cooperation and technology. Furthermore, it demonstrates vocabulary, key variables, theoretical foundations, prevalent methods of BoP studies and the history of the debate (LeCompte, Klinger, Campbell, & Menke, 2003).

Firstly, an introduction into the methodology of the literature review is provided. Secondly, the evolvement and evolution of the BoP proposition are examined to understand the leading themes of the debate. Subsequently, criticism and limitations of the BoP approach are discussed. Thirdly, existing literature about BoP networks, the role of company-NGO cooperation within networks, the reciprocal influence on each actor, and technological requirements of the poor are presented. Finally, the illustrated concepts are interwoven and result in the research model.

The current body of knowledge is an accumulation of research-based knowledge (Ivari, Hirschheim, & Klein, 2004). In addition, the existing concepts are assessed whether they are applicable for this study purpose or not regarding to the research question. The literature research in this thesis was conducted in a transparent and replicable way. Anyone who attempts to follow the same pattern would get similar results (Randolph, 2009). The literature review follows the principles of the snowball technique (Babbie, 2012). A search based on key words such as BoP, Bottom of the pyramid, Base of the Pyramid, poverty, inclusive networks, technology, NGO cooperation, and developing countries was conducted in the search engines Scopus, Web of Science, and Google. The provided articles were reviewed, and valuable references to further sources were included into the literature research. Criteria to assess the relevance of the articles were the number of citations and the ranking of publishing magazines in the Journal Citation Reports (Nguyen, 2010). The literature review was not limited to articles, but included books as well.

2.2 Base of the pyramid: terminologies and definition

2.2.1 The socio-economic class of the global poor

While the exact definition of what the BoP constitutes varies in the literature, there exists a consensus about the base of the pyramid as the socio-economic class of people with low income in developing and underdeveloped countries (Rivera-Santos & Rufin, 2010). However, about the exact monetary poverty line which defines the BoP there is some lack of clarity. In the literature occur two different poverty lines of 2,000 US-Dollar PPP income per year (Prahalad & Hammond, 2002) and 1,500 US-Dollar PPP income per year in literature (Prahalad & Hart, 2002). The lack of clarity vividly presents some confusion about the definition (Schuster & Holtbrügge, 2012). As this thesis is focused on different questions than what exactly determines the BoP, the poverty line of annual 2,000 US-Dollar PPP is selected (Figure 1). The criterion includes both moderate and severe poverty. Consequently, it is guaranteed that the vast majority of the global poor are included into the BoP. A further definitional issue of the BoP has to be discussed here. The term BoP describes the global class of the poor, regardless of national borders. However, a minor number of people in developed countries are in monetary terms members of the global BoP, but the poor in developed countries are not considered in the BoP debate (Hahn, 2009).

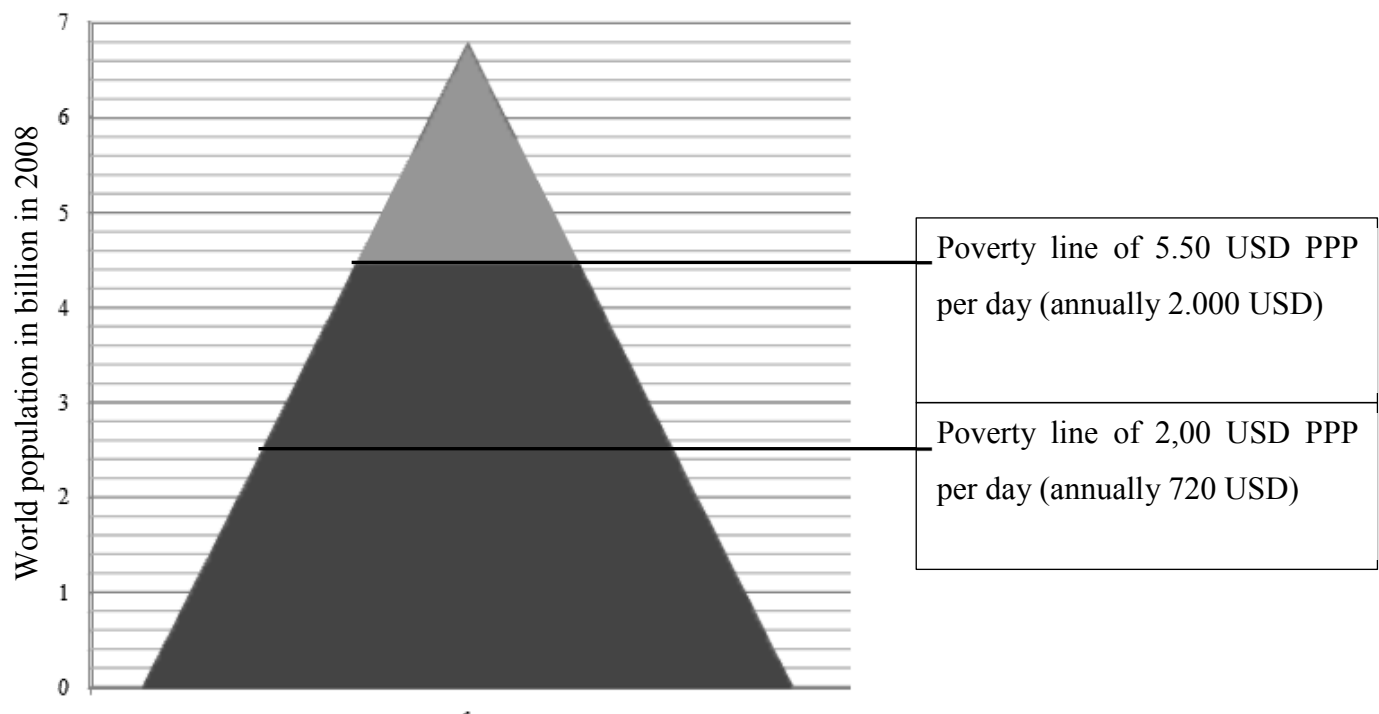


Figure 1: The global income pyramid in 2008 (Data according to Povcalnet)

Besides the income, further characteristics determine the BoP and are illuminated here. A further feature of the BoP is the exclusion from the global economy, especially regarding the access to services and products from developed countries (London & Hart, 2004; Arnould & Mohr, 2005). The missing access to the global economy is linked with the informal nature of BoP business and the limitation to a very local scope of low-income markets within the BoP (Prahalad & Hammond, 2002; Hall, Matos, Sheehan, & Silvestre, 2012; Tarafdar, Anekal, & Singh, 2012). In addition, due to the informal nature of business at the BoP, actual incomes are irregular. As a result, poor people cannot predict their revenues on short notice (Dawar & Chattopadhyay, 2002; Johnson, 2007). An overview of the principal features of the socio-economic class of the poor is illustrated in table 1.

Income in PPP per capita and year less than 2,000 US-Dollar
Living in developing or underdeveloped countries
Excluded from the globalized economy
Informal procedures and business matters
Irregular employments and revenues
Local scope of BoP communities
Small scales in consumption of BoP community

Table 1: Main characteristics of the socio-economic class "base of the pyramid"

2.2.2 The base of the pyramid as a market

Besides the definition of what determines the BoP, the proposition has to be discussed from a business perspective as well. In business terms, the BoP is an untapped market containing a vast number of prospective low-income customers. Despite every individual income being low, the number of customers is summed up to a prospective market with a market potential of several trillion US-Dollars (Prahalad, 2004; Nguyen, 2010).¹ Another relevant dimension is the differentiation to traditional markets for western firms. In order to market to the BoP, firms have to develop new business models, networks, products, and value chains which go beyond already existing patterns (Chatterjee, 2009; London & Hart, 2004).

¹ Considering the discussion about the poverty line within the BoP debate and therefore the methodological limitation to calculating a market potential, this thesis refrains from stating a particular number of market potential.

Core element of the BoP proposition from the business perspective is viable market growth. As Prahalad and Hammond stated (2002), it is a key concern to include the poor into economic activities by conducting profitable and sustainable business. The idea of donation or publicly funded ventures for the BoP is excluded from the BoP proposition. Although, profitability is a key element of the BoP, the BoP debate accepts non-traditional views on it, e.g. focus on long-term revenues and lower margin per sold unit compared to developed markets (Prahalad, 2010). Therefore, the vast majority of BoP proponents are supporting the idea of reduced margins (Simanis, et al., 2004). In contrast, some voices propose higher profits on average than in traditional markets due to greater risk companies face at the BoP (Rivera-Santos & Rufin, 2010).

Apart from this, the BoP approach has to follow the imperative of high scales. From the business point of view, the break-even point for selling products with low margins per unit is only attainable by high scale sales. From the social point of view high scales alleviate the widespread global poverty (Novogratz, 2007; London, 2008; Rivera-Santos & Rufin, 2010). The most relevant characteristics of BoP markets from a business perspective are summarized in table 2.

2.2.3 The BoP proposition, corporate social responsibility, and corporate citizenship

Final themes to discuss are the differences and similarities of the BoP approach with Corporate Social Responsibility (CSR) and Corporate Citizenship (CC). As the BoP proposition claims to alleviate poverty, it has some overlap with CSR. Nevertheless, according to the BoP doyen Prahalad (2004) both terms should not be mixed up. BoP activities of firms have to be included into the core business and should not be regulated by CSR as it has only limited potential to address poverty (Prahalad, 2004; Gouillart, 2008; Nguyen, 2010). A similar approach accounts for the comparison between the BoP proposition and CC. Corporate citizenship summarizes business activities philanthropically targeting a social horizon. In CC, firms become active in fields beyond their core activity in a regional or global scope (Scherer & Palazzo, 2008). BoP proponents claim business activities targeting the poor should belong to a business' main activities and create profits. Therefore, CSR and CC share similarities with the BoP proposition, but all three are regarded separately.

BoP markets are untapped for vast majority of Western corporations
Main objective is to start financially self-sustaining BoP ventures
BoP projects should not be subsidized by donations or taxes
Alternative views on profitability measurements accepted
Strong indication for higher margins per sold unit at the BoP compared to ToP markets. Though, some voices call for reduced margins.
Imperative of high scales in production and sales to create revenues and to alleviate poverty globally
BoP projects are not a side activity of Western enterprises. They belong to the core business
BoP market initiatives have intersections with CSR and CC themes

Table 2: BoP market characteristics

2.3 An evolution of the scientific debate: From BoP I to BoP II and its criticism

2.3.1 The BoP I stage

In recent years, the BoP debate evolved in two main stages which are namely BoP I (until around 2007) followed by BoP II (Arora & Romijn, 2011; Schrader, Freimann, & Seuring, 2011).

Key concern of the BoP I proposition is limited growth opportunities for western companies in traditional markets. Corporations from developed countries are increasingly facing saturated markets in the developed world and at ToP in developing and underdeveloped countries (Prahalad & Hammond, 2002; Prahalad & Hart, 2002; Hart & Christensen, 2002). However, the global socio-economic class of the poor is an opportunity for growth. The BoP debate was introduced into the discipline of international business studies by providing anecdotal success stories instead of empirical research about western business activities at the BoP (Prahalad, 2004). The BoP literature provides empirical evidence about the chances for well performing businesses at low-income markets only to a lower degree compared to other fields in international management.

Furthermore, at the BoP I stage the expansion to low-income markets is primarily portrayed by a top-down approach in which the poor are pervasively regarded as customers (Sprague,

2008). Nevertheless, corporations have to be innovative in their technologies, value chains, and business models to serve the poor (London & Hart, 2004). The BoP I debate accordingly entails a change of mind-sets and practices of western managers as the poorest cannot afford traditional products or services. The changes should be made in line with the principles of Prahalad's "4As" which are namely "awareness", "affordability", "access", and "availability". The similarities to the classical 4P's of marketing are intended (Prahalad, 2004). Furthermore, communities of the poor have been targeted as markets by the structural innovation paradigm (SIP). The SIP entails the paradigm of better, faster, and cheaper products or services than those offered by competitors. To accomplish this, innovations are required in product designs, manufacturing processes, and value chains. The approach is widely accepted for traditional markets, but apparently not applicable to low-income markets (Simanis & Hart, 2009).

In fact, the concepts of the early BoP I stage are not based on comprehensive research. Prahalad's adaption of classical marketing concepts and the SIP are highly similar to classical business concepts. Although academics call for disruptive innovation in BoP business, they undermine their own requirement for new ways of thinking. Thus, they label already existing models with new terminology. Neither the "4As" nor the SIP consider further dimensions such as technological acceptance, culture, religion, governmental structure, or other circumstances that are critical at the BoP. Additionally, the vast majority of BoP concepts are based on observations since the BoP I research is of an explorative nature. Furthermore, the body of knowledge is based on personal observations and experiences without any methodological framework incorporating different regions or industries. Thus, the existing research was more driven by applied sciences instead of basic research. In addition, the early BoP proposition was mainly idealistically motivated, as some scholars justified their interest by their desire to alleviate poverty. Finally, it has to be noted that all BoP models were developed by Western professors, among whom only one has a BoP background. Thus, the BoP proposition is advocated at Western Universities instead of by academics from BoP countries.

2.3.2 The BoP II stage

Since the BoP debate evolved, Hart (2007), Simanis, Hart, and Duke (2008), Simanis and Hart (2009) introduced new concepts into the discourse and went beyond the earlier BoP I proposition. The new approach was named BoP II and the original proposition has been

labelled BoP I. To underline the new BoP approach, the meaning of the abbreviation BoP was revised: the “B” was re-named from “bottom” to “base”. Some critics argue “bottom” would provide evidence for a top-down, U.S. and Europe centric view in the debate, and would even be disrespectful to the poor (Arora & Romijn, 2011; Prahalad, 2010).

New within the BoP II proposition is the consideration of the perspective from the base of the pyramid instead of top-down onto the BoP. From that point on, a bottom-up view has been employed in the debate as the needs of the poor have played a major role (Hart, 2007; Paton & Halme, 2007). The poor have not been regarded as mere customers, but rather as producers, entrepreneurs, and innovators since then (Chatterjee, 2009). Still, it has to be noted that some elements like entrepreneurial empowerment and co-creation had been proposed by authors at the BoP I stage as well, but had not played a major role (Prahalad & Hart, 2002; London & Hart, 2004).

In addressing the customer view, particular knowledge about the needs and demands of the poor are decisive for western SMEs. To achieve a better understanding of low-income markets, the idea of mutual learning as proposed by Bartlett & Ghoshal (1989) in its transnational model is presented. Mutual learning leads to co-development or co-creation between western companies and further participants in order to set up a successful venture with mutual benefits. According to Hart (2007) co-development with local people helps to establish appropriate solutions for low-income markets and automatically leads to better technological responsiveness. Features of co-development were highlighted by Simanis et al. (2008) who suggested an innovative process based on partnerships with poor communities, involving dialogues, openness to experiments and mutual learning, finally aimed to establish local capacities. The concept of co-development is of ubiquitous relevance for this thesis. Specifically, co-development is strongly related to technological responsiveness of SME-NGO tandems. As soon as partnerships implement the poor’s opinions, habits and demands into their development of technology, they adapt technology according to the BoP. Such implementation is achievable via the co-development with the poor.

Furthermore, based on co-development the idea of business empowerment and fostering entrepreneurship and self-employment is emphasized as efficient means to alleviate poverty. Simanis & Hart (2009) corroborate this approach by their embedded innovation paradigm (EIP) which is the counterpart to the SIP. Beyond a dialogue between involved actors, the EIP proposes integration of companies in local communities as a way to create mutual value.

The EIP entails the creation of new networks in which diverse people work together to generate and sustain interdependent lives. Instances of EIP application are micro franchising, cooperative associations, and corporation-NGO partnerships which help corporations to get involved at the BoP (Gibson, 2007).

2.3.3 Criticism of methodologies and concepts

As the entire BoP approach attracted an increasing interest in science and managerial literature, the proposition was subsequently criticized. Especially methodological limitations have been examined by different authors (Karnani, 2007; Schrader et al., 2011). Nevertheless, critics of the BoP approach have positively contributed to the improvement of methodological and content related weaknesses. Therefore the critics are of special interest in this paper.

Karnani (2005; 2007; 2008; 2009) has had prevalent impact on the BoP debate. He propounds that successful marketing to the BoP and alleviating poverty simultaneously has to be regarded as a mirage. The author claims, firstly, that the estimated total monetary market potential at the base of the pyramid is lower than 0.3 trillion US-Dollar instead of 13 Trillion US-Dollar as stated by BoP proponents (Karnani, 2007; Prahalad, 2004, 2010). Secondly, based on his evaluation of existing BoP research Karnani (2007, 2009) draws the conclusion that western firms probably fail in monetary terms at the BoP rather than perform well. In addition, he examined evidence for a low social performance of BoP ventures. The outcomes are substantiated by further pieces of research which raise doubts on the profitability of BoP ventures (Bruni Celli & González, 2010; Zachary, 2005). Whereas, even the BoP opponents London and Hart (2004) provide slight evidence for a low likelihood of financial success as 13 of the 24 investigated BoP cases did not attain profitability. Beyond limited prospects and existing restrictions for foreign corporations, Karnani (2007) also illuminates side effects of bringing the global economy to the poor. For instance, the frequently provided case of single use packages of consumption products is criticized, because the packages increase pollution at places where no efficient waste management is in place to counteract it.

Furthermore, products or services from the fields of nutrition, drinking water, education, and health have high priority for the poor. However, people from the BoP do not tend to spend sufficient parts of their budgets on such products. Apparently, needs are not equal to demands in low-income markets. Banerjee & Duflo (2007) conclude from their in-depth study about

the economic habits and characteristics of the poor that they would rather spend money on entertainment or consumer products such as television, second or third mobile phones, alcohol, and tobaccos. It provides evidence that buying decisions of people with low-income are not always in their best self-interest (Karnani, 2008). Notably, the poor are even aware of their miss-consumption and lack of self-control in their buying behaviour (Banerjee & Duflo, 2007). These findings are in contrast to the assumption that the poor are value-conscious consumers and resilient and creative entrepreneurs (Prahalad, 2004). As Prahalad does not ground his hypothesis on it on research, the existing pieces of evidence reject his assumption.

Special attention of critics has been devoted to the exploitive nature of BoP businesses. There is strong evidence for a so called poverty penalty, which describes higher rates for consumer goods and higher interests for money lending that the poor have to pay compared to formal and developed markets (Prahalad, 2004; Banerjee & Duflo, 2007; Mendoza, 2008). Aside from the aforementioned criticisms, ideological or sociological ones have been stated. Frequently propounded is the ideological function of the BoP approach for globalisation, neoliberalism, and depoliticization (Crane & Matten, 2007; Karnani, 2008; Lund-Thomson & Reed, 2009; Arora & Romijn, 2011).

Pointed out as well is the complexity of poor communities which are not investigated within the BoP framework. Nonetheless, dimensions such as power inequality between genders and ages, or underlying social conflicts between dominant and non-dominant groups within local communities play important roles for low-income businesses and their social impact, but are not considered within BoP studies (Chhotray, 2004; Arora & Romijn, 2011).

Moreover, some criticism is focused on empirical weaknesses and limitations of recent BoP research as the main part of BoP research is anecdotal instead of empirical. As critics argue, most studies are induction based on a small number of cases. Therefore, these provide only slight evidence for the performance of BoP ventures. Finally, BoP proponents are lacking in formulating an appropriate theory and their research is strongly driven by applied research (Rivera-Santos & Rufin, 2010).

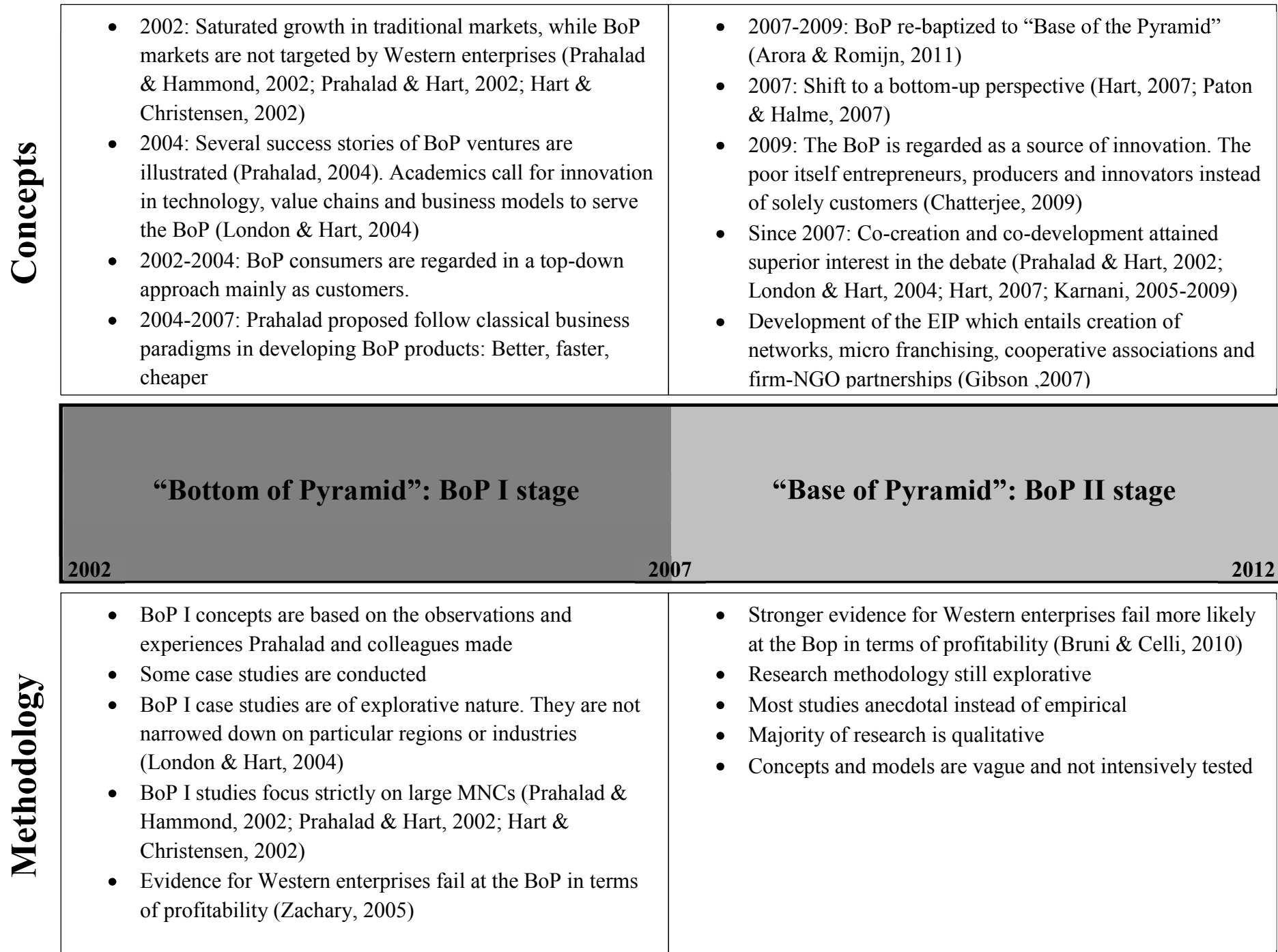


Figure 2: Evolvement of the BoP discourse: Concepts and methodologies

2.4 Market-oriented ecosystems and networks at the BoP

2.4.1 The model of market-oriented ecosystems

Of particular interest and complexity is the cooperation of different actors at low-income markets. Hence, the scientific discourse revealed strong knowledge on BoP networks or named market-oriented ecosystems.

Prahalad (2004) altered Moore's concept (1996) of business ecosystem for the BoP. Thus, his model of market-oriented ecosystems is widely accepted BoP model. According to the BoP doyen, ecosystems bring organisations from the private and social sector together to create wealth in a mutual way (Prahalad, 2004).

As Prahalad (2004) concluded, market-oriented ecosystems are a set of organizations in which not a single company, NGO, self-help group or direct investments create wealth, but rather a wide range of players. Involved actors could be all sorts of organizations such as public or private ones, the poor themselves, and local entrepreneurs. Persons or organizations within the ecosystem could have the function of vendors, suppliers, manufacturers, wholesalers, stockists, retailers, shop owners, entrepreneurs, consultants, distributors, or forwarders. The players deviate from each other in terms of their motivation for being part of the ecosystem, their size, and their particular contribution to the ecosystem. Overall, the business idea and, subsequently, a corporation have to be at the heart of an ecosystem serving the BoP. A company within an ecosystem is similar to a node which connects all other players and facilitates the functions of all other organizations. The requirement for ecosystems becomes apparent by comparison between BoP markets and traditional markets. BoP markets are frequently inefficient, and are lacking in terms of infrastructure and formalism, and are highly dispersed. As a result it is almost impossible to expand a business to the poor with traditional marketing strategies. Nevertheless, an ecosystem with the competencies, contacts, and knowledge of particular actors is an appropriate setting to mitigate obstacles for western firms (Prahalad, 2004). Especially non-traditional business members are typically more deeply and informally embedded in local communities (Teegen, 2003; Reed & Reed, 2009). This is why western firms have to accept and integrate non-traditional business partners into such an ecosystem to succeed at the BoP (Prahalad, 2004; Prahalad & Krishnan, 2008). The openness of firms to cooperate with non-traditional actors stems from the need for innovativeness.

2.4.2 Ecosystems, inclusive networks, and hybrid value chains

The terms ecosystem, inclusive networks, and hybrid value chains are applied and distinguished by some scholars (Figure 3). Thus, some argue the term ecosystem was is too broad. Consequently, the more narrow term inclusive network was developed in the debate. Inclusive networks are intertwined relationships of partners from different fields which work closely together, have common goals and procedures. As a consequence, all elements of a network either succeed or fail collectively (Reficco & Márquez, 2012). Nonetheless, intertwined ecosystems entail these features as well. Thus, both market-oriented ecosystems and inclusive networks have vast intersections. Therefore, the terms inclusive network and market-oriented ecosystems are equally used in this thesis. Finally, often found in the BoP literature is the term hybrid value chain (Budinich, Reott, & Schmidt, 2005). It is addressing sequential collaborative arrangements between different players in order to create value for low-income customers. The involved actors fill in gaps in their value chain by internalizing or outsourcing different tasks. Hybrid value chains are describing sequential processes instead of looping connections as in ecosystems and inclusive networks.

For an SME-NGO setting the concepts result in figure 3. Hereby constitute an NGO and an SME the knob which connects the BoP and the business spheres. Without the connection in such a network, both domains would not be connected.

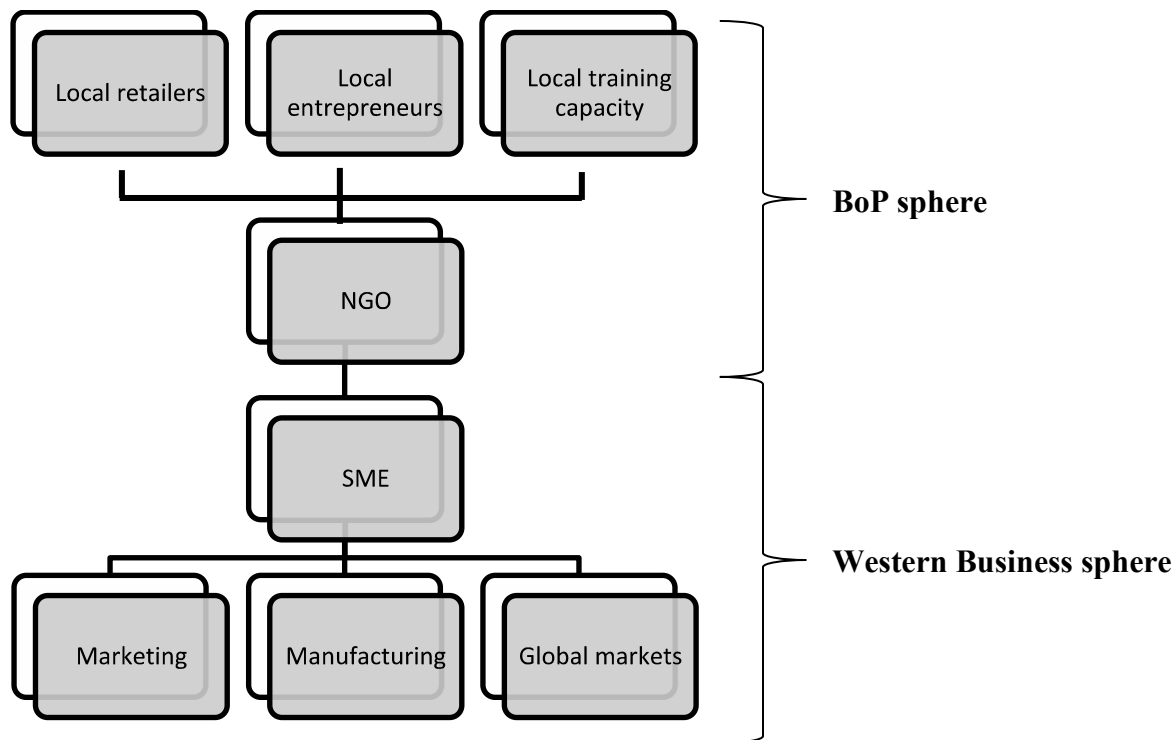


Figure 3: Ecosystem or inclusive network according to Prahalad (2004) depicting a model of SME-NGO partnerships

2.4.3 BoP networks in respect to traditional network dimensions

Interesting insights on networks at the BoP are provided by the theoretical-driven work of Rivera-Santos & Rufin (2010) and the in-field research of Reficco & Márquez (2012). Both sources contribute to the body of knowledge by applying traditional network dimensions within the BoP framework and examining important outcomes from a multiple case study.

To better understand the comparison between BoP networks and traditional ones, common characteristics of low-income market networks are provided as a prerequisite. Main features of BoP networks are the non-existence of legal norms and transparent rules (London & Hart, 2004; Portes, 1994). Furthermore, the ties between local people are highly traditional and rooted in kinship, religion or ethnicity. From these characteristics it is concluded that transactions are governed by personal relationships instead of formal agreements or contracts. A further characteristic is the exclusivity of intermediation by NGOs or local leaders to the outside world or other local communities (Arnould & Mohr, 2005). To compare BoP

networks and traditional networks, Rivera-Santos & Rufin (2010) applied four traditional categories for the structural characteristics of networks: centralization, linearity, density, and structural holes. In comparison to traditional networks, BoP networks differ in all dimensions (Table 3).

Firstly, the degree of centralization is low at the BoP, while traditional networks commonly have a high degree of centralization due to specialization. In contrast, BoP networks have several centres. Thus, a firm can be the centre for ties to international markets, but probably not the centre for ties to BoP markets. Meanwhile, an NGO can be the centre for ties to local communities. Therefore, western corporations have to share their role and decision making with other network members. Sharing the role is underpinned by an investigation of 50 BoP networks by Wheeler et al. (2005) who found that firms often play a minor role in operating a BoP network. However, in constructing a network, private corporations have a major role. Therefore, BoP initiatives have to be co-created and co-operated with local actors requiring a less central role for corporations compared to traditional business networks (Simanis & Hart, 2008).

Secondly, the degree of linearity between BoP and traditional networks differs as well. Traditional networks frequently entail a strict sequence of commercial interactions between supplier and buyer, whereas participants in the BoP networks act in a complex mixture of market and non-market interactions. The lower degree of linearity becomes apparent when western firms provide loans, trainings, and further product related services instead of only selling their products to the poor. Such internalization fills in gaps which often occur in value chains for the poor. In addition, outsourcing of tasks to network partners is a further way to bridge gaps. Nevertheless, linearity can also be found at the BoP in a supplier-buyer framework. An instance is technology provided to the poor by a western firm which also takes place in a classical setting.

Thirdly, at the local level, BoP networks are very dense due to the fact that all people of the community interact with each other. Beyond the local scope, BoP networks are isolated (Tigges, Browne, & Green, 1998). Consequently, the transaction costs are high in order to attain ties between different communities. Partnering or contracting with NGOs decreases the transaction costs of western firms serving the BoP (Vachani, Doh, & Teegen, 2009). As a side effect of high local density, formal institutions from the outside are not usually integrated into the local network (De Soto, 2000; Wheeler, et al., 2005). Therefore, Rivera-

Santos & Rufin (2010) established the idea of clustered BoP networks. Finally, structural holes are frequently observed at BoP networks. Intermediaries are often missing and the degree of entrepreneurial activity is low (Rivera-Santos & Rufin, 2010).

Dimension	Traditional networks (ToP networks)	BoP networks	Consequence for western corporations
<u>Degree of centralization</u> Assessed via the number of direct ties of one or a few network members to the majority of other organizations (Wassermann & Faust, 1994).	Frequently high degree of centralization	Low degree of centralization; frequently observed are several centres	Shared role and decision making with involved organizations
<u>Degree of linearity</u> Similar to Porter's idea of the sequential production process (Porter, 1980; Rivera-Santos & Rufin, 2010)	Highly linear	Strict linearity is not common	Internalizing or outsourcing of tasks by or to an organization.
<u>Density</u> Measured by the number of redundant ties in comparison to the network size. Traditional networks have a high density (Williams, 2005)	High and uniform density	Clustered networks	Decreasing high transaction costs at the BoP by cooperating with non-traditional player
<u>Structural holes</u> Ties in a network that bridge to unconnected elements which would not be connected otherwise (Ahuja, 2000)	Structural holes occur	Structural holes are frequently observed at BoP networks	Internalizing or outsourcing of tasks

Table 3: Traditional and inclusive networks in comparison (Rivera-Santos & Rufin, 2010)

2.4.4 Boundary characteristics of BoP networks

Additionally, the boundary characteristics of BoP networks are discussed in this chapter. Network boundaries are determined by three dimensions: scope, tie domains and size.

BoP networks are not driven by specialization, but rather by expanding to a wide set of activities. Normally these are not in the core business of a private corporation such as financing or training provided by a manufacturer. BoP networks are extended in their scope compared to traditional ones. Networks for traditional markets are driven by specialization and leveraging efficiency (Koza & Lewin, 1998; Lorenzo & Lipparini, 1999; Rothaermel & Deeds, 2004).

Moreover, BoP networks differ from traditional networks in terms of their tie domains. Not only business-related organizations are network members for BoP initiatives, but further types of organizations as well. Obviously, BoP networks employ members from a wider range of domains than only business-related. Incidentally, NGOs are not only essential members of BoP networks by providing access to local communities, but contribute to a network by introducing social and economic dimensions which are not available if a company acts without partners (London & Hart, 2004). Considering the size of BoP networks, Rivera-Santos & Rufin (2008) concluded BoP networks are smaller and, logically, more local-bonded compared to traditional networks. The findings on these aspects are shown in table 4.

Boundary dimension	Traditional networks (TOP networks)	BoP networks
<u>Scope</u>	Narrowed, specialized and leveraging efficiency	Broadened scope
<u>Tie domains</u>	Mainly business-related	Wide range of involved organizations
<u>Size</u>	Global	Small, and local

Table 4: The boundary dimensions of BoP networks (Rivera-Santos & Rufin, 2010)

2.4.5 Tie characteristics and dynamics of BoP networks

The ties of networks are further dimensions which characterize networks. Ties at low income markets are mainly direct, highly personalized and usually not formalized (De Soto, 2000). Therefore, personal embeddedness in local communities is crucial for effective networks.

Being embedded is the most powerful way to assess the trustworthiness of partners and participate effectively in the network (Reficco & Márquez, 2012). As a matter of fact, the strong relevance of personal ties plus the informal character of business at the BoP frequently entail corruption and clientelism. If a cooperation wants to cooperate with authorities of local communities are observable the exchange of bribes or highly personalized patron/client relationships (Scott, 1972).

A further dimension in which networks are investigated is the dynamic. BoP networks are tied by trust-based relationships which are backed up socially. Thus, BoP networks are more vulnerable to instability and unpredictability. Especially the opportunism of firms, NGOs, and locals are a pervasive factor for instability. Besides, economic conditions fluctuate either due to environmental impacts or to violence and war (Gates, Hegre, Jones, & Strand, 2006; Schneider, et al., 2007; Reficco & Márquez, 2012).

2.5 SME-NGO partnerships in BoP networks

2.5.1 Characteristics of NGOs

As proposed by Rivera-Santos & Rufin (2010) BoP networks comprise a more diverse set of members from different fields compared to traditional networks. A common example for the diversity of BoP network members are nongovernmental organizations. NGOs often partner with private companies serving the BoP, and are to some degree involved in the value chain of firms. (Chesbrough, Ahern, Finn, & Guerraz, 2006). Therefore, the role of NGOs within BoP networks is acknowledged in BoP literature, but has not been researched in detail yet (Prahalad, 2004; London & Hart, 2004). However, a vast number of mainly not business-related scientific sources provide valuable insight on NGOs in business environments. A sustained scientific debate about NGOs commenced in the 1960s and early 1970s. The discussion took place mostly in politics and sociology instead of in business administration (Wapner, 1996). However, NGOs involved in business activities attracted increasing interest in the field of business administration (Teegen, 2003; Curbach, 2008).

No matter in what academic field the NGO discussion takes place, there is a widely accepted definition of NGOs discernible in the literature. Clearly, this thesis is not about discussing what in general determines NGOs. Nevertheless, the discussion points out some common

characterizations which are applied in this paper. NGOs are independent voluntary associations of people intrinsically addressing a particular purpose which is neither political or focused on profitability nor illegal (Willets, 2002). In addition, NGOs are formal and professional (Martens, 2002). NGOs differ highly in their characteristic size, geographic scope and they represent a wide range of interests (Doh & Teegen, 2002). Furthermore, the term NGO includes a range of more narrowed organizations such as “voluntary organizations”, “non-profit organizations”, “grassroots support organizations”, or “pressure groups” (Take, 2002). Though the monetary, political and economic power of NGOs is limited, they are regarded and trusted by a vast number of people as idealistic and genuine in their actions. It leads to a high reputation for almost all NGOs (Germaine & Kenny, 2005). Further characterization of NGOs is the way of sustaining themselves. Non-governmental organizations are mainly funded by donations and membership fees, or partially or entirely funded by private or governmental support (Curbach, 2009).

2.5.2 Cross-sectional partnerships: A terminology

In the body of knowledge a range of different definitions of cross-sectional partnerships exists. Thus, this thesis applies the common core of different descriptions. An early definition describes cross-sectional partnerships as an alliance between at least two organizations from different sectors which agree on a shared assignment or objective, share risks and benefits mutually, assess their relationships on a regular basis and revise the cooperation if necessary (Tennyson, 1998). Further definition is provided by Nelson & Zadek (2001). Both authors state that cross-sectional partnerships are the relationship between organizations or single persons from different sectors such as public, economic or civil-society. The actors address shared objectives by applying their resources and competencies in a voluntary, innovative way. The main positive effect of cross-sectional partnerships is mutual value.

The themes of both definitions are applied for this thesis. They are as follows: Firstly, cross-sectional partnerships address a shared objective; secondly, they provide benefits to the social or economic objective; thirdly, both actors benefit from the partnerships; fourthly, both partners input their resources and competencies; and finally, both are bound to the outcome of the partnership, whether it is positive or negative (Lang, 2010).

2.5.3 SME-NGO relationship types

In recent decades, the relationship between firms and NGOs was marked by conflicts instead of cooperation. Steadily, conflicts between NGOs in the role of watchdogs and companies in the role of scapegoats for anything have been rising. Especially firms big in size with core businesses such as oil or gas drilling, or cloth manufacturing have been the focus of NGOs' criticism (Tulder & Zwart, 2006). For the most part, criticism by NGOs has been focused on big firms instead of SMEs. Nevertheless, SMEs have been the target of critical NGOs campaigns as well, but lower in number and impact (Klein, 2010).

However, academics and practitioners recently observed a shift in the relations between NGOs and companies: More cooperative relations were evolving as both sides started recognizing the opportunities and chances of cross-sectional cooperation. The main objective of such partnerships are win-win situations for each organization (Doh & Teegen, 2004; Crane & Matten, 2007; Kourula & Laasonen, 2010).

In order to attain win-win situations, the actors share particular knowledge and competencies addressing economic, environmental, social, poverty or legal issues. The apparent competencies of both types of organizations on the business side are knowledge about sales, marketing, production, and administration. On the NGO side, they are expertise and valuable contacts in a particular BoP field.

In respect to the increasing relevance of business-NGO cooperation, there is strong evidence for dangers corporations and NGOs have to overcome in order to cooperate. Both the conception and the cooperation itself between firms and NGOs are typically challenging for all involved parties. As NGOs regard corporations sceptically and critically, they are likely to reject cooperation with firms and have to be convinced about cooperation (Rieth & Göbel, 2005). Lacking openness from the NGOs' side, but also from the firms' side is a frequent reason why cooperation is not established or fails during practice. The lacking openness on both sides is caused by power inequalities and personal resentments by corporations' or NGOs' individual actors (Klein, 2010).

Critical moments and conflicts arise in cross-sectional cooperation. An SME-NGO alliance is a novelty for both sides because relations between NGOs and the private business sector have been frequently characterized by confrontation and conflicts in the past (Klein & Siegmund, 2000b). The danger is emphasized by the different nature of NGOs and SMEs. SMEs are

profit-driven and striving for new markets. In contrast, an NGO's driving force is mainly philanthropic in nature. To combine the objectives of both types of organizations, numerous factors and conditions have to be considered. Clear evidence of the rejection of commerce is NGOs' critical attitude to profits, liberalism and capitalism, the consumption of resources by businesses, and a strict focus on public values instead of monetary or financial values.

Due to this thesis' focus on SME-NGO partnerships in water technology-based BoP frameworks, adversarial relationships are not of particular interest here. However, in order to understand SME-NGO partnerships in more detail, the categorization of private sector-NGO relationships of Laasonen et al. (2012) is applied in this thesis.

2.5.4 Encouraging-response model and merging roles

Laasonen et al. (2012) conducted a meta-study in order to understand the issues company-NGO partnerships are facing. The authors examined the outcomes of 199 studies about relationships between corporations and NGOs. A valuable insight into business-NGO relationships is the evolvement from a pressure-response connection to more oxymoronic bonds. Apparently, NGOs are not always in the role of watchdogs, but more often in the role of partners. The authors found evidence that companies voluntarily cooperate more often with NGOs and vice versa. Corporations and NGOs understand that an inclusion of each other into their activities can serve as a key to cope with particular dangers. Laasonen et al.'s (2012) oxymoronic model of the encouraging-leading-response setting is applicable to the BoP framework. The encouraging-leading-response model indicates an encouraging or leading role for NGOs or companies to run BoP ventures. The model is in line with the research about BoP networks which have different centres and leaders. Speciously, in the oxymoronic encouraging-leading-response model the roles of the corporations and NGOs involved are merging. Laasonen et al. (2012) draw the conclusion that companies changed their roles in addressing poverty and NGOs changed their roles in addressing businesses. Furthermore, the perceptions on both sides have changed. In the model, corporations are considered as a solution to social or economic issues instead of the cause. Accordingly, firms expand their traditional markets to contribute to social or economic challenges without becoming a charitable institution (Maak & Pless, 2009). The merging roles lead to NGOs' becoming active in traditional business fields and firms doing actual NGO activities (Laasonen et al., 2012). Since NGOs took on more and more business-related roles, they have

been influencing the conduct of business, and the broader role of business in society (Dahan, Doh, & Teege, 2010).

2.5.5 Reciprocal influence of partners

The merging activities of firms' and NGOs' roles even lead to cultural changes within both types of organizations (Weber, Heinze, & Desoucey, 2008). Thus, both companies and NGOs retrieve knowledge from each other (Crane & Matten, 2007). Competencies and knowledge from the organizations involved are implemented into the counterpart's organization. Such an implementation lays the groundwork for changes in practices, procedures, and strategies of the adapting partner (Klein, 2010). Therefore, cooperation leverages innovation and new ideas. Additionally, alliances build the basics, frameworks, and especially the trigger for mutual innovation or problem-solving. All these dimensions are crucial for success of Western ventures at the BoP.

In line with the blurring roles are the concepts of EIP, co-development and co-creation. An appropriate way to reach co-creation or co-development is the inclusion of individuals from firms and NGOs in local communities. The access to local communities is an intangible asset in respect to Levitt's definition (1981). NGOs are helpful means to get access to mediating knowledge, skills and experience about existing circumstances (Arora & Romijn, 2011). The influences on each actor lead to improved understanding of each other and the self-control of the cooperative activities. As both partners hold each other accountable for their actions through self-reflection and communication, not only is the probability for win-win situations for both types of organizations increased, but for a win-win-win-situation with respect to the poor as well (Gilbert & Rasche, 2008). Contradictory to this are the outcomes of an in-field research by Rein, Stott, Hardman, & Reid (2009) who posit monitoring and evaluation processes are mostly absent in cross-sectional partnerships. Their finding is supported by the research of Baur & Schmitz (2012; p. 18). According to their study it is evident that NGOs are "unlikely to provide continuous feedback that allows a corporation to adapt its business practices and pre-empt problems in the future". Whether the actors transformed their intentions into a win-win-win situation was not assessed. Furthermore, most of the partnerships have no exit strategy in case of failure (Rein & Stott, 2009).

Finally, a further important element has to be considered in a corporation-NGO setting: cash flow between organizations. Unfortunately, only little attention has been paid so far to

payments between both types of organizations in scientific literature. Nevertheless, payments or donations have to be discussed here. In general, the existing body of knowledge provides evidence that payments or donations of corporations to cooperative NGOs are questionable, because payments cause bias on the NGO's side and lead to power inequality which is exploitable by corporations (Marschall, 2010). In addition, money flows from an NGO to a cooperative corporation occurs. Cash flow appears if NGOs buy products or services from a corporation in order to provide these to the poor. The setting fits into the BoP framework in case the NGO wants to conduct profitable business by internalizing business tasks such as warehousing or wholesaling.

2.5.6 The role of SME-NGO partnerships for the poor

Recently some stories and scientific studies about success of alliances between private firms and NGOs serving the poor were published (for positive instances see Dahan et al., 2010; for mediate outcome see Rein & Stott, 2009). Interestingly, the examination of negative instances between NGOs and firms are frequently suppressed in the scientific literature. However, the difficulty of these partnerships and prospective disputes or conflicts is acknowledged (Laasonen et al., 2012).

Consequently, research provides only slight evidence for the benefits of alliances. On the one hand, some partnerships improved the livelihood of the poor. On the other hand, some partnerships led to artificial shortages of public goods such as water or health care as a study funded by the World Bank of "Business Partners for Development" (2002) examined. This finding is underpinned by an investigation which revealed similar results (Rein et al., 2009).

Contradictive to the negative statements about the impact of companies on the poor, there exist strong voices that cooperation of firms with NGOs enhances the economic development at the local BoP level (Marschall, 2010). Especially SME-NGO cooperation is considered to be more flexible than traditional public development organizations in addressing small and mainly local issues. Some authors even argue the combination of the private and civil-society sector is more capable of identifying and tackling the local issues of the poor, because traditional development approaches are too big in their size and monetary power. Bureaucratic organizations cannot effectively cope with local issues (Easterley, 2006). Other authors argue a danger to SME-NGO partnerships is the limited ability of the target group to

state their opinions. According to these critics, alliances are characterized by forcing ideas on the poor without considering the members of the BoP (Fondaca, 2006).

2.6 Technology at the BoP

2.6.1 Technological responsiveness

In order to understand how western firms can deliver technology to the BoP, and what role SME-NGO alliances in a technology-related BoP network take on, technological needs of the poor are presented first.

Scholars of the current BoP II stage concede that poor people are sophisticated and creative consumers whose needs cannot be met with downsized products (Subrahmanyam & Gomez-Arias, 2008; Prahalad, 2010). Therefore, removing particular features of products neither leads to sustainable success of BoP ventures nor to positive social impact at the BoP. Besides the downsizing of products, the socio-economic class of the BoP should not be considered as a new outlet for old products (Prahalad & Lieberthal, 1998, p.69-70). However, western firms regularly design and conduct their business for the poor as described above. BoP proponents detest the approach and rather call for innovative and new ways of product development, manufacturing, and product distribution to meet the needs of the BoP (Prahalad, Di Benedetto, & Nakata, 2012). The BoP II proposition underlines the need to tailor relevant and adaptable products and services to low-income markets. A means to tailor products is co-development with the poor (Subrahmanyam & Gomez-Arias, 2008). However, technology for the BoP should not be luxurious or even on a high-tech level. The idea of technology with features far beyond a necessary level is not applicable to the poor. Yet people at the BoP require products of world-class quality (Prahalad, 2004). It means technology-based BoP products first have to be easy to use due to the low level of education at the BoP; secondly, convenient to install, start, and run by poor customers due to restricted resources; thirdly, easy to maintain due to limited procurement opportunities (Prahalad, 2010; Jimenez & Castellanos, 2012; Prahalad et al., 2012). The call for high quality is underpinned by characteristics of the poor. As both the urban and rural poor frequently have access to television, internet, or mobile phones and they are informed about the state-of-the-art of many technologies, they are sensitive to brands and to the reputation of international companies (Spremann, Hoffmann, & Frick, 2011).

2.6.2 BoP technology in a life cycle

According to the propositions mentioned above, western firms have to be innovative in developing and providing appropriate technology for the BoP instead of delivering luxury or high-tech. The approach is in line with the propositions stated by Jimenez & Castellanos (2012) who applied the technology life cycle to BoP technology. BoP technologies are often at a late life cycle stage. Thus, BoP technologies are in the expansion or maturity stage. The authors conclude that consequently Western firms often exploit technological skills and knowledge already available in order to meet the needs of the BoP. By the application of existing technologies western companies avoid the high dangers and risks of marketing freshly developed and introduced goods to the poor. Despite Western companies delivering existing technology to the BoP, SMEs necessarily have to be innovative in developing BoP networks and in setting up efficient ecosystems. It is crucial to apply local contacts and complement them with technologies and developments from industrialized markets.

In this context partnerships with NGOs are an efficient means to develop appropriate BoP technologies and related networks. NGOs already have access to local communities and are embedded at the BoP. They know the needs of the poor. They are also helpful in determining whether particular technologies are useful or not. As presented earlier, the poor might demand products which do not improve their livelihood or might even worsen it. Likewise, the poor have a lack of understanding which products would probably improve their lives. Embedded NGOs are capable to increase the awareness of the poor for technology which enhances their livelihood and is truly needed (Spremann, Hoffmann, & Frick, 2011). Therefore, the underlying assumption is SME-NGO cooperation enhances technological responsiveness. Nevertheless, such partnerships entail complex and open innovation processes with loops throughout BoP networks. Such dynamics are mainly new to western firms, but crucial for success (Jimenez & Castellanos, 2012).

2.6.3 Technology valuation

Due to the requirements of BoP markets on technology, SMEs have to establish procedures and methods to evaluate the inclusion of acquired knowledge about the needs and requirements of the BoP into their technology. The assessment of BoP technology is a key element for SMEs to meet the needs of the poor (Jimenez & Castellanos, 2012). An

applicable framework to evaluate technology for the BoP is an approach introduced by Li & Chen (2006). The valuation is distinguished into three categories: traditional, intangible assets, and social impact. The traditional category entails traditional methods of assessment such as financial returns and costs. These tangible dimensions are mainly quantitative and measurable by well-known means. Intangible assets are mainly assets such as knowledge, contacts, social networks, patents, commercial skills and secrets, and industrial designs. These dimensions are either quantitatively or qualitatively measurable. The final category, social impact, is focused on the performance of technology in a society or group. The category assesses improvements on the livelihood of the poor. The social impact is solely evaluated by qualitative methods.

2.7 Towards a research model

Chapter 2 explored the evolvement of the BoP debate in recent years, BoP ecosystems and networks, the role of SME-NGO partnerships in BoP networks, and the requirements and technological responsiveness of technology for the BoP. Several concepts were presented and assessed. Thus, valuable pieces of information were drawn from the literature review for this thesis' research. However, the models most relevant to this study are summarized and presented in this sub-chapter, resulting in a research model that will be tested afterwards.

Overall, the literature review revealed that the BoP debate is driven by explorative studies. Furthermore, a vast number of widely accepted concepts are based on observations and experiences by a few authors such as Prahalad, London and Hart. Despite the models being logical and adapted to BoP settings, only some concepts have actually been investigated through research. Subsequently, many authors regard - without strong evidence - cooperation between Western enterprises and NGOs as a way to better understand BoP markets and to get access to them. Additionally, the debate revolves mainly around MNCs. SMEs are excluded from the debate even though they play a crucial role for business at the BoP. Apparently, the current debate is to some degree blind to this type of enterprises. As a result, the special interest in illuminating the partnership between SMEs and NGOs is validated by the lack of research. The sphere of SME-NGO alliances is represented by a categorical variable in the research model (figure 4).

Nevertheless, some concepts and phenomena are investigated further. The BoP debate has produced valuable knowledge on networks at the BoP. It is evident that BoP networks, also called ecosystems according to Prahalad's concept, have severe gaps. Noticeably, BoP networks are not well developed and organized compared to ToP networks. Frequently, relevant personal or institutional players are not existent at the BoP, such as reliable governments, market researchers, traditional financial infrastructure, forwarders or communication. Therefore, market initiatives for low-income markets regularly involve high transaction costs. The phenomenon of high transaction costs is amplified by exogenous circumstances of BoP networks, which appear as obstacles. It deteriorates the market entry and business execution on a BoP level significantly. The literature review indicates some obstacles, namely missing formality and rules, and a lack of obedience to laws. The research model takes these exogenous obstacles into account as a second independent variable which possesses confounding characteristics as well.

Based on the existing literature, the concept of EIP is one of the most relevant ones. According to the model, embeddedness on a local level at low-income markets is crucial for strong performance of BoP ventures in financial and social terms. As BoP markets are often untapped by Western SMEs, they can obtain embeddedness by cooperating with an NGO that is already active in a specific region or problem setting. Strongly related to EIP is the concept of co-development between Western players and the poor in order to alter products or services. As partnerships help to embed Western corporations, they additionally enable co-development of Western SMEs with the poor. Co-development is a necessity for technology that is brought to low-income markets from Europe or the US because Western technology is not 1:1 transferable. Adaptions are essential due to local requirements. Adjustments of technology are represented by the independent variable "technological responsiveness" in the research model.

The final concept to be discussed is technology valuation. This concept is incorporated as the dependent variables financial and social performance. Since BoP ventures of SME-NGO tandems aim for financial self-sustainability and to enhance the livelihood of the poor simultaneously, the concept serves as the indicator of both dimensions. Subsequently, the financial performance is assessed by quantitative means whereas social performance is generally rated by qualitative measurements and to some degree by quantitative ones.

The underlying assumption of the presented research model is that SME-NGO partnerships bridge deficiencies of BoP networks and environmental conditions in order to attain technological responsiveness adapted to the needs and demands of the poor. Additionally, the body of knowledge indicates that technological responsiveness influences the profitability and social impact of technology-related BoP ventures. Thus, chapter 2 concludes with a research model that visualises potential relations between SME-NGO partnerships, environmental conditions and technological co-development, and financial and social performance.

The oval “SME-NGO partnerships” represents the sphere of cross-sectional cooperation. It includes technological responsiveness as an endogenous variable that can be influenced by both parties. The arrows mark the assumed relationships between the endogenous variable and the dependent variables, i.e., profitability and social impact of BoP ventures.

It is presumed that partnerships affect the environmental conditions as well. However, these conditions are portrayed by an exogenous variable which does not belong to the SME-NGO sphere. Nonetheless, the environmental conditions, alongside the technological responsiveness, influence the social and financial performance of market initiatives. Thus, this variable possesses characteristics of a confounding variable. At the end of the study, the model will be tested based on the results.

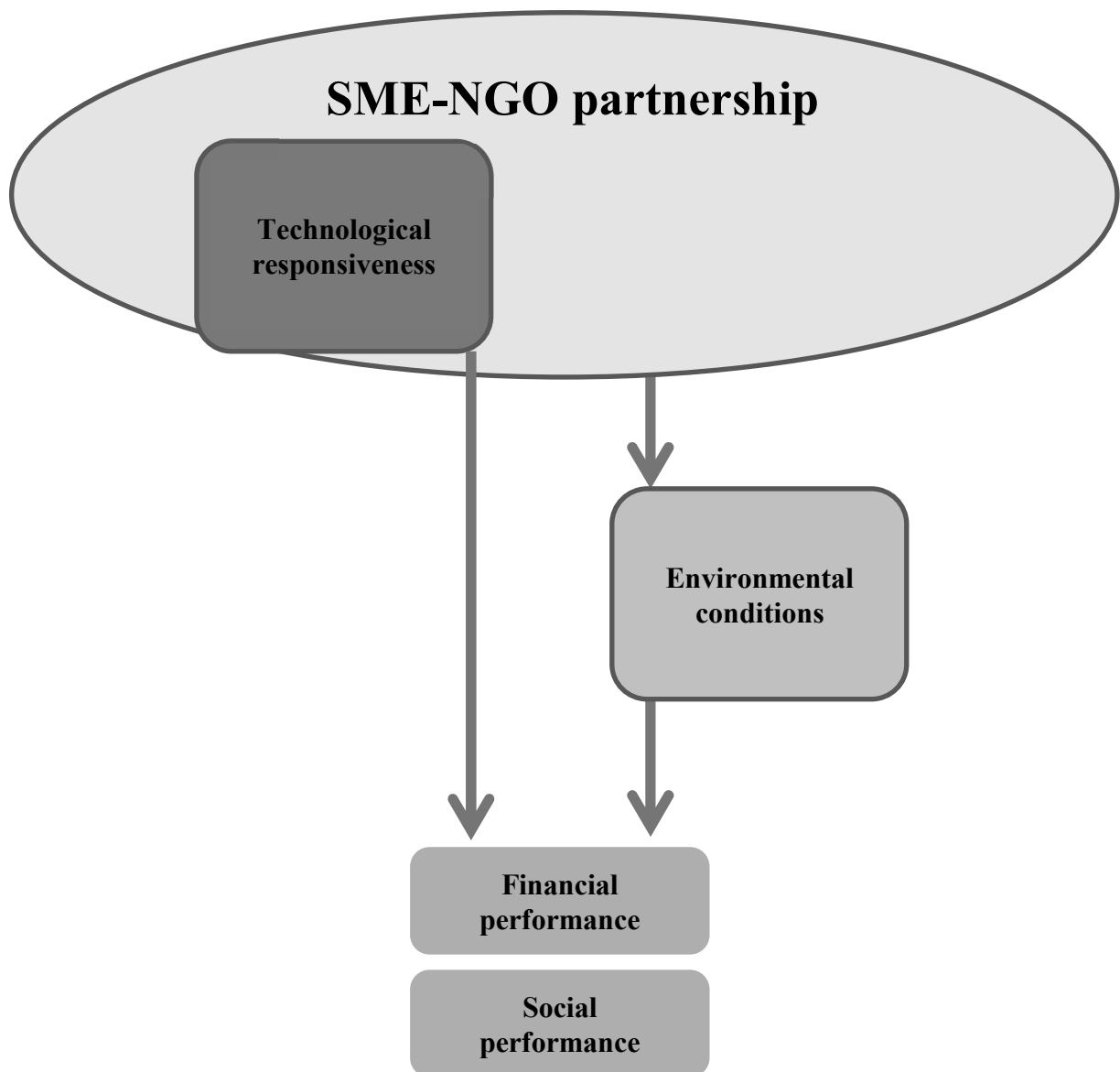


Figure 4: Preliminary research model

3 Methodology

3.1 Introduction

In order to examine an answer to this thesis' research question, a qualitative case study is conducted. As concluded early by Eckstein (1975), case studies are an appropriate means to explore new fields in science and to stress hypotheses. In addition, case studies are an appropriate way to find answers to „How“ or „Why“ research questions such as the proposed main research question for the thesis (Yin, 2012). Finally, the investigation of issues in emerging markets with the help of explorative methodology has been widely recognized (Hoskisson, Eden, Lau, & Wright, 2000). In this chapter the case study design and its sections are presented. These sections first define a research question as provided in chapter 1.2, secondly lay out the research design, thirdly the applied case selection, fourthly data gathering, fifthly analysis of gathered data, and finally drawing conclusions and answering the research questions (Stuart, McCutcheon, Handfield, McLachlin, & Samson, 2002).

3.2 Case description

The investigated case is a business unit of a Dutch SME targeting the BoP. The company and the business unit are re-named for confidential reasons. Thus, the Dutch SME is labelled as “Amsterdam” and the business unit as “Amphora”. Notably, Amphora is both the name of the business unit and the name of its single product: a solar-powered water purification module for developing or underdeveloped markets.

Water technology is of special interest when researching the technological responsiveness of BoP technology. Since about 780 million people in developing countries endure lack of access to clean drinking water, many market initiatives by Western SMEs are committed to resolving water issues at the BoP (WHO, 2012). Especially SMEs from the Netherlands, Germany and Austria have developed different technologies related to water. Thus, water technology offers the opportunity to research a BoP technology that has reached an advanced level. Due to this maturity of BoP water technologies, the mechanisms of Western technology at the BoP can be explored employing a vast range of data. The company Amsterdam also gained longtime experience, since they had installed about 400 Amphora modules all over the world by April 2013. Therefore, Amphora builds a case within the abovementioned industry (Ragin, 1994).

For a better understanding of the technological responsiveness the main technical features of the device are presented: The machine consists of a water tank, a solar panel, water filters and

UV lights, and connectors for installing a car battery. By pouring water into the tank physical pollution is sieved out. The main feature of the device is a UV lamp that irradiates the water and subsequently decontaminates it from bacteria. The UV light in the Amphora machine is powered by the solar panel during day time or by a car battery at night. Thus, up to 2,500 litres of polluted or contaminated water can be purified by one module within 10 hours. The water is sourced from rivers, water wells, or water pipes. The machine can supply up to 1,000 with water.

Amsterdam is mainly targeting people in rural areas worldwide. Especially in these areas bad water quality is the main reason for the death of millions of people. Globally 3.4 million people suffered from a water related disease as estimated in 2008 (Prüss-Üstun, Bos, Gore, & Bartram, 2008; UNICEF, 2009).

3.3 Research design

This thesis employs a qualitative case study on the business unit Amphora. The research explores within the sphere of SME-NGO cooperation the relations between the endogenous variables of technological responsiveness, plus the exogenous variable of environmental obstacles and financial and social performance of BoP ventures (Yin, 2012).

From all 400 Amphora projects the majority were finalized in partnership with an NGO. Nevertheless, many projects were concluded without any NGO involvement. An exact number of partnerships actually executed is not available as there is no data on it. However, as estimated independently by the current and former Amphora responsible, about 60 per cent of all Amphora devices have been installed with NGO alliances.

To illuminate the different perspectives on cross-sectional partnerships the study employs 12 semi-structured interviews with key informants with deviant backgrounds. Firstly four practitioners with an SME background are interviewed. These people are or have been managers or sales managers at Amsterdam. Therefore, they are assigned to the business group, named B. A further group, named N, consists of 4 people which are employees or heads of different NGOs who cooperated with Amphora or rejected cooperation with the SME. Overall, they are experts in the field of water technology at the BoP. Preliminary conversations with involved actors revealed that a third type of organization is relevant for

water business at the BoP. The group is composed by players who take up a merged role between enterprises and NGOs and are neither clearly business actors nor totally philanthropically-driven. The interviewees constitute group M. In detail, they are social consultants or social entrepreneurs.

The study applies the principles of an embedded single case study design as the company Amsterdam is the case and three groups of deviant interviewees (B, N and M) as the unit of analysis (Eisenhardt, 1989). As the gathered information differs on the dimension SME-NGO partnership, the study has characteristics of a diverse case study (Seawright & Gerring, 2008). The underlying assumption is that these contrasting interviewees expose more information as the investigation of similar or average key informants (Flyvbjerg, 2006; Eisenhardt & Graebner, 2007). Furthermore, a diverse case study allows not only a comparison, but also an in-depth analysis across different contexts. Such a research design helps to understand how and why particular characteristics evolve (Hubermann & Miles, 1994).

3.3 Data collection

Gathering data follows Denzin's idea of data triangulation (1970) in which different sources of information are employed in order to enhance the validity (Yin, 2012; Creswell, 2009). Data sources firstly are existing documents provided by informants, publicly available sources about the interviewees and their organizations, secondly the observations and memos of meetings and conversations with the researcher, and finally semi-structured interviews with the groups B, N and M. The triangulation of methods is a pervasive research method. Information which is not available via one source is accessible via another. Consequently, the probability of gathering valuable data is increased. Furthermore, scientific artefacts or biases are mainly excluded or can be corrected afterwards as the influence of the researcher is decreased in a triangulated study (Stuart et al., 2002). The data from the different source types are coded by a pen-and-paper method and afterwards analysed by the codes with the software Atlas.ti. (Flick, 2007). Additionally, the research applies elements from both grounded theory and classical content analysis. The notes of personal observations and documents by third parties are employed in order to become familiar with the case. The documents and observation enhanced the understanding of the case Amphora and the water business at the BoP. Furthermore, these data types improved the development of the coding

process as the researcher obtained additional insight through these sources. Finally, classical content analysis is used by coding the interviews to examine similarities and differences between the 3 groups.

3.3.1 Documents

First step of data collection is the analysis of existing documents about the Naïade project. Documents can be as significant as speech in social interaction (Prior, 2003). There exist three types of documents: personal, private and public. Personal documents are letters, notes, drafts and files. For this research the main source of documents were public documents which are created for unrestricted reading such as annual reports, press releases, or webpages and flyers.

The main text source were annual reports of the Dutch SME from 2006 to 2011, the Amphora webpage, and printed brochures about the water purification module. Information about cooperating NGOs has been gathered in a similar way. Beyond publicly accessible information, internal presentations and further internal documents are assessed. These are considered to be even more valuable sources as they were not produced for public relation purposes and contain information beyond official statements. Therefore, these sources have a low unobtrusiveness. Thus, selection or reporting bias of the researcher is reduced for these sources (Yin, 2012). The internal data provided by Amsterdam and involved NGOs has been assessed on four criteria: firstly, authenticity of the document; secondly, credibility in terms of errors and distortion; thirdly, representativeness for its kind of documents; and finally, meaning in terms of clarity and comprehensiveness (Myers, 2009). In total 18 documents were analysed.

3.3.2 Observations and memos

After becoming familiar with the case through documents and prior to the semi-structured interviews, the researcher lead tentative conversations with different actors such as the responsible manager of the Amphora and other BoP experts. By this method, valuable information was collected which helped to enhance the research. During two preliminary conversations with the current Amphora manager in December 2012 and February 2013, valuable information has been summarized in two memos. Furthermore, the observations made at the head office of Amsterdam have been written down. The Amphora technology in particular has been reviewed during the first visit at the enterprise. Besides the observations

strictly linked to the Dutch firm, further memos were created concerning preliminary conversations with key informants. In total, 5 different memos are employed for this study. All notes have characteristics of code notes, theory notes and operational notes. Consequently, the notes comprise information on, firstly, the relation between different actors and their own interests and positions (code notes) and secondly the researcher's own ideas and thirdly (Ryan & Bernard, 2000).

3.3.3 Selection of key-informants

Before the interviews started, the key informants had to be selected. The selection of key informants employs a reputational approach as proposed by Huberman & Miles (1994). In a preliminary interview with the responsible manager for Amphora it was agreed to contact for interviewing Amsterdam's sales agents abroad and the NGOs involved. In total, 12 persons were contacted by Amsterdam whether they were willing to participate in the study. Four persons responded positively to the inquiry and took part in the study as key informants. Iteratively, seven further interviewees were approached by the researcher himself based on recommendations of the first four key informants.

Besides the reputational sampling, the case selection entails features of the purposive or also known as judgement sampling (Seawright & Gerring, 2008). In the purposive strategy the most productive informants have been chosen according to the research question's framework. The selection followed the recommendation and judgements of the current Amphora manager and other interviewees. Furthermore, the interviewees were sampled according to their sector of activity. The objective was to ensure the variation of experiences from deviant sides: Both the SME side and the NGO side as well as actors with merged roles are balanced as four interviewees from each group participated (Flick, 2007).

Two of the interviews have been conducted in German and ten in English. All interviews were held in March, April and May 2013. One interviewee refused to be recorded during the interview session. Therefore, the researcher took notes during and directly after the conversation. The notes resulted in a report instead of a transcript.

The duration of the interviews varied between 40 minutes and four hours. As mentioned above, the 12 interviews are divided into three different groups (see Figure 5). The statements of the interviewees are labelled according to their groups (B1, B2,...,M1,...,N1,...)

For confidentiality reasons neither the names of the interviewees nor the names of the respective organizations is stated in this thesis. The label, the location and detailed background information on all interviewees are given below.

Group B is composed of four key informants with an SME background. They are or have been employed as managers and sales manager of the Amphora:

- B1: The current responsible manager for the business unit Amphora and one of the inventors of the device. He is located in the Netherlands. The interview was executed in German. The transcript is translated into English.
- B2: Amphora's former head of sales manager. He was responsible for global sales and marketing activities for the Amphora from 2004 to 2012. Since 2012 he executes different water projects at the BoP through his own company. Before he started working at Amsterdam he studied water engineering and was responsible for water projects of the Dutch military abroad. He is located in the Netherlands and has gained in-field experience mainly in Africa and Asia. Spoken language during the interview session was German. The record is transcribed in English.
- B3: The former sales representative of Amphora in central Africa. He marketed the device in the assigned area from 2006 to 2011. He is located in the Netherlands and regularly represents his trade company in Africa.
- B4: The current sales representative of Amphora in Brazil. He has marketed the device since summer 2012. Prior to that, had been working for a Dutch NGO in Brazil for several years and had gained in-field experiences in cooperation with western companies. He is located in Brazil.

Group N consists of four persons. All of these actors have in field experiences in developing countries. They are:

- N1: The head of a Dutch NGO which is active in Africa. The NGO has executed development projects in the Sahel region since 1997. The organisation collaborates for one project with Amphora in Northern Kenya since February 2013. The interviewee is located both in the Netherlands and Kenya.
- N2: Employed as project manager of a Dutch NGO which tackles water issues in developing and underdeveloped countries. He has a technical university degree and

has practical experience in water related projects at the BoP. He gained in-field experience in Africa.

- N3: The former head of a Dutch subsidiary of an international NGO. The interviewee executed several projects with Amphora in Africa between 2007 and 2009. As the person was the head of the Dutch part of a global NGO. The person is mainly located in the Netherlands and gained in-field experience abroad.
- N4: The head of a Dutch NGO which executed several hundred water projects in Western Africa. The NGO cooperates with local masons who build water tanks from 1,000 to 5,000 litres for farmers and families. The person lived in Africa for many years. At the present time he is located in the Netherlands and frequently travels to Africa.

Group M consists of people who have merged roles between NGOs and enterprises. These interviewees are considered as merged players as they are neither classical business nor NGO actors. Their projects are both profit and socially driven. All participants are responsible for water or waste projects in underdeveloped countries with both social and financial objectives. Their role cannot be attributed to the business or the NGO side. They execute particular projects in exchange for payment and also act philanthropically. The interviews with actors from different sectors entail alternative explanations about certain characteristics in order to confirm or disconfirm hypotheses (Hartley, 2004).

- M1: An Indian water adviser who has conducted many Amphora projects in the country. He has several years of experience as an independent water consultant. He advises both NGOs and companies. He has both social and financial objectives. He is located in India.
- M2: A representative of a Dutch student organization which develops technology for underdeveloped or developing countries. The organization executed many projects abroad. Main theme of the organization is to employ local resources to build technology at the BoP. He is located in the Netherlands and gained in-field experience in East Africa.
- M3: An employee of a Dutch consultancy which copes with solid garbage and polluted water in developing countries. The interviewee has several decades of in-field work experience in development programmes. The person is located in the Netherlands. The informant declined to be recorded during the interview session.

All interviews were guided conversations rather than strict sequences of queries. During interviews, the order of questions was revised due to the flow of the interview. The objective of all interviews was to obtain answers to the predefined questions. It ensured that previously examined issues were covered and addressed (Schrader et al., 2011). This type of interviews entailed flexibility and openness on both the interviewer's and interviewee's side. The narrative character frequently revealed important and relevant information (Strauss & Corbin, 2008). Furthermore, underlying or not unapparent issues became evident in such a mixture of fluent conversation and sequence of questions, because interviewees were more encouraged to speak about phenomena as opposed to structured interviews (Alston & Bowles, 2003). Additionally, the structure entailed comparability between each interview. The comparable structure is enhanced by applying principles of the semi-structured interview protocol (SSIP) as developed by Gugiu & Rodríguez-Campos (2007).). However, semi-structured interviews entail the disadvantages of distortion if questions are not appropriately posed or formulated in a biased manner. Further dangers are imprecise answers or interview effects on the interviewees (Yin, 2012). Nonetheless, such dangers have been minimised by the conceptualization of questions and by avoiding biased questions and by asking similar questions twice at different moments during interviews. Still, the threats of interviews heighten the need to collect data from further sources such as documents and own personal observations.

To increase the validity of the research, the interviews were conducted individually without any other persons present. Five interviews were conducted in person (B1, B2, M2, M4, N4) and seven were performed with key informants via phone. Despite the difference between personal and telephone conversations, the same techniques were employed in all interviews. Based on the pre-defined criteria and questions, the semi-structured interview was conducted, recorded, and transcribed afterwards. During transcription it was a key concern to decide what is relevant and what is not. In processing the interviews it is crucial to underline which parts are speculation, interpretation and hypotheses of informants (Ghauri, 2004; Wilkinson & Young, 2004). Enclosed to the hardcopy version of this thesis is a CD with the interview transcripts and minutes.

3.3.5 Conceptualization for interviews

For all interviews a template was employed to ensure all relevant fields to talk about are covered. The template's questions are grounded on concepts and models shown in the

literature review. The conceptualization of concepts into questions is presented in table 5. In the column for concepts are numbers in brackets stated. These numbers are attached to different questions of the template. The numbers connect the concepts with the questions.

Concept	Conceptualization
(1) EIP (embeddedness, co-development and co-creation)	Questions on: <ul style="list-style-type: none"> • BoP experience • executed BoP projects • experience and own perception of market initiatives • Formal ways of cooperation
(2) Ecosystems, its mechanisms and environmental impacts	Questions on: <ul style="list-style-type: none"> • Description of local conditions • Threats in general
(3) Viability of BoP ventures	Questions on: <ul style="list-style-type: none"> • Objectives of market initiatives • Assessment of financial performance • Financial management of Bop projects
(4) Alleviating poverty	Questions on: <ul style="list-style-type: none"> • Objectives of market initiatives • Improvement of livelihood • Description of diseases or deaths due to water related illness • Distortion of local business
(5) Encouraging-response model	Questions on: <ul style="list-style-type: none"> • Communication between each organization • Adaption of actions or mind sets • Cash flow between each organization • Internalizing and outsourcing
(6) Technology valuation	Questions on: <ul style="list-style-type: none"> • Perception of technology • Acceptance of technology on local level • Demand for technology on a local level

Table 5: Conceptualization into interview questions

3.4 Data processing and analysis

Next step of the research methodology was processing the data from the interviews, documents and own observations. The total amount was about 16 hours of recorded data. The interviews were transcribed in a standard word processor. The transcripts were coded with pen-and-paper and analysed by the software Atlas.ti 6.2. The set of codes was created prior to and during the coding process (Miles & Huberman, 1994). In total 66 different codes were applied.

Even though a multitude of opportunities exists when it comes to analysing qualitative data, Eisenhardt (1989) examined some key features for qualitative research: He proposed a strategy to select categories or dimensions to assess within-case similarities or differences. Most important dimensions are often found in the literature, but in the young BoP discussion no widely accepted models exist yet. Therefore, selected dimensions are derived from the literature review and developed during the pen-and-paper coding in order to answer the research question. A further method is to summarise similarities and differences between the investigated cases. It forces one to examine characteristics of the cases not directly visible. The main objective of the cross-case comparison of diverse cases is to go beyond initial impressions and assumptions.

The comparison was conducted in a three-stepped-coding process. Firstly, a preliminary code book was created based on the literature review, the dimensions of the set of questions and in vivo coding, which enables the analysis from different perspectives. In addition, first impression codes were applied as well as simultaneous codes in which two or more codes were used within a single datum. The codes were employed to examine patterns in the data. Even contradictions between individual statements gave hints to patterns (Saldaña, 2009). Patterns revealed by similarities, differences, frequencies, sequences, correspondences, and causations (Hatch, 2002). Some codes are distinguished by scale with two values: “low” and “high”. These codes reveal information on the performance, technological responsiveness, embeddedness or communication between actors. The code list in Appendix C contains detailed descriptions of each code, inclusion and exclusion criteria, and descriptions for every code (Ryan & Bernard, 2000). Secondly, coding started based on a preliminary code book with coding by pen and paper. During hand coding, further codes were developed, existing codes were refined or excluded. After finishing the handwritten coding, the codes were assigned to the data of the transcripts with Atlas.ti. Thus, the entire coding process follows

techniques as proposed by Myers (2009). It ensures that the transcripts and codes are read and re-read. At the end of the coding process, the linkages and contradictions are assessed based on the research question and research model. Especially ambiguities between the interviews play a major role, as they have to be understood with respect to further data. This technique automatically leads to the third step in which the data was reassessed. The objective of the reassessment was to understand whether the data were sufficient to answer the research question. Especially anecdotes, which seem to be dramatic had to be judged whether they were idiosyncratic or characteristic. In addition, the entire coding of the transcripts was about examining the experience and knowledge of the informants. It was not about blurring the ideas of the researcher with the existing excerpts (Seidmann, 2006). An overview how the analysed dimensions and its codes are employed within the research model is depicted in appendix D.

3.5 Research assessment

Four dimensions to assess case studies are applied and accepted (Yin, 2012): Construction validity, internal validity, external validity, and reliability. Firstly, construction validity describes the degree of appropriate measurements for the research. Secondly, internal validity refers to the identification and explication of causal relationships and exclusion of spurious relations. Thirdly, external validity is the degree to which results are generalizable. Finally, reliability describes similarities of outcomes if a study is repeated. However, these dimensions are only to a lower degree applicable to qualitative research. Therefore, in a qualitative case study the validity is more focused on process validity instead of result validity. The reliability is more about generalizing characteristics instead of statistical generalization.

Furthermore, the conclusions drawn have to be congruent with the facts derived from the data. Yin (2012) even proposes a „chain of evidence“. The chain allows readers of the thesis to understand the derivation of previous evidence. A further danger is overemphasising the narrative part of the case study. Narrative or anecdotal elements are not a field of interest in such a research and only major incidents or citations from interviews are stated in the thesis itself. A further appropriate way to increase the validity of the proposed study was discussing preliminary findings of the study with the participants. Furthermore, a comparison with previously conducted research and conclusions enhance the study in this thesis (Hartley, 2004).

4 Results

4.1 Introduction

In this chapter the different dimensions that were investigated are presented: Firstly characteristics of the different interviewees, secondly partnerships between SMEs, NGOs and other market actors, thirdly technological responsiveness, fourthly exogenous obstacles, finally financial and social performance.

4.2 Results based on backgrounds of interviewees and interview-groups

Based on the backgrounds of all informants, 11 of 12 gained in-field expertise in developing countries. This provides evidence that all interviewees possess specific knowledge about the characteristics of the BoP and about water technology and management as well. Overall, the embeddedness in developing countries of members of the groups M and N is slightly higher compared to the B-group, as one person from B-group has not gained any experience in the developing world yet and all members of groups N and M have strong contacts and even friendships in the areas they are active. Further members of the B-group are either frequent traveller to their targeted countries for many years (B2, B3) or are living in a developing area (B4). Furthermore, all group members both in group M and the group N are either from developing countries originally (M1) or lived there for several years (N1, N4) or frequently travel to developing countries (M3, M4, N1, N3, N4) or spent several months there at least once (M2, N2). Considering the fact that one informant from group B has no BoP experience does not point to less in-field experience of SMEs to other players. Thus, it can be assumed SMEs obtain BoP knowledge when they start their venture for developing countries or create a network in these countries with traditional business actors such as sales agents (B3, B4). For instance B2 already had international contacts in the BoP markets prior his employment at Amsterdam. However, NGO interviewees and players with merged roles hold on average better knowledge of local cultures. All members of the N and M groups lived in underdeveloped or developing countries and did not only execute business or development projects as the members of the B group. The slightly better embeddedness of M and N interviewees is reinforced by the strong consideration of them on the demands of local people and co-development with local BoP. Contrary, B actors did not mention these themes in the interviews based on the code results. Due to their embeddedness, M and N interviewees are

more exposed to the idea of taking into account the demands of the BoP and the development of technology with the class of the poor.

4.3 Joint partnerships

4.3.1 Forming joint partnerships between SMEs and NGOs

The driving forces in the formation of cross-sectional partnerships are mainly companies. All interviewees from the B-group stated that they have approached NGOs or other non-traditional business players in order to commence cooperating. SMEs' main motivations for establishing cooperation are business development at the BoP and gaining access to the networks of these non-traditional business actors. Explanations on the motivation and approaches to NGOs are presented below:

B1: "We do not have contacts in all countries. Nevertheless, we tried to reach untapped countries with the help of NGOs."

In the process of acquiring NGOs' cooperation, the business actors followed an ad-hoc strategy without any clear strategy as described by one participant.

B1: "We got in touch with NGOs coincidentally by scanning the landscape of non-profit organizations. Good, but this was without any planning."

Furthermore, SMEs approach NGOs if they became aware to them by incidence. It lays out SMEs do not apply a well-planned strategy to approach NGOs. Nonetheless, SME understands that an ad-hoc strategy is not the most effective way to create alliances. Evidently, SMEs emerge through different stages in NGO acquisition. After an ad-hoc strategy, they follow a more planned approach.

As a side effect of the evolving, SMEs realize that tandems with large NGOs are too complicated and bureaucratic. Especially formal requirements are severe hindrances for SMEs to collaborate with large NGOs.

B2: If you want to become a supplier within the framework of the UN procurement agency, you have to process a lot of forms and documents. They [larger NGOs] want to have

declarations with experienced companies [...]. Bigger NGOs have purchasing departments as big as the entire organization of SMEs.”

Apparently, the mismatch between formalized large NGOs and less-formalized SME is so big that personal biases of business actors evolve. The bias effects their opinions about large organizations not cost-efficient. Therefore, SMEs collaborate with smaller NGOs preferably.

B2: “[We mainly cooperate] with smaller NGOs. Joint activities with large organizations have been rare. Additionally, larger NGOs work totally different compared to smaller organizations.”

Due to the gained understanding of NGO acquisition, SMEs target NGOs more programmed. Thus, they set a focus on smaller NGOs. Apparently, SMEs have to undergo through a learning process by experiencing interaction with non-business organizations. Both types of organization have not been exposed to each other until recent years. Nevertheless, the entities get in touch more and more. Thus, SMEs are leveraging the learning curve to approach NGOs more appropriate. The process results in the capability to analyse decision making in NGOs better. A short overview of this sub-chapter results are presented in table 6.

SMEs are proactive in forming alliances
SMEs want to benefit from NGOs BoP networks
SMEs undergo a process in approaching NGOs: In the first stage they approach partners by an ad-hoc strategy. In the second stage, they acquire NGOs by better plans.
Larger NGOs are often too bureaucratic for partnerships with SMEs. Alliances between SMEs and NGOs of similar size are more efficient.

Table 6: Results on forming SME-NGO alliances

4.3.2 Forming joint partnerships between merged role organizations, SMEs and NGOs

Undoubtedly, NGOs have a dominant role for BoP activities. Besides NGOs, merged role actors are of special interest, as they have characteristics of both enterprises and NGOs. Thus, they are attractive partners for SMEs. The reasons why SMEs are interested in cooperating with merged role players is presented hereby. Based in the interviews it is evident that gaining access to existing networks is a pervasive motivation for SMEs to build alliances.

Main motivation for merged role actors to collaborate with SMEs is to attain their social and financial objectives. Additionally, the incentive of merged actors to cooperate with NGOs has features in common with the motivation of SMEs to cooperate with non-profit organizations as indicated by one interviewee:

E3: NGOs can sometimes play an interesting role as intermediaries.

Besides the encouragements for merged role players to form partnerships, it could be assumed it would be easier for them to initiate partnerships with NGOs, as they have a more similar background with NGOs compared to SMEs. Nevertheless, it is not easier for them. There is some indication that non-traditional business actors face the same problems such as SMEs in setting up partnerships with NGOs. Though, the similarity between merged role organization and SMEs in forming partnerships is substantiated by the pro activeness of M actors in acquiring NGOs for partnerships.

E1: "I have to introduce myself to the NGOs. I educate them. Everything is very proactive. We have to approach NGOs. We create opportunities to meet them, educate them, show them, interact with them. Show them the projects we have done. And help them from where they can get the funding. So, it is very proactive from our side to create cooperation. (...) 90 per cent of the time it is like this."

An interesting difference between M actors and SMEs is the constitution of partnerships with NGOs. The difference is caused by the innovative business models of M players who build their models on NGOs. Thus, the results imply that business models based on cooperation acquire partners more efficiently.

Similarities in starting alliances between organizations with a merged role and SMEs are observable in pilot projects. Apparently, pilot projects have a pervasive role in creating

cooperation between all actors regardless of their backgrounds. They serve as the starting point for further collaboration. Further details on pilot projects are presented in the following sub-chapter on conducting cooperation, because the definition of when cooperation is formed and when it actually starts is blurred.

4.3.3 Conducting cooperation between SMEs and NGOs: funding-buying relation

Beyond forming SME-NGO alliances, the actual conduct of cooperation is examined below. Grounded on the findings, prevailing feature for tandems is a funding-buying relation. In this model NGOs finance the procurement of SME technology. Apparently, NGOs tacitly accept the funding-buying relation and fund water projects with donations. And the phenomenon is also observed by participants from the E-group.

B1: “Many NGOs planned and executed events to collect money for the water projects. After half a year they have had 1,000 or 2,000 or 15,000 Euros to buy water purification machines.(...). [The NGOs] selected the projects. (...) The vast majority of machines have been donated by NGOs.”

In addition to projects with donated money from NGOs, governmental subsidies or funds organizations are utilized on a regular basis by SMEs or NGOs. The strong role of different subsidies is not surprising in the framework of development work. However, the opinions on it have changed recently. Surprisingly, especially M and N interviewees criticize the public or donation funded approach for water projects.

E4: “For the beginning it is good to fund projects with public money to get some traction for the project. But, business models should not be based on subsidies. It creates dependencies. NGOs have difficulties in sustaining projects, because they depend on subsidies.”

Related to this finding exists strong criticism of Western BoP projects. There are indications SMEs are motivated to create revenues by NGOs’ donation money or governmental subsidies. The long-term consequences of donation financed projects are easily observable when funding expire.

N3: “I have an inquiry from one representative of our organization in Rwanda, but I told her there is no money left for water projects anymore.”

In essence, donation or governmental funded projects from Northern states have a strong impact on the mind-sets and behaviour of local people in underdeveloped countries. Accordingly, this approach torpedoes the viability and sustainability of BoP projects, as one citation indicates.

E2: “You can create really lovely projects, but if you leave it, wow, then the local people do not really feel responsible for it. They regard it as some kind of gift.”

Despite all interviewees express reluctant opinions on donations and subsidies, they all exploit these sources habitually. It implies that most market initiatives cannot sustain themselves. Interestingly, all informants would rather execute projects which generate revenues. The overall findings are presented in table 7.

Paramount type of relation is a funding-buying connection: NGOs fund SME technology by donations
Operation of technology is only for the period of funds ensured
Despite all players refuse subsidies verbally, they use donation or governmental monetary sources

Table 7: Results on funding-buying relation

4.3.4 Conducting cooperation between SMEs and NGOs: business empowerment

Beyond the pervasive observable funding-buying relationship between SMEs and NGOs, some partnerships apply the concept of business empowerment. One objective of business empowerment is to create viable ventures on a local level. Frequently, business empowerment is attained by self-employed people or hired maintenance and technical service staff.

Even though business empowerment is not observed much for partnering SMEs and NGOs, informants from all groups acknowledge the importance of it. In addition, there exists a consensus that business empowerment requires training of local people to build, repair or operate any kind of water technology.

E2: “It is better to teach someone to make a pump instead of giving a pump for free. Then he will take care that the technology spreads. Because he has financial interest.”

As soon as people start their own businesses and get revenues from their activity, they sustain the technology. In this model the operation of technology does not stop with expiring subsidies.

E2: “If someone is making money out of a project, he will take care of it. He will maintain it.”

In spite of their enthusiasm on business empowerment and local entrepreneurship, all actors take into account the limited scope of such market initiatives. Apparently, the most relevant hindrance is low margins for local entrepreneurs. Seemingly, BoP business people cannot gain enough money to expand their enterprise. Thus, the chances to create business with water technology are considered as low.

B2: “If someone wants to trade with Amphora water, he has to carry his donkey or his trolley through the local community and sell the water by this. But no one makes a lot of money out of it. Selling water this way can be only a casual job. Due to the reason someone earns more money by selling Mangos.”

Further reason for failed business empowerment is the price to buy western water technology. The average income of the poor at the BoP is definitely too low for buying technology which costs several hundred or even thousands of US-Dollar or Euros. Nevertheless, SMEs try to solve the financing issue with micro-loans in cooperation with an NGO. However, due to low margins and high costs, micro-lending is not applicable for Western BoP technology. In addition, SMEs do not internalize non-core tasks into their organization, but pass on tasks such as micro-financing to NGOs. Thus, internalizing or outsourcing are not observable for an SME setting.

4.3.5 Conducting cooperation: The position of merged role players

The role of merged role organizations is slightly different to the role of SMEs or NGOs. Frequently, they are intermediaries between the SMEs and NGOs. Remarkable insights are shown in this section.

From the interviews can be drawn that NGOs preserve the role of the actual development provider while external consultants are focused on advising in particular fields such as

funding. Therefore, the consultant activities replenish the competencies and tasks of NGOs and SMEs.

E1: “(...) what we are doing is not in competition with what NGOs are doing. It is more a complementary activity.”

Final themes to discuss are variances between merged role actors and SMEs and NGOs regarding to the policy of the cross-sectional partners. The variation of mind sets is substantiated by a citation about the price calculation of water supply.

E4: “It [the price calculation] depends on the organization I am working with. If I go to NGOs, they all say the price should be low – 10 to 20 Euros per year per person. More commercial companies which I am cooperation are asking for a slightly higher price. It is a big family company [I am cooperating]. They regard Africa as the next big thing. They are focusing on energy and water.”

On the one hand NGOs are very dedicated to provide social improvements by empowering business and on the other hand SMEs are mainly interested in attaining higher margins.

4.3.6 Encouraging-response model

Recently, the encouraging-response model was presented by Laasonen et al. (2012; also see chapter 2.5.4). Whether the model is applicable to SMEs and smaller NGOs, will be assessed by results on communication and knowledge sharing between both parties.

The type of cooperation notwithstanding, the personal relationship between the responsible actors on every side is crucial for the partnership's performance, especially in case of joint travel activities to the relevant BoP. Apparently, if personal ties are strong, the encouraging-response concept is present.

In addition, the relevance of personal ties for encouraging and responding is underlined by the commitment of involved individuals. Nevertheless, mutual exchange or inspiration is not typical. It seems to be more likely that cooperating SMEs and NGO communicate scarcely and are not really truthful to each other. Due to low level of communication between SMEs and NGOs, there is no observation for the adaption of knowledge into the own organization.

This is confirmed by actors from the private sector who claim the communication with business seldom affect the performance of partnerships.

N1: “I do not believe the others are listening so well and adapt something.”

Though, there is no doubt from the NGO side that superior communication enhances the manner of cooperation and its outcomes.

N2: “If you have SMEs that listen you can benefit from these types of joint projects. (...) It leads to a lot of innovative joint-learning experiences. SMEs learn from the experience of NGOs and the other way around.”

4.3.7 Openness to business and technology

Based on the statements of all interviewee groups, the openness of NGOs to business and technology is examined. The interviews point to a transition in the openness of NGOs to business and technology. Increasingly, NGOs follow a policy to install self-sustaining BoP projects which are independent from donations or public subsidies. Objective of such initiatives are to provide employment and foster business development on a local level.

E1: “So, the NGOs think more and more ventures should be self-sustainable.”

In contrast, some interviewees express criticism on the expansion of businesses from abroad to underdeveloped countries, because Western technology distorts local markets and the scale is limited for alleviating poverty. Therefore, the critics doubt the social performance of BoP ventures.

E3: The idea of business empowerment is not necessary. There are already businesses at the BoP. They need certain things, sometimes low cost financing, but they cannot get it in their local markets. The tabula-rasa mind set of western companies includes the idea ideas from developed countries are better. But the local companies are more lean and entrepreneurial than any business that comes from abroad. What these companies do not have is access to capital or information. They cannot benchmark their own performance. They usually do not get the help their need.

The final feature discussed in this sub-chapter is the openness to technology of the civil sector. There is evidence for an increasing openness of NGOs to technology. However, the

openness is on a lower level. As indicated by almost all informants, NGOs reject either new technologies or technology frequently.

4.4 Technological responsiveness

4.4.1 Technological responsiveness to local requirements

Western SMEs entering BoP markets with a technology are confronted with local requirements which significantly vary from those found in ToP markets. Therefore, Western companies have to adapt their technologies according to BoP requirements. The adaption of businesses to low-income market necessities is named “technological responsiveness” in this thesis. In the presented research model (chapter 2.7) it is assumed that SME-NGO partnerships have an impact on the technological responsiveness. The following statements provide evidence for and against this assumption. The technological responsiveness is presented in four steps, because technological adaptations are obligated in different stages of the technology life cycle.

Firstly, the determination of technological responsiveness starts at the design and functionality. There is strong evidence for western SMEs reflecting on the purpose of technology and its target market. Basis for their considerations are their experience in and perception of local circumstances. Especially solar-technology is praised by all informants. The sun power enables the poor to use technology in areas where no or not stable grid lasts. Such an adaption indicates stark technological responsiveness.

The second step in responding to local prerequisites is the adjustment according to experiences made during in-field operation. This should be regarded as an evolving process and should take place during the entire life cycle of a technology. As indicated by the data, SMEs revise solely weaknesses which threat the operation. Adaptions for more convenient use are not observed.

Thirdly, the usage instructions are a major part of the technological responsiveness. Since Western technologies has to be explained. However, SMEs explicate their machines passively by written manuals.

Finally, maintaining and repairing western technology impacts the entire technological responsiveness. There are pieces of evidence that SMEs employ mainly local technicians or area sales managers. Apparently, it is not possible for BoP applicants to repair or maintain Western technology. It is indicated the poor neither have neither knowledge nor the tools to handle technology from abroad.

Interestingly, the interviews point to SMEs commitment to technology. Due to their strict focus on technology, SMEs are not vigilant of the big picture. Following statements express the issue.

N2: “What I have seen very often at SMEs is, they have a technical focus. So, they will propose a technical solution and they will think it is done.”

Furthermore, Western technologies worsen the dependencies on foreign companies as NGO interviewees reoccurring heightened. Interestingly, SMEs’ stark concentration on tech technology itself leads to the phenomenon they are blind to the technology’s simplicity in real life. While they are sure their machines are easy in use, the feedback from applicants proves it wrong. Frequently, the poor do not understand or accept Western technology which is not co-developed with them. The lacking acceptance is underscored by a gender gap between ToP and BoP actors. On the one hand, decision makers and engineers of SMEs are predominantly male. On the other hand, the decision makers for daily life in BoP countries are women who have only a low level of education. Therefore, it is examined as soon as women are exposed to complicated Western technology, they draw back from it.

N1: (...) “we have Western men with a technical mind, a technical solution in their head and a technical mind frame inventing a solution for women who are illiterate in underdeveloped countries and who do not have technical mind set. So, to bring these together is the big challenge.”

Nonetheless, BoP applicants often suggest adaptations to their foreign counterparts. In spite of a vast number of smart proposals, SMEs tend to reject these without further consideration. It is apparent, Western enterprises rather market specified products on large scales. There are only some indications that SMEs are willing to change easily adaptable elements such as software due to local requirements. Evidently, technological hardware is not revised. It gives evidence the technological responsiveness strongly covariates with the financial performance

of BoP projects. Since SMEs only adjust their hardware if they gain enough revenues. Thus, they follow the traditional business principle of large scales. These sub-chapter results are presented in table 8.

SMEs take local requirements into account at the design stage
During the life cycle only some features are adapted. NGOs cannot influence technological changes
SMEs explain the devices passively by written manuals
For most Western technology local reparability is not observed
Strong indication for a gap in terms of understanding technology between ToP and Bop actors.

Table 8: Results on technological responsiveness

4.4.2 Co-development and western technology

Statements of all interviewees underpin the appreciation of Western technology in developing countries. Nevertheless, members of group N and some from group M question the exports to underdeveloped markets. They favour co-development and co-production over exporting technology. The reasons for implementing local people in development or operating and sustaining are typified by the citation of one informant.

E2: “You can create really lovely projects, but if you leave it, wow, then the local people do not really feel responsible for it. They regard it as some kind of gift. After a couple of years a lot of projects are rubbish.”

Strongly linked to co-development are alternative ways to market technology. Reoccurring feature is to sell a service via a technology instead of selling a technology itself, i.e. selling a service portion-wise. The described theme has intersections with single use-packages of consumer goods or micro-loans.

4.5 Exogenous obstacles

4.5.1 Cultural and educational obstacles

As presented in chapter 2.4, BoP markets have minor networks compared to ToP markets. Accordingly, there exists a consensus that western companies have to cope with many threats

and obstacles at the BoP. As indicated by the interviews, prevalent are institutional obstacles including culture, education, politics, bribery and financial issues. The different types of obstacles are examined hereafter. Most often, the cooperation between SMEs-NGOs mitigates these obstacles.

Repeatedly mentioned by the interviewees are cultural obstacles for western companies at the BoP. There is strong evidence that variations in cultures increase the difficulty to execute projects at low-income markets.

B2: "It is about much more than technology. We have to deal with their culture."

A prevailing difference is the strong relevance of personal connections. Grounded by statements from all participants, the individual personal relationships with people on a local level are essential.

B3: "It is the different culture. (...) In Africa you do not sell any product based on its classification, characteristics or qualities. You sell a product based on the person that is selling it. It is a really personal driven society. (...) In Africa it is not what you sell it is the person who sells it."

Additionally, the results revealed another cultural obstacle. Apparently, local people tend to accept individual technology more often than technology which is used by a community or a group of people. As the role of families is severely at the BoP, the poor accept technology for each family better. The phenomenon has two sides. The demand for individual technology is an obstacle, because household's budgets are than budget of an entire community. Regarding to the high price Western water technology costs, it increases the difficulty for SMEs to perform well at the BoP. Further advantage for family solutions are clearly defined responsibilities for maintaining and repairing which is often a problem for community water technology. The increased demand for individual technology is underpinned by different actors with high embeddedness

Furthermore, there is variation in education of people at the BoP in rural and urban areas as underlined by all interviewees. Based on the descriptions, the education at the rural BoP is low in terms of formal education and technological education. Therefore, rural people from the BoP are often not capable to apprehend western technologies. Interestingly, the theme is only mentioned by NGO players.

N2: “You have to adapt to local circumstances. But what is also very important is to local skills and local education levels. The things can go very, very wrong on this level. Because, in many countries, especially Africa, the level of technical education is low. This leads to problems.”

Finally, it can be concluded that NGOs or players with merged roles help SMEs to understand cultural differences. This probably leads to a better adjustment of SMEs to the culture of BoP markets. In addition, NGOs are capable to explain Western technology appropriately to local people, since NGOs already are active at the BoP and often familiar to local communities. Apparently, SMEs outsource training tasks to NGOs regularly.

4.5.2 Governmental and bribery obstacles

Despite the national, federal or local governments seem to be formal and trustworthy at first glance, there is strong indication these do not act compliant to legislation. As governments belong to the target group of western SMEs, their technology is often marketed to different governments as well. However, players from all backgrounds claim that administrations neither on a national nor regional level are stable. Thus, frequent changes in political offices cause difficulties for SMEs.

B2: “I put so much effort in a project with a government. However, the government was not re-elected and the new administration was not interested in our project.”

In addition to the issue, the data render that bribery on a governmental level as a paramount matter. Remarkably, actors from all fields identify bribes as a pervasive characteristic of business in some countries. As indicated by the interviews, local decision makers demand bribes as soon as they recognize they are dealing with people from developed countries. Due to ethical reasons, the acronyms of two citations are undeclared for the following two citations.

Anonymous: “If ministers or public officers do not get anything for themselves, they do not award contracts and orders. (...) They have to be bribed. They are strongly interested in increasing their own salary. Therefore, we see many bad technologies in underdeveloped countries.”

Anonymous: “It is impossible to avoid it [corruption]. If you want to be part of the system, you have to play by their rules. (...) So, bribes are part of their everyday life. Without a bribe you won’t sell anything in [underdeveloped and developing countries]. (...) The moment we step out of the plane we are confronted with bribes, no matter where we are. First the customs people, the port people, the taxi people, the hotel people.”

Grounded by the interviews, cooperation with NGOs decreases the occurrence of corruption. There is evidence for a lower likelihood public decision makers are corrupted if SMEs partner with NGOs.

Finally, it is not observable that partnerships between SMEs and NGOs help to convince governments to join projects or to buy technology from ToP countries. Furthermore SME-NGO duos are not helpful for governmental obstacles as specified by the existing data. Nevertheless, the interviews substantiate as soon as SMEs and NGOs cooperate, corruption occurs less likely. Despite NGOs are not a panacea to bribery, they are an appropriate mean to mitigate corruption. Apparently, as soon as a civil organization is involved in a BoP market initiative, it regulates the compliance according to legislation and ethics. The summary of this sub-chapter is illustrated in table 9.

Dominant exogenous variables on ecosystems	Impact of NGO involvement on exogenous variables
Culture: Personal relations outstrip technology	Since NGOs are already active at the BoP, they bring in personal ties into tandems with SMEs
Education: Low degree of education in technological terms	NGOs are capable to explain technology to local people
Governmental: Instability and frequently changing responsible persons	Evidence for no influence of NGOs on it
Governmental: Bribes are asked for ordering technology or import approvals	Indication for NGOs lead out corruption

Table 9: Results on exogenous obstacles

4.6 BoP venture performances

4.6.1 Financial performance and financial management

The literature review in chapter 2.3.2 already suggests BoP projects are most likely performing weakly in financial terms. Based on data derived from the interviews, documents and personal observations, there is strong evidence for low performance of SMEs' BoP projects. Evidently, the investments exceed the revenues frequently. In addition, all interviewees from the B group confessed SMEs rarely attain profitability. Valuable insights is given by an interviewee from group M:

E3: Western companies delivering technology to developing countries? I can say these crashes on fire. (...) The most Western driven ventures are not financially viable. The operating costs are not feasible, because households are willing to spend a particular percentage of their income for certain things. One per cent spending on [something] is a lot in the Netherlands, but not in developing countries. It is not enough to buy technology. In a low income country people are willing to pay one Dollar per month. No matter what technology it is, too often is not often enough money in the market.

Thus, there is prominent indication BoP ventures reach only low financial performance. Therefore, further information on financial performance is not presented, because in this context a different theme is of special interest: the role of cross-sectional partnerships regarding to financial management. Apparently, low-income markets require innovative monetary organization. However, SMEs, especially if they are technology-driven, are mainly dedicated to traditional business models. As revealed by the interviews, SMEs regularly do not to create a financial management for their BoP projects beyond classical settings such as examined in the buying-funding relation. In contrast, NGOs and players with merged roles are accustomed to innovative financial tools for solving financial impediments at the BoP. Frequently, NGOs bring these into the sphere of SME-NGO alliances. Probably, without the involvement of a non-traditional business actor, innovative financial knowledge would not be exposed to SMEs. Alternative ways to manage finances are due to the reason the poor ones cannot afford technology from Northern countries at once. Alternative financial management tools are internalizing tasks such as micro-financing or providing methods similar to franchising or to foster local entrepreneurship as aforementioned in chapter 4.4.4. These are ways to cover the price and operational costs of water related technology. Especially non-

SME actors are vigilant on financial management and elucidate ways of how financial management for western technology is designed in further well performing projects.

N2: “The problem is paying for the device. So, it is not so much a technological problem, but an institutional problem. You have to pay for the device. Who repairs it if it breaks down? What will it costs? From where and how comes the money for it?”

Moreover, financial management tailored to day-to-day budgets matches the cultural prerequisites at low-income markets as underlined earlier as well. As indicated beforehand, business empowerment on a local level has a strong positive influence on the financial performance of BoP ventures. Even though, fostering local entrepreneurship for an enhanced financial performance seems to be challenging.

Finally, it has to be remarked that measuring the financial performance is only appropriate, if any kind of cash flow is observed. Therefore, assessing the financial performance is applicable for a segment of the BoP which has access to money. Mainly these are the poor in urban or sub-urban areas and in areas close to dense regions. Apparently, the BoP at severe remote places does not deal with formal currencies.

4.6.2 Social performance and social management

Primarily, the results emphasize the positive social performance of western water technology at the BoP. There is indication for enhanced livelihood by Western technologies. Apparently, technologies in the field of water, health, agriculture or nutrition significantly decrease the mortality and diseases rates.

Despite the findings points to an improved livelihood, at many places the livelihood was not improved by Western technology. As indicated by interviewees from groups M and N, market initiatives impact not always the livelihood. Deficient improvements are observed where SME technology was not accepted by applicants or the technology itself was somehow broken. Moreover, now social performance occurs in projects which have not any involvement or business empowerment.

In addition, some pieces of evidence point to a distortion effect on local living conditions.

M3: And that is the distorting factor. These companies [from developed countries] with much more capital elbow their way into local markets. Where no need exists. It is more likely they destroying something than helping. Such ventures hardly improve the livelihood.

Moreover, the same interviewee recognized better effect on the social performance of market activities in underdeveloped countries, if the BoP is included along supply chains.

E3: If western companies enhance the livelihood at the BoP, it is more related to supply chains and not to technology cooperation. It is more interesting if European companies decide to buy waste paper in Africa. In my experience the supply chain relationships often work, the technology relation seldom works.

Further criticism is concentrated on limited scales and scopes of Western driven BoP ventures. According to interviewees from all groups, these market initiatives are only focused on single local communities or areas which are sometimes dispersed all over a country.

As a final point, the data implies that the social performance is sustained if the financial performance is viable as well. Apparently, as soon as revenues are collected by a technology, these can be spend on maintenance, repairing and re-investments. Due to the reason that many BoP projects are not self-sustaining, missing business empowerment on a local level jeopardize the social improvements in the long-term. Thus, there is strong evidence for a high social performance of western water initiatives on a local level directly after the installation and as long as maintenance and repairing is guaranteed. The social performance decreases significantly, as soon as local people are not enough involved into the operation of the machine or the technology is not financially sustained by business empowerment. An overview of these sub-chapters results is shown in table 10.

Market initiatives rarely attain self-sustainability
BoP projects are profitable for SMEs due to donations or governmental funds
More prospective is to sell a portion-wise service by a technology instead of selling technology itself
Western technologies affect livelihood positively, as long as the technology operates
The positive social performance ends when funds expire or the technology breaks

Table 10: Results on financial and social performance

5 Conclusion, discussion, limitations and outlook

5.1 Conclusion

Starting point for this thesis's research was the assumption that partnerships between Western SMEs and international NGOs influence the technological responsiveness of SMEs' water technology for the BoP, how cooperation alleviates exogenous obstacles at low-income markets. Furthermore, it was hypothesized that technological responsiveness and exogenous variables influence separately the financial and social performance of joint BoP projects. These assumptions were summed up in the main research question as presented in chapter 1.2. In this sub-chapter the results of the study and the answers to the sub questions are presented in order to respond to the main research question. In addition, these findings are discussed by addressing the scientific debate. Firstly, the results on SME-NGO partnerships' characteristics are discussed, secondly the findings on the technological responsiveness within the cross-sectional framework, thirdly the impact of exogenous variables on the financial and social performance of BoP ventures and how cooperation alleviate negative exogenous variables.

Related to the main features of SME-NGO alliances in technology-related networks is the main research question *"How do SME-NGO alliances influence technology and exogenous obstacles?"*

To answer the main question, the findings responding to the sub-questions are presented.

The results to the first sub-question *"How are SME-NGO alliances characterized?"* conclude as follow:

Based on the interviews there is strong evidence that SMEs are the most frequent initiator of cooperation. Another persistent insight is that SMEs are more likely to cooperate with smaller NGOs than large organizations. Thus, the probability for cooperation between an SME and a smaller NGO is higher compared to partnerships between SMEs and large NGOs. Hindrances to joint projects between larger NGOs and SMEs are a high degree of bureaucratization within such NGOs and challenging application processes for companies to get supply tenders. Furthermore, the formalized processes do not match the often observed ad-hoc strategy of SMEs in forming and conducting cross-sectional cooperation. In addition, the data does not indicate the presence of an encouraging-response relation.

Even though, the model by Lassonen et al. (2012) recently received special attention in the scientific discourse. It provides evidence that the model is more appropriate to partnerships between organizations of larger size. This finding is substantiated by the funding-buying relation most often observed. In this relation, NGOs gather money to buy technology from SMEs to be used on their own projects. This type of relationship is pervasive for SMEs and smaller NGOs. Less noticeable is a cooperation categorized by cooperating for business empowerment or local entrepreneurship. It appears that actors from all fields acknowledge the relevance of such types of cooperation. However, only some co-projects are within the framework of local business development, as only a minority of the investigated technology projects are employed for local water businesses. It provides strong evidence that triggering local entrepreneurship with Western technology seldom performs well. Essentially, SME-NGO duos transfer wealth from the developed world to BoP markets without locally sustained development.

The second section presents the results related to the sub question “*How do partnerships influence the technological responsiveness of Western technology?*”.

Based on the study, it is apparent that cross-sectional cooperation has only a slight impact on the technological responsiveness of Western SMEs. Notwithstanding, both NGO and merged role interviewees emphasised the relevance of adaptations to local demands, point to appropriate changes and communicate these to SMEs, there are only some adaptations in regard to these efforts. Some reasons for it are identified. It appears SMEs are mainly technology-focused and consequently they are frequently not open to social or cultural issues in relation to their technology. However, NGOs spend attention to the relation between social or cultural factors and technology. In contrast to NGOs’ caution when it comes to relationships, they are often not open to technological feasibility and demand impossibilities regarding technology or cost. As both types of organizations have different backgrounds, they do not speak in the same terms and perceive the same technological issues differently. Therefore, it is evident that SMEs do not adapt their technology to local requirements and most often attain only low technological responsiveness. Scarcely recognizable are adaptations which are low in costs such as software changes. Finally, SMEs consider hardware adaptations only for high scales.

The third section shows the results on exogenous variables and the sub question “*How do cross-sectional partnerships alleviate exogenous obstacles at low-income markets?*”

Even though SME-NGO cooperation has low influence on the technological responsiveness, partnering helps to mitigate environmental obstacles and to bridge gaps in BoP networks. Firstly, NGOs increase the understanding of cultural and business habits by SMEs in general. Secondly, NGOs can provide education on a local level about water and water related diseases which result in increased acceptance of water technology. Finally, cooperating with NGOs combats corruption in BoP projects. NGOs have a regulatory role within the cross-sectional sphere. However, cooperation is not a universal remedy to surmount these obstacles. They increase the likelihood to alleviate them. Nevertheless, the interviews revealed NGOs have almost no influence on solving governmental problems, as they are usually beyond NGOs' power horizon. The influence of exogenous obstacles on the social and financial performance is severe. All interviewees agree that these obstacles are part of conducting business at the BoP on a regular basis. It is not possible to avoid them completely, let alone eradicate them. Nevertheless, cross-sectional cooperation and innovative business models are capable of mitigating the exogenous hindrances.

The next section gives an answer to the sub question "*How do partnerships affect the financial and social performance of BoP technology*"? shows the influence of the abovementioned variables on the social and financial performances of BoP ventures. Obviously, the cooperation between SMEs and NGOs influences the financial performance and monetary management significantly within the funding-buying framework. However, as soon as partners execute a project beyond this relationship such as business empowerment, the partnership's influence on the financial terms is lower but still observable. If NGOs are involved in triggering entrepreneurship, the performance is enriched by NGOs' trainings and embeddedness. However, the involvement of NGOs does not guarantee enhanced financial performance.

Overall, the interviews prove that BoP projects are most likely low-performing in financial terms. Profitability is rarely encountered for this type of project. In addition, self-employment of the poor using sophisticated Western technology is rarely found due to the high procurement and operational costs of.

Finally, strong social performance is secured in almost all joint projects at an early stage regardless of the type of cooperation. Frequently, the ventures achieve high social improvements and improve the health of applicants after installation and for some time afterwards. However, the performance for funded projects is not durably sustained. As soon

as funds expire, maintaining or repairing Western technology is not subsidized anymore and the social performance of such projects is eliminated soon after.

The results presented for the sub questions are already sufficient to answer the main research question. However, the research revealed that another type of actor is highly active in BoP networks and not illuminated in detail by the existing research. As a result, the new type of organization was not taken into account when the research question and research model were developed. Therefore, the main findings on merged role actors are presented within the SME-NGO framework. Firstly, the results on the role of merged role organizations are shown, secondly the effect of merged role actors on SME-NGO partnerships is illustrated.

It is evident that merged organizations have more in common with NGOs at BoP markets than with SMEs. Similar to NGOs, they are better embedded and more cautious of social and cultural issues at low-income markets than SMEs. The most severe difference to NGOs and SMEs is that merged role actors combine both business and philanthropic knowledge. Therefore, merged actors employ genuine business models with co-operators which are non-traditional business actors such as NGOs. In contrast, SMEs most often consider NGOs to be only customers. Besides, merged actors possess networks in the field of business and NGOs. Therefore, they can play a pervasive role as an intermediary between both types of organizations. Especially due to the fact they bring together philanthropic and financial objectives for BoP ventures. They are able to establish cooperation or to provide consultancy for co-operators.

Furthermore, based on the results addressing the pre-formulated sub questions, main research question, research model, and unexpected findings the preliminary research model is assessed. A depiction of the results based on the research model is provided in figure 6. The symbol “o” represents the non-observable influence of SME-NGO alliances on technological responsiveness. Thus, there is no indication whether technological responsiveness influences the financial and social performance. Furthermore, the symbol “+” illustrates the positive impact of SME-NGO partnerships on alleviating exogenous obstacles. It is evident that partnerships alleviate the majority of identified environmental obstacles. Since SME-NGO duos resolve these issues, the financial and social performance is enhanced.

Finally, the study examined a relationship between financial and social performance as well. Based on the results, market initiatives enhance the local livelihood as long as they perform financially. However, as most BoP ventures are funded by donations or governmental

subsidies, which expire after a designated period, the social performance ceases to exist as soon as funds dry up. Thus, the social performance strongly relies on the financial performance. Therefore, it can be assumed that only self-sustainable BoP projects improve livelihoods in the long-term.

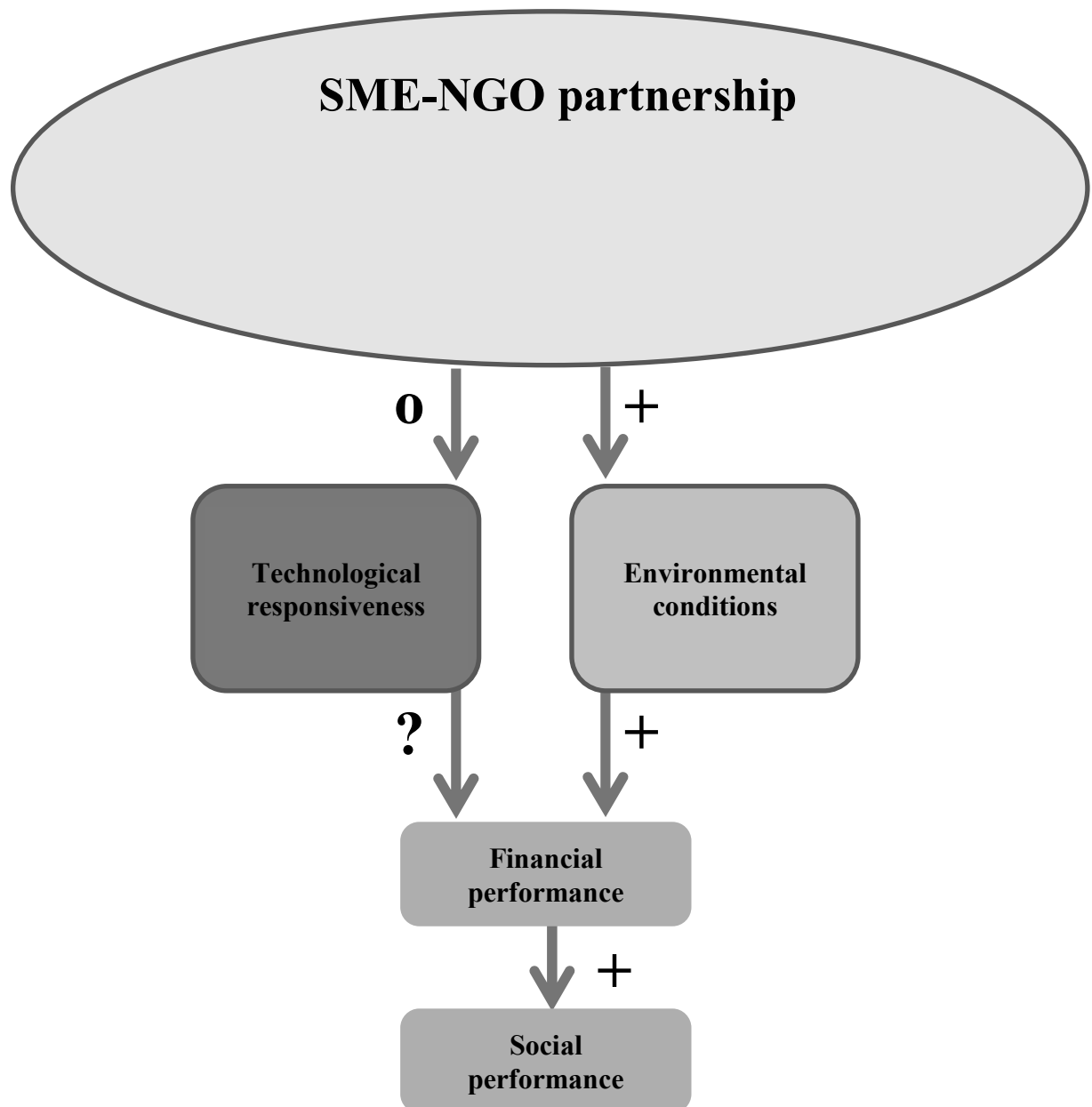


Figure 6: Resulting research model

5.2 Discussion

5.2.1 Ecosystems and BoP networks

In this sub-chapter the results of this thesis are discussed with regard to the literature review. It will be outlined which findings reinforce and which contradict the existing body of knowledge.

Evidently, the findings on BoP networks are in line with the reviewed literature. Recurring results underline that low-income networks are ecosystems in which all actors succeed or fail collectively. Apparently, both the financial performance and social performance are strongly related and therefore the drivers for SMEs, financial rewards, and for NGOs, social improvements, are attainable only together. Thus, the concept of ecosystems with the connection to biology is more appropriate for the BoP. Nevertheless, the concepts of centralization, linearity, density and structural holes are valid for the ecosystem concept. Thus, this thesis substantiates that BoP ecosystems entail a low degree of centralization. Due to this study's focus on SME-NGO cooperation, BoP networks are characterized by at least two centres: one SME and one NGO. Whether BoP ecosystems have more centres cannot be concluded. Beyond the abovementioned dimension, this research adds a further piece of evidence that BoP networks do not interact in a linear fashion, but in loops. Information and interaction flow between the involved parties in different directions and even in chaotic ways. Furthermore, the findings underline BoP ecosystems have lower density compared to ToP networks. The number of redundant ties is low. Severely actors are related by one tie instead of redundant ones. According to the investigated SME-NGO setting, the cross-sectional actors bring their own networks into one sphere. Thus, the density is imbalanced and skewed to two sides. On the one hand, SMEs bring in dense networks of traditional business actors and on the other hand NGOs implement dense networks with BoP actors. The figure 3 in chapter 2.4.4 depicts the combination of SME contacts with NGO contacts. Such a setting constitutes the clustered characteristic of BoP ecosystems. Moreover, the results of this study on structural holes are in line with the body of knowledge. In this research it is apparent that BoP networks entail structural holes. Institutions or players filling out particular tasks are not present. Thus, tasks such as financial institutions are not present regularly. It definitely threatens financing Western technology which is most often unaffordable for BoP communities.

In addition, the existing BoP knowledge on network scope, tie domains and size is reinforced by the findings. The observed networks are wide and not focused on specialization. BoP network partners fulfil different tasks and are not focused on specialization. This finding is also on line with the low degree of linearity and loop connections between BoP parties. Moreover, the BoP concept on tie domains is strengthened by this research, as varying actors such as SMEs, MNCs, NGOs, merged role actors, and the poor are observed in BoP ecosystems. Thus, the tie domain of low-income networks is broader than traditional networks. Furthermore, BoP networks are observed to be small in size and local in their reach. In essence, most of the findings of this thesis are in accordance with the concepts found in the literature. An overview of the discussion for network concepts is shown in table 11. This research findings on networks are in line with the existing body of knowledge. It gives evidence that the networks characteristics are predominant. Additionally, SME-NGO conglomerates face the same environmental setting as MNCs do.

Concept provided by BoP literature	Finding of this thesis	Difference between findings and body of knowledge
Market-oriented ecosystem as collective network of different actors (Prahalad, 2004)	Organizations in BoP ecosystems stand and fall together. NGOs and SMEs objectives are attainable by cooperation.	No
BoP networks: Low degree of centralization (Wassermann & Faust, 1994)	Low degree of centralization, because a maximum two centres is identified. However, the focus on SME-NGO cooperation has to be taken into account for the result.	No. Only reliable statements on the number of centres are limited.
BoP networks: Low degree of linearity (Rivera-Santos & Rufin, 2010)	Interaction and communication is looping. There is some evidence for chaotic patterns of interaction and communication between network partners.	No
BoP networks: Clustered density (Williams, 2005)	SMEs and NGOs bring their own network partners into a cooperating sphere. Thus, the density is not uniform. The density is skewed, as SMEs bring in dense networks of traditional business actors and on the other hand NGOs implement dense networks with BoP actors.	No
BoP networks: High degree of structural holes (Ahuja, 2000)	Several types of traditional business institutions and players are not present at the BoP. Thus, the number of structural holes is high.	No
BoP networks: Broad scope	Organizations cannot follow the principle of efficiency, as they take over a broad range of obligations.	No
BoP networks: Tie domains with different players	SMEs, MNCs, NGOs, and merged role players are observed at the BoP	No
BoP networks: Small size and locally focused	Small networks and strongly bonded to local communities	No

Table 11: Discussion of network concepts

5.2.2 Environmental obstacles

There is no doubt in the BoP literature that exogenous variables affect market initiatives. There is strong agreement that the surrounding conditions at low-income markets are either rough or insecure or both at once. It's only questionable which environmental factors affect the performance of market initiatives. Apparently, the literature points to the informal nature of BoP business and to missing legal norms and prosecution of legislation. It is underlined by the research findings, as all interviewees experience these dimensions. Nonetheless, some environmental issues are not mentioned in the BoP debate, but appear to be severe in this study. Principally, cultural and educational gaps between ToP markets and BoP markets can be added to the discussion as paramount themes. These differences play a relevant role for Western BoP technology, as their acceptance stands and falls with the cultural perception and intellectual understanding. In addition, the results indicate that governmental and customs issues in relation to corruption are severe subjects. As the bribery issue is reoccurring, it can be assumed that it is the most relevant result for environmental dimensions. In table 12 the discussion for exogenous factors is summarized. The research already examined the informal business nature, lacks of obeying laws and to a minor degree corruption. No information is given by the literature about cultural and educational gaps.

Apparently, the knowledge about corruption within the BoP framework is low, since researchers cannot gather reliable data about it. Due to the illegal nature of corruption, it is challenging for all researchers to gather reliable and valid data from key informants, or quantitative data. This study examined only some qualitative pieces of evidence on the issue. It indicates that Western actors observe bribery, but no conclusion can be drawn about the extent of corruption. In addition, this research identified educational and cultural differences as a pervasive obstacle. Nevertheless, the debate is aware of these gaps between BoP and ToP markets. However, there is no concept presented in the literature. It is assumed that investigations of cultural and educational dimensions cannot be accomplished by most business studies. Furthermore, this field is generally attributed to sociology.

Concept provided by BoP literature	Finding of this thesis	Difference between findings and body of knowledge
Informal business nature	Informal business nature	No
Missing legal norms and compliance with the law	Missing legal norms and compliance with the law	No
No concepts	Cultural and educational gaps	Yes
Slightly illuminated, but no concepts exist	Corruption pervasive environmental obstacle	No difference on acknowledging the topic, but differences on research based findings

Table 12: Discussion of environmental conditions

5.2.3 Relation between SMEs and NGOs for technology

Existing concepts on cross-sectional partnerships are dedicated to an MNC-NGO setting. Here it will be discussed how these concepts match SME-related partnerships. Within the debate exists a consensus that internalizing tasks or outsourcing tasks is required to fill in gaps in BoP ecosystems. However, for an SME setting neither the internalization of non-core tasks nor the outsourcing of tasks to other players is examined. Apparently, SMEs and cooperating smaller NGOs do not possess the capacities to follow the principles of this concept. Additionally, the model of shared roles as mutual network leaders is not applicable to SMEs. There is some evidence that SMEs are so used to traditional network relations that they cannot adapt to shared roles.

Nonetheless, the literature is in line with this thesis' result that NGOs and SMEs are opening up to each other more and more. As a result, the shift from reluctance and criticism to cross-sectional collaboration takes place. Thus, business and civic organizations learn how they benefit from partnering. Nevertheless, some reservations from the NGO side about cross-sectional cooperation can be identified. If partnerships are declined or stopped, it is frequently initiated by NGOs.

The results on co-development are in contrast to existing concepts. The model gained strong prominence, as it is regarded as the most promising way to create BoP innovations. Conversely, co-development is not present for SME-NGO tandems. As both types of organizations are characterized as small or medium-sized, they lack the capacities to communicate intensively in order to co-develop new technology or business models. Remarkably SMEs, are less open to co-development compared to NGOs. NGOs seem to be more communicative and interested in mutual development. As co-development is not observable for cooperating SMEs, the encouraging-response model is not applicable to this framework either. Apparently, none of the involved entities adopt knowledge from other organizations. Thus, the concept of reciprocal influence is also not applicable to a SME setting.

Due to the missing encouraging-response and low degree of reciprocal influence between SMEs and NGOs, SMEs are the main force in developing BoP technology. NGOs have no influence on the R&D activities. Furthermore, the findings reveal that Western SMEs provide world-class products as stated in literature. However, SMEs understand this quality level in traditional terms and according to the SIP concept. Therefore, Western enterprises tend to provide sophisticated and expensive technology, which BoP applicants can neither easily understand nor afford. Deceptively, SMEs believe their traditional product development is appropriate for the BoP. The discussion is summarized in table 13.

The differences between this study's results and the literature are due to the differences between MNCs and SMEs. Since all models were developed for larger MNCs, they are not applicable to smaller enterprises. Apparently, SMEs are neither capable nor willing of implementing non-core tasks into their organization. Therefore, the aspects of internalizing, co-development, encouraging-response relationships, or EIP are not observable when it comes to SMEs. The only model applicable to the BoP is that of world class products. As SMEs frequently possess special technological knowledge, they are able to provide products in good quality. However, they are hardly capable of adapting their products according to BoP requirements. As indicated earlier, SMEs are strongly focused on the technology itself and do not usually take aspects into consideration that go beyond the technology.

Concept provided by BoP literature	Finding of this thesis	Difference between findings and body of knowledge
In cooperation are tasks internalized or outsourced	Neither internalizing nor outsourcing are identified. SMEs and smaller NGOs do not have the capacities to internalize or outsource assignments.	Yes
The openness from SMEs to NGOs and vice versa is in transition	SMEs and NGOs are getting more open to other types of organizations significantly. Nevertheless, NGOs are more reluctant to cooperation than SMEs	No
Cross-sectional partnerships lead to co-development	Co-development is not identified. Apparently, partnering organizations are strongly focused on their own fields.	Yes
Encouraging-response relation between cross-sectional partners	As co-development results in the concept of encouraging-response, the model is not applicable for an SME setting.	Yes
World-class BoP products	Western SMEs understand world-class quality in traditional terms. Thus, their BoP technology is often too sophisticated and expensive to produce.	Yes and no. SMEs develop products good in quality, but do not adapt the technologies feature to the BoP.
Concept of EIP instead of SIP	Western SMEs tend to act according to SIP instead of EIP	Yes.

Table 13: Discussion of findings on SME-NGO relation and technology

5.2.4 Business empowerment, financial and social performance

Several academics emphasise the relevance of business empowerment by Western market initiatives. They consider local entrepreneurship to be a potent way to alleviate poverty and to establish financially self-sustaining ventures. However, this thesis indicates that business empowerment is rarely noticeable for SMEs BoP technology. The results indicate Western

SMEs combine conservative business mind sets with traditional business models as they are used in ToP markets. They employ traditional methods for sales and distribution by international sales agents and forwarders. SMEs are passive when it comes to creating local business or pass on the responsibility to NGOs. Therefore, local people are rarely included as players into the business models. Thus, the concept of business empowerment is not pertinent for this thesis' framework.

In addition, the body of knowledge provides evidence that Western BoP ventures are performing weakly in financial terms. This indication is reinforced by this study. Even in the long-run, BoP projects do not reach profitability. Nevertheless, there is evidence that the majority of BoP ventures enhances the livelihood at the BoP. It can be concluded that Western technology improves the weak living circumstances of the poor significantly. However, the improved life quality lasts just as long as the market initiatives are funded by NGOs' donations or government programmes. In essence, SMEs' BoP projects are viable due to subsidies by third parties instead of their own revenues. Thus, both financial and social performances are intensely related to each other in the SME-NGO setting. The social performance is guaranteed only for the period of NGOs' or government subsidies. After the funds expire, many projects end because local communities are not capable of maintaining Western technology. All results are represented in table 15.

In contrast to the discussion in sub-chapters 5.2.1 and 5.2.2, the aspects of business empowerment, viability, and social performance significantly differ from the literature. Firstly, there is evidence that SMEs are not capable of creating local business. Thus, the concept of self-sustaining BoP ventures does not apply to the SME setting. Due to the fact that the model was developed for MNCs, it can be concluded SMEs do not have sufficient capacities, fine grained distribution networks, and country-specific knowledge in order to foster local entrepreneurship. As SMEs do not meet these prerequisites, as opposed to MNCs, they heavily rely on donations or subsidies to finance their market initiatives. As a result, this dependency limits the social performance over the long term.

Concept provided by BoP literature	Finding of this thesis	Difference between findings and body of knowledge
Business empowerment and local entrepreneurship alleviates poverty and creates sustainable BoP ventures at once	Business empowerment is not present. SMEs are not actively pursuing entrepreneurship on a local level. They likely employ traditional business models including international sales agents instead of local people.	Yes
Viable BoP projects	SMEs definitely strive for profitability of their market initiatives. However, the vast majority of their projects is funded by donations or governmental subsidies. The financial performances lasts until donations or public development programmes expire.	Yes and no. SMEs aim for profitability, but attain it mainly by subsidies.
Enhancing the local livelihood	The social performance is only guaranteed for the time of donation or governmental programmes.	Yes and no.

Table 14: Discussion of business empowerment, social and financial performance

5.3 Limitations

Qualitative single case studies have different limitations. Existing limitations of this study and limitations that could be addressed are discussed in this sub-chapter.

In-depth interviews provide a deep understanding and appreciation of people's knowledge and experience. They lead to high consciousness of the power of social and organizational contexts (Seidmann, 2006). However, the issue of validity is pervasive in a qualitative single case study. To increase the generalizability of this research, several steps have been undertaken according to Flick (2007). Firstly, the research question is intended to examine the cooperation between European SMEs and European NGOs in the BoP framework. The setting already provides the scope for the validity. Secondly, to increase the validity, not only have key informants who are employed by the investigated SME interviewed, but either former employees or interviewees independent from the SME were interviewed as well.

Finally, the triangulation of sources contributed positively to the research. The analysis of documents and personal documents strengthened the results of the case study in respect to the water purification sector, and the characteristics of SMEs and NGOs. Additionally, thorough description of the case context, the methods and findings enhance the validity (Major & Savin-Baden, 2010).

Nevertheless, the results and implications of this study are only applicable to SMEs and smaller NGOs involving in technology projects for BoP markets. Furthermore the group of interviewees is mainly from the Netherlands. Therefore, the research illuminates a Dutch perspective. Furthermore are limited the findings on technology in terms of generalization. As this study is focused on water technology, the results are probably not applicable to other technologies such as information or computer technology.

Final limitation is related to the coding method. Every researcher brings his subjective points of view to coding (Sipe & Ghiso, 2004). Consequently, another researcher would probably code the same transcripts and documents in a different manner with altered codes. Nevertheless, the vast majority of applied codes are both derived from the literature or in vivo codes. It decreases the personal perception and bias of the researcher

5.4 Future research

Some recommendations for future research are specified regarding the limitations of a single case study and the examined results. As the SME-NGO cooperation is not intensively researched and this thesis draws its results from only a single case study, more studies in this field are required. Furthermore, it is strictly necessary for BoP scholars to develop stronger theoretical models within the debate instead of mainly explorative research. The amount of applied scientific research is still seemingly pervasive in the discussion. Moreover, special attention has to be paid to merged role actors. So far, most researchers are not acquainted with such actors, which consequently are not included in any research. However, this study revealed the relevance of such actors for Western companies active at low-income markets. A final recommendation for future research would be to illuminate the roles of women and who are responsible for household management at the BoP.

References

- United Nations Millennium Declaration: resolution adopted by the General Assembly. (2000). *A/RES/55/2*. New York.
- Face value - Profits and poverty. (2004, August 19th). *The Economist*.
- Schumpeter- The guru of the bottom of the pyramid. (2010, April 22nd). *The Economist*.
- United Nations Summit 2010, High-level plenary meeting of the General Assembly. (2010, September 20-22). *Fact sheet: Eradicate extreme poverty and hunger*. New York.
- Indices & Data | Multidimensional Poverty Index | Human Development Reports (HDR) | United Nations Development Programme (UNDP)*. (2012, November 15). Retrieved from Human Development Reports (HDR) - United Nations Development Programme (UNDP).: <http://hdr.undp.org/en/statistics/mpi/>
- Ählström, J., & Sjöström, E. (2005). CSOs and business partnerships: Strategies for interaction. *Business Strategy and the Environment*, 14(4), pp. 230-240.
- Ahuja, G. (2000). Collaboration networks, structural holes, and innovation: A longitudinal study. *Administrative Science Quarterly*, 45(3), pp. 425-457.
- Alston, M., & Bowles, W. (2003). *Research for Social Workers: An introduction to methods*. Crows Nest: Allen & Unwin.
- Arnould, E., & Mohr, J. (2005). Dynamic transformations for base-of-the-pyramid market clusters. *Journal of the Academy of Marketing Science*, 33(3), pp. 254-274.
- Arora, S., & Romijn, H. (2011). The empty rhetoric of poverty reduction at the base of the pyramid. *Organization*, 19(4), pp. 481-505.
- Babbie, E. (2012). *The Practice of Social Research, 13th Ed*. Belmont, CA: Wadsworth Cengage Learning.
- Banerjee, A., & Duflo, E. (2007). The economic lives of the poor. *Journal of Economic Perspectives*, 21(1), pp. 141-167.
- Bartlett, C., & Ghoshal, S. (1989). *Managing Across Borders: The Transnational Solution*. Boston: Harvard Business School Press.

- Bartley, T. (2003). Certifying forests and factories: States, social movements, and the rise of private regulation in the apparel and forest products fields. *Politics and Society*, 31(3), pp. 433-464.
- Baur, D., & Schmitz, H. (2012). Corporations and NGOs: When accountability leads to co-optation. *Journal of Business Ethics*, 106(1), pp. 9-21.
- Beck, U. (2002). *Macht und Gegenmacht im globalen Zeitalter. Neue weltpolitische Ökonomie*. Frankfurt a. M.: Suhrkamp.
- Bruni Celli, J., & González, R. (2010). Market-based initiatives for low-income sectors and economic value creation. In P. Márquez, E. Reficco, & G. Berger, *Socially inclusive business: Engaging the poor through market initiatives in Iberoamerica*. Cambridge, MA: David Rockefeller Center for Latin American, Harvard University Press.
- Budinich, V., Reott, K., & Schmidt, S. (2005). Hybrid value chains: Social innovations and the development of the small farmer irrigation market in Mexico. *Harvard Business School Conference on Global Poverty*. Boston.
- Burke, I., & Logsdon, J. (1996). How corporate social responsibility pays off. *Long Range Planning*, 29(4), pp. 495-502.
- Business Partners for Development. (2002). *Putting Partnering to Work. 1998-2001. Tri-Sector Partnership Results and Recommendations*. Published by Business Partners for Development.
- Center, E. R. (1982). *ERIC processing manual*. Washington, DC.
- Chatterjee, S. (2009). Multinational firm strategy and global poverty alleviation: Frameworks and possibilities for building shared commitment. *Journal of Human Values*, 15(2), pp. 133-152.
- Chesbrough, H., Ahern, S., Finn, M., & Guerraz, S. (2006). Business models for technology in the developing world: The role of non-governmental organizations. *California Management Review*, 48(3), pp. 48-61+3.
- Chhotray, V. (2004). The Negotiation of Politics in Participatory Development Projects, Kurnool, Andhra Pradesh. *Development and Change*, 35(2), pp. 327-352.

- Crane, A. (2010). From governance to governance: On blurring boundaries. *Journal of Business Ethics*, 94(Supplement 1), pp. 17-19.
- Crane, A., & Matten, D. (2007). *Business Ethics. Managing corporate citizenship and sustainability in the age of globalization. Second Edition*. Oxford/New York: Oxford University Press.
- Creswell, J. (2009). *Research Design - Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks: Sage.
- Curbach, J. (2008). Zwischen Boykott und CSR - Eine Beziehungsanalyse zu Unternehmen und NGOs. *Zeitschrift für Wirtschafts- und Unternehmensethik*, 9(3), pp. 39-52.
- Curbach, J. (2009). *Die Corporate-Social-Responsibility-Bewegung*. Bamberg: VS Verlag für Sozialwissenschaften.
- Dahan, N., Doh, J., & Teegen, H. (2010). Role of Nongovernmental Organizations in the Business-Government-Society Interface: Special Issue Overview and Introductory Essay. *Business & Society*, 49(1), pp. 20-34.
- Dahan, N., Doj, J., Oetzel, J., & Yaziji, M. (2010). Corporate-NGO collaboration: Co-creating new business models for developing markets. *Long Range Planning*, 43(2-3), pp. 326-342.
- Dawar, N., & Chattopadhyay, A. (2002). Rethinking marketing programs for emerging markets. *Long Range Plannin*, 35, pp. 457-474.
- De Soto, H. (2000). *The mystery of capital: Why capitalism triumphs in the west and fails everywhere lese*. New York, NY: Basic Books.
- Den Hond, F., & De Bakker, F. (2007). Ideologically motivated activism: How activists groups influence corporate social change behavior. *Academy of Management Review*, 32(3), pp. 901-924.
- Denzin, N. (1970). *The Research Act*. Chicago: Aldine.
- Doh, J., & Teegen, H. (2002). Nongovernmental organizations as institutional actors in international business: theory and implications. *International Business Review*, 11(6), pp. 665-684.

- Doh, J., & Teegen, H. (2004). Globalization and NGOs: Transforming business, government, and society. *Journal of International Business Studies*, 35(6), pp. 564-566.
- Dubois, A., & Gadde, L. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, (55), pp. 553-560.
- Easterley, W. (2006). *The White Man's Burden*. Oxford/New York: Oxford University Press.
- Eckstein, H. (1975). Case study and theory in political science. In F. Greenstein, & N. Polsby, *Handbook of political science* (7) (pp. 79-137). MA: Addison-Wesley: Reading.
- Eisenhardt, K. (1989). Buidling theories from case study research. *Academy of Management Review*, 14(4), pp. 532-550.
- Eisenhardt, K., & Graebner, M. (2007). Theory building from cases: Opportunities and challenges. *Academy of Management*, 50(1), pp. 25-32.
- Eisenhardt, K., & Schoonhoven, C. (1996). Resource-based view of strategic alliance formation: Strategic and social effects in entrepreneurial firm. *Organization science*, 7(2), pp. 136-150.
- Fassin, Y. (2009). Inconsistencies activists' behaviours and the ethics of NGOs. *Journal of Business Ethics*, 90(4), pp. 503-521.
- Flick, U. (2007). *Designing Qualitative Research*. London: Sage Publications.
- Flick, U. (2007). *Managing Quality in Qualitative Research*. London: Sage Publications.
- Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), pp. 219-245.
- Fondaca. (2006). *Not Alone. A research on partnerships between private companies and citizen's organizations in Europe. Final Report*. European Commission: Brussels.
- Fridell, G. (2009). The co-operative and corporation: Competing visions of the future of Fair Trade. *Journal of Business Ethics*, 86(1), pp. 81-95.
- Gall, M., Borg, W., & Gall, J. (1996). *Education research: An introduction (6th Ed.)*. White Plains, NY: Longman.

- Gates, S., Hegre, H., Jones, M., & Strand, H. (2006). Institutional inconsistency and political instability: Polity duration, 1800-2000. *American Journal of Political Science*, 50(4), pp. 893-908.
- Germaine, R., & Kenny, M. (2005). *The Idea of Global Civil Society. Politics and Ethics in a Globalizing Era*. London/New York: Routledge.
- Gerring, J. (2004). What is a case study and what it is good for? *The American Political Science Review*, (98), 2, pp. 341-354.
- Gerring, J. (2006). Single-outcome studies: A methodological primer. *International Sociology*, 21(5), pp. 707-34.
- Gibson, S. (2007). Microfranchising: the next step on the development ladder. In J. Fairbourne, S. Gibson, & W. Dyer, *Microfranchising: creating wealth at the bottom of the pyramid* (pp. 17-42). Edward Elgar Publication.
- Gilbert, D., & Rasche, A. (2008). Opportunities and problems of standardized ethics initiatives - a stakeholder theory perspective. *Journal of Business Ethics*, 82(3), pp. 755-773.
- Gold, L. (2003). Small enterprises at the service of the poor: The economy of sharing network. *International Journal of Entrepreneurial Behaviour & Research*, 9(5), pp. 166-184.
- Gouillart, E. (2008). An Interview with C.K. Prahalad. *Journal of International Affairs*, 62(1), pp. 215-227.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough?: An experiment with data saturation and variability. *Field Methods*, (18), 59, pp. 59-82.
- Gugiu, P., & Rodríguez-Campos, L. (2007). Semi-structured interview protocol for constructing logic models. *Evaluation and Program Planning*, 30(4), pp. 339-350.
- Hahn, R. (2009). *Multinationale Unternehmen und die "Base of the Pyramid" - Neue Perspektiven Corporate Citizenship und Nachhaltiger Entwicklung*. Wiesbaden: Gabler.

- Hahn, R. (2009). The ethical rational of business for the poor - integrating the concepts bottom of the pyramid, sustainable development, and corporate citizenship. *Journal of Business Ethics*, 84(3), pp. 313-324.
- Hall, J., Matos, S., Sheehan, L., & Silvestre, B. (2012). Entrepreneurship and Innovation at the Base of the Pyramid: A Recipe for Inclusive Growth or Social Exclusion. *Journal of Management Studies*, 49(4), pp. 785-812.
- Hart, C. (1998). *Doing a literature review: Releasing the social science research imagination*. London, UK: Sage Publications.
- Hart, S. (2007). *Capitalism at the Crossroads: Aligning Business, Earth, and Humanity*. Upper Saddle River, NJ: Pearson.
- Hart, S., & Christensen, C. (2002). The great leap: Driving innovation from the base of the pyramid. *MIT Sloan Management Review*, 44(1), pp. 51-56.
- Hartley, J. (2004). Case study research. In C. Cassel, & G. Symon, *Essential guide to qualitative methods in organizational research* (pp. 323-333). London: Sage Publications Ltd.
- Hatch, J. (2002). *Doing qualitative research in education settings*. Albany, NY: Suny Press.
- Hemphill, T. (2010). The 'creative capitalism' corporate governance model: How radical an approach to modern capitalism? *International Journal of Law and Management*, 52(2), pp. 110-123.
- Holzer, B. (2008). Turning stakeholders into stakeholders: A political coalition perspective on the politics of stakeholder influence. *Business & Society*, 47(1), pp. 50-67.
- Holzer, B. (2008). Turning stakeholders into stakeholders: A political coalition perspective on the politics of stakeholder influence. *Business & Society*, 47(1), pp. 50-67.
- Hoskisson, R., Eden, L., Lau, C., & Wright, M. (2000). Strategy in emerging markets. *Academy of Management Journal*, (43), 3, pp. 249-267.
- Hubermann, A., & Miles, M. (1994). Data management and analysis method. In N. Denzin, *Handbook of qualitative research*. London: Lincolneditors YS, Sage Publications.

- Idemudia, U. (2009). Oil extraction and poverty reduction in the Niger delta: A critical examination of partnership initiatives. *Journal of Business Ethics*, 90(1), pp. 91-116.
- Ireland, J. (2008). Lessons for successful BOP marketing from caracas' slums. *Journal of Consumer Marketing*, 25(7), pp. 430-438.
- Ivari, J., Hirschheim, R., & Klein, H. (2004). Towards a distinctive body of knowledge for information system experts: Coding ISD process knowledge in two IS journals. *Information systems journal*, pp. 313-342.
- Jamali, D., & Keshishian, T. (2009). Uneasy alliances: Lessons learned from partnerships between business and NGOs in the context of CSR. *Journal of Business Ethics*, pp. 91-116.
- Jimenez, C., & Castellanos, O. (2012). Technology and its value at the bottom of the pyramid. *2012 Proceedings of Portland International Center for Management of Engineering and Technology: Technology Management for Emerging Technologies*, (pp. 1355-1360). Picmet' 12.
- Johnson, S. (2007). SC Johnson builds business at the base of the pyramid. *Global Business and Organizational Excellence*, 26(6), pp. 6-16.
- Karnani, A. (2005). Misfortune at the bottom of the pyramid. *Greener Management International*, (51), pp. 99-110.
- Karnani, A. (2007). The mirage of marketing to the bottom of the pyramid: How the private sector can help alleviate poverty. *California Management Review*, 49(4), pp. 90-111.
- Karnani, A. (2008). Help, don't romanticize, the poor. *Business Strategy Review*, 19(2), pp. 48-53.
- Karnani, A. (2009). Romanticising the poor harms the poor. *Journal of International Development*, 21(1), pp. 76-86.
- Kirchgeorg, M., & Winn, M. (2006). Sustainability marketing for the poorest of the poor. *Business Strategy and the Environment*, 15(3), pp. 171-184.

- Klein, S. (2010). Partnerschaftsallianzen - Die neue Lernarena für Unternehmen und NGOs. In S. Klein, & K. Siegmund, *Partnerschaften von NGOs und Unternehmen - Chancen und Herausforderungen* (pp. 52-60). Wiesbaden: SV Verlag für Sozialwissenschaften.
- Klein, S., & Siegmund, K. (2000b). Partnerschaften zwischen Nichtregierungsorganisationen und Unternehmen - Eine Innenbetrachtung. In S. Klein, & K. Siegmund, *Partnerschaften von NGOs und Unternehmen - Chancen und Herausforderungen* (pp. 13-18). Wiesbaden: VS Verlag für Sozialwissenschaften.
- Klein, S., & Siegmund, K. (2010a). *Partnerschaften von NGOs und Unternehmen - Chancen und Herausforderungen*. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Kourula, E., & Laasonen, S. (2010). Nongovernmental organizations in business and society, management, and international business research - review and implications from 1998 to 2007. *Business & Society*, 49(1), pp. 68-87.
- Koza, M., & Lewin, A. (1998). The co-evolution of strategic alliances. *Organization Science*, 9(3), pp. 225-264.
- Laasonen, S., Fougère, M., & Kourula, A. (2012). Dominant Articulations in Academic Business and Society Discourse on NGO-Business Relations: A Critical Assessment. *Journal of Business Ethics*, 109(4), pp. 521-545.
- Lang, S. (2010). Partnerschaften zwischen Unternehmen und zivilgesellschaftlichen Organisationen - Erkundungsgänge im Grenzgebiet zwischen Wirtschaft und Zivilgesellschaft. In S. Klein, & K. Siegmund, *Partnerschaften von NGOs und Unternehmen - Chancen und Herausforderungen* (pp. 19-42). Wiesbaden: VS Verlag für Sozialwissenschaften.
- LeCompte, M., Klinger, J., Campbell, S., & Menke, D. (2003). Editor'S introduction. *Review of Educational Research* 73(2), pp. 123-124.
- Levitt, T. (1981). Marketing Intangible Products and Product Intangibles. *Harvard Business Review*, 59, pp. 94-102.
- Levy, Y., & Ellis, T. (2006). A Systems Approach to Conduct an Effective Literature Review in Support of Information Systems Research. *Informing Science Journal*, 9, pp. 181-212.

- Li, Y., & Chen, Y. (2006). Managing technology: The technology valuation approach. *Paper presented at the Portland International Conference on Management of Engineering and Technology*, (pp. 535-540). Portland.
- London, T. (2008). *The base-of-the-pyramid perspective: A new approach to poverty*. Paper presented at the Academy of Management 2008 Annual Meeting: The Questions we Ask, AOM 2008.
- London, T., & Hart, S. (2004). Reinventing strategies for emerging markets: Beyond the transnational model. *Journal of International Business Studies*, 35(5), pp. 350-370.
- Lorenzo, G., & Lipparini, A. (1999). The leveraging of interfirm relationships as a distinctive organizational capability: A longitudinal study. *Strategic Management Journal*, 20(4), pp. 317-337.
- Lund-Thomson, P., & Reed, D. (2009). Introduction: Special issue on business partnerships for development. *Journal of Business Ethics*, 90(Suppl 1), pp. 1-2.
- Maak, T., & Pless, N. (2009). Business leaders as citizens of the world. *Journal of Business Ethics*, 88(3), pp. 537-550.
- Major, C., & Savin-Baden, M. (2010). *An Introduction to Qualitative Research Synthesis*. Londond & New York: Routledge.
- Marschall, T. (2010). Advocate, Stakeholder, Fundraiser - Partnerschaften zwischen NGOs und Unternehmen im Spannungsfeld zwischen entwicklungspolitischen Forderungen und Fundraising. In S. Klein, & K. Siegmund, *Partnerschaften von NGOs und Unternehmen - Chancen und Herausforderungen* (pp. 73-84). Wiesbaden: VS Verlag für Sozialwissenschaften.
- Martens, K. (2002). Mission impossible? Defining nongovernmental organizations. *Voluntas: Journal of Voluntary and Nonprofit Organizations*, 13(3), pp. 271-285.
- Mendoza, R. (2008). Why do the Poor pay more? Exploring the Poverty Penalty Concept. *Journal of International Development*, 23(1), pp. 1-28.
- Meuser, M., & Nagel, U. (1997). Das Experteninterview - Wissenssoziologische Grundlagen und methodische Durchführung. In B. Friebertshäuser, & A. Prengel, *Handbuch*

- qualitative Forschungsmethoden in der Erziehungswissenschaft* (pp. 481-491). Weinheim.
- Miles, M., & Huberman, A. (1994). *Qualitative Data Analysis*. Thousand Oaks: Sage.
- Moore, J. (1996). *The death of competition: Leadership & strategy in the age of business ecosystems*. New York, NY: HarperBusiness.
- Morse, J. (1994). Designing funded qualitative research. In N. Denzin, & Y. Lincoln, *Handbook of Qualitative Research* (pp. 220-235). Thousand Oaks: Sage.
- Myers, M. (2009). *Qualitative Research in Business and Management*. Londong: Sage.
- Narayan, D., Chambers, R., Kaul Shah, M., & Petesch, P. (2000). *Voices of the poor - Can anyone hear us?* New York: OUP Australia and New Zealand.
- Narayan, D., Chambers, R., Kaul Shah, M., & Petesch, P. (2000). *Voices of the poor - Crying out for change*. New York, NY: OUP Australia and New Zealand.
- Nelson, J., & Zadek, S. (2001). Partnership Alchemy. Engagement, innovation and governance. In S. Zadek, *Tomorrow's History. Selected Writings of Simon Zadek 1993-2003* (pp. 253-266). Sheffield: Greenleaf.
- Nghia, N. (2010). Management Research about Solutions for the Eradication of Global Poverty: A Literature Review . *Journal of Sustainable Development*, 3(1), pp. 17-28.
- Nguyen, C. (2010). Management Research about Solutions for the Eradication fo Global Poverty: A Literature Review. *Journal of Sustainable Development*, 3(1), pp. 17-24.
- Nielsen, C., & Samia, P. (2008). Understanding key factors in social enterprise development of the BOP: a systems approach applied to case studies in the Philippines. *Journal of Consumer Marketing*, 25(7), pp. 446-454.
- Novogratz, J. (2007). *Institutions, institutional change, and economic performance*. Cambridge, UK: Cambridge University Press.
- Paton, B., & Halme, M. (2007). Bringing the needs of the poor into the BOP debate. *Business Strategy and the Environment*, 16(8), pp. 585-586.

- Perez-Aleman, P., & Sandilands, M. (2008). Building value at the top and the bottom of the global supply chain: MNC-NGO partnerships. *California Management Review*, 51(1), pp. 24-49+3.
- Pitta, D., Guesalaga, R., & Marshall, P. (2008). The quest for the fortune at the bottom of the pyramid: Potential and challenges. *Journal of Consumer Marketing*, 25(7), pp. 393-401.
- Porter, M. (1980). *Competitive strategy*. New York, NY: Free Press.
- Porter, M., & Kramer, M. (2011). The big idea: Creating shared value. *Harvard Business Review*, 89(1-2), pp. 63-77.
- Portes, A. (1994). The informal economy and its paradoxes. In N. Smelser, & R. Swedberg, *The handbook of economic sociology* (pp. 426-452). Princeton, NJ: Princeton University Press.
- Prahalad, C. (1990). The core competence of the corporation. *Harvard Business Review*, 68(3), pp. 79-91.
- Prahalad, C. (2004). *The fortune at the bottom of the pyramid: Eradicating poverty with profits*. Philadelphia: Wharton Business Publishing.
- Prahalad, C. (2010). *The Fortune at the Bottom of the Pyramid - Eradicating Poverty through Profits*. Upper Saddle River, NJ: Pearson Education.
- Prahalad, C., & Hammond, A. (2002). Serving the world's poor, profitably. *Harvard Business Review*, pp. 48-57.
- Prahalad, C., & Hart, S. (2002). The fortune at the bottom of the pyramid. *strategy + business*, 26.
- Prahalad, C., & Krishnan, M. (2008). *The new age of innovation*. New York: McGraw-Hill.
- Prahalad, C., & Lieberthal, K. (1998). The end of corporate imperialism. *Harvard Business Review*, 76(4), pp. 69-79.
- Prahalad, C., Di Benedetto, A., & Nakata, C. (2012). Bottom of the pyramid as a source of breakthrough innovations. *Journal of Product Innovation Management*, 29(1), pp. 6-12.

- Prior, L. (2003). *Using Documents in Social Research*. London: Sage.
- Provan, K., Fish, A., & Sydow, J. (2007). Interorganizational networks at the network level: Empirical literature in whole networks. *Journal of Management*, 33(3), pp. 479-516.
- Prüss-Üstün, A., Bos, R., Gore, F., & Bartram, J. (2008). *Safer Water, Better Health - Costs, benefits and sustainability to protect and promote health*. Geneva: World Health Organization.
- Ragin, C. (1994). "Casing" and the process of social inquiry. In C. Ragin, & H. Becker, *What is a case? Exploring the foundations of social inquiry* (pp. 217-226). New York: Cambridge University Press.
- Randolph, J. (2009). A Guide to Writing Dissertation Literature Review. *Practical Assessment, Research & Evaluation*, 14(13).
- Rangan, K., Quelch, J., Herrero, G., & Barton, B. (2007). *Business solutions for the global poor: Creating social and economic value*. San Francisco: Jossey-Bass.
- Reed, A., & Reed, D. (2009). Partnerships for development: Four models of business involvement. *Journal of Business Ethics*, 90, pp. 3-37.
- Reficco, E., & Márquez, P. (2012). Inclusive Networks for Building BOP Markets. *Business & Society*, 51(3), pp. 512-554.
- Rein, M., & Stott, L. (2009). Working together: Critical perspectives on six cross-sector partnerships in southern africa. *Journal of Business Ethics*, 90(SUPPL. 1), pp. 79-89.
- Rein, M., Stott, L., Hardman, S., & Reid, S. (2009). Working Together. A Critical Analysis of Cross-Sector Partnerships in Southern Africa. *Journal of Business Ethics*, 90(SUPPL1), pp. 79-89.
- Richards, L., & Morse, J. (2007). *Readme first for a user's guide to qualitative methods*. Thousand Oaks: Sage Publications.
- Rieth, L., & Göbel, T. (2005). Unternehmen, gesellschaftliche Verantwortung und die Rolle von Nichtregierungsorganisationen. *Zeitschrift für Wirtschafts- und Unternehmensethik*, 6(2), pp. 244-261.

- Rivera-Santos, M., & Rufin, C. (2010). Global village vs. small town: Understanding networks at the base of the pyramid. *International Business Review*, 19(2), pp. 126-139.
- Rondinelli, D., & London, T. (2003). How corporations and environmental groups cooperate: assessing cross-sector alliances and collaborations. *Academy of Management Executive*, 17(1), pp. 62-76.
- Rothaermel, F., & Deeds, D. (2004). Exploration and exploitation alliances in biotechnology: A system of new product development. *Strategic Management Journal*, 25(3), pp. 201-222.
- Ryan, G., & Bernard, H. (2000). Data Management and Analysis Methods. In N. Denzin, & Y. Lincoln, *Handbook of Qualitative Research*, 2nd Edition (pp. 769-802). Thousand Oaks: Sage.
- Saldaña, J. (2009). *The Coding Manual for Qualitative Researchers*. London: Sage Publications.
- Schepers, D. (2006). The Impact of NGO Network Conflict on the Corporate Social Responsibility Strategies of Multinational Corporations. *Business & Society*, 45(3), pp. 282-299.
- Scherer, A., & Palazzo, G. (2008). *Handbook of Research on Global Corporate Citizenship*. Cheltenham: Edward Edgar Publishing.
- Schneider, S., Semenov, S., Patwardhan, A., Burton, I., Magadza, C., Oppenheimer, M., . . . Yamin, F. (2007). Assessing key vulnerabilities and the risk from climate change. In M. Parry, O. Canziani, J. Palutikof, P. van der Linden, & C. Hanson, *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 779-810). Cambridge, UK: Cambridge University Press.
- Schrader, C., Freimann, J., & Seuring, S. (2011). Business strategy at the Base of the Pyramid. *Business Strategy and the Environment* (21), pp. 281-298.

- Schuster, T., & Holtbrügge, D. (2012). Market entry of multinational companies in markets at the bottom of the pyramid: A learning perspective. *International Business Review*, 21(5), pp. 817-830.
- Scott, J. (1972). Patron-client politics and political change in Southeast Asia. *American Political Science Review*, 66(1), pp. 91-113.
- Seawright, J., & Gerring, J. (2008). Case selection techniques in case study research: A menu of qualitative and quantitative options. *Political Research Quarterly*, 61(2), pp. 294-308.
- Seidmann, I. (2006). *Interviewing as Qualitative Research - A Guide for Researchers in Education and Social Sciences*. New York: Teachers College Press.
- Shaw, J. (1995). A schema approach to the formal literature review in engineering theses. *System*, 23(3), pp. 323-335.
- Simanis, E., & Hart, S. (2008). *The Base of the Pyramid Protocol: Toward Next Generation BoP Strategy (Version 2.0)*. Ithaca, NY: Center for Sustainable Global Enterprise.
- Simanis, E., & Hart, S. (2009). Innovation from the inside out. *MIT Sloan Management Review*, 50(4), pp. 77-86.
- Simanis, E., Hart, S., & Duke, D. (2008). The Base of the Pyramid Protocol. Beyond "Basic Needs" Strategies. *Innovations*, 3(4), pp. 57-84.
- Simanis, E., Hart, S., Enk, G., Duke, D., Gordon, M., & Lippert, A. (2004). Strategic Initiatives at the Base of the Pyramid: A protocol for mutual value creation. *A collaborative effort by the Base of the Pyramid Workshop Group Wingspread Conference Center*. Racine, WI.
- Sipe, L., & Ghiso, M. (2004). Developing conceptual categories in classroom descriptive research: Some problems and possibilities. *Anthropology and Education Quarterly*, 36(4), pp. 472-485.
- Sprague, C. (2008). Alternative approaches to reaching the Bottom of the Pyramid. In R. Hamann, S. Woolman, & C. Sprague, *The Business of Sustainable Development in Africa: Human Rights, Partnerships, Alternative Business Models* (pp. 83-96). Pretoria, SA: Unisa Press.

- Spremann, K., Hoffmann, D., & Frick, R. (2011). Das Bottom-of-the-Pyramid Geschäftsmodell. In T. Bieger, D. Knyphausen-Aufseß, & C. Krys, *Innovative Geschäftsmodelle - Konzeptionelle Grundlagen, Gestaltungsfelder und unternehmerische Praxis* (pp. 353-367). Heidelberg: Springer.
- Strauss, A., & Corbin, J. (2008). *Basics of Qualitative Research*. Thousand Oaks: Sage.
- Stuart, I., McCutcheon, D., Handfield, R., McLachlin, R., & Samson, D. (2002). Effective case research in operations management: a process perspective. *Journal of Operations Management*, 20(5), pp. 419-433.
- Subrahmanyam, S., & Gomez-Arias, J. (2008). Integrated approach to understanding consumer behavior at bottom of pyramid. *Journal of Consumer Marketing*, 25(7), pp. 402-412.
- Take, I. (2002). *NGOs im Wandel. Von der Graswurzel auf das diplomatische Parkett*. Wiesbaden: Westdeutscher Verlag.
- Tarafdar, M., Anekal, P., & Singh, R. (2012). Market development at the bottom of the pyramid: examining the role of information and communication technologies. *Information Technology for Development*, 18(4), pp. 311-331.
- Teegen, H. (2003). International NGOs as Global Institutions: Using social capital to impact multinational enterprises and governments. *Journal of International Management*, 9, pp. 271-285.
- Tennyson, R. (1998). *Managing Partnerships: Tools for mobilising the public sector, business and civil society as partners in development*. London: The Prince of Wales Business Leaders Forum.
- Tigges, L., Browne, I., & Green, G. (1998). Social isolation of the urban poor: Race, class, and neighborhood effect in social resources. *Sociological Quarterly*, 39(1), pp. 53-77.
- Tulder, R., & Zwart, A. (2006). *International Business-Society Management: Linking Corporate Responsibility and Globalization*. London and New York: Routledge.
- UNICEF, W. (2009). Diarrhoea: Why children are still dying and what can be done. Retrieved from http://whqlibdoc.who.int/publications/2009/9789241598415_eng.pdf

- Vachani, S., Doh, J., & Teegen, H. (2009). NGOs' influence on MNEs' social development strategies in varying institutional contexts: A transaction cost perspective. *International Business Review*, 18(5), pp. 446-456.
- Wapner, P. (1996). *Environmental Activism and World Civic Politics*. New York: State University of New York Press.
- Wassermann, S., & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge: Cambridge University Press.
- Webb, J., Kistruck, G., Ireland, R., & Duane, R. (2009). The Entrepreneurship Process in Base of the Pyramid Markets: The Case of Multinational Enterprise/Nongovernment Organization Alliances. *Entrepreneurship Theory and Practice*, 34(3), pp. 555-581.
- Weber, K., Heinze, K., & Desoucey, M. (2008). Forage for thought: Mobilizing codes in the movement for grass-fed meat and dairy products. *Administrative Science Quarterly*, 53(3), pp. 529-567.
- Webster, J., & Watson, R. (2002). Analyzing the past to prepare for the future: Writing a literature review. *MIS Quarterly*, 26(2), pp. 13-23.
- Weiser, J., Kahane, M., Rochlin, S., & Landis, J. (2006). *Untapped: Creating value in underserved markets*. San Francisco: Berret-Koehler.
- Wheeler, D., McKague, K., Thomson, J., Davies, R., Medalye, J., & Prada, M. (2005). Creating sustainable local enterprise networks. *MIT Sloan Management Review*, 47(1), pp. 223-231.
- WHO, U. a. (2012). *Progress on Drinking Water and Sanitation - 2012 Update*. New York: UNICEF and WHO.
- Willems, P. (2002). What is a non-governmental organization? In U. (Ed.), *Encyclopedia of life support systems*. Oxford: Eolss Publishers.
- Williams, T. (2005). Cooperation by design: Structure and cooperation in interorganizational networks. *Journal of Business Research*, 58(2), pp. 223-231.
- Yin, K. (2012). *Case study research: design and methods*. Los Angeles, CA: Sage publications.

Yin, R. (1981). The case study crisis. *Administrative Science Quarterly* (26), pp. 58-65.

Yin, R. (1984). *Case study research: design and methods*. Thousand Oaks: Sage Publications.

Yin, R. (1994). *Design and methods*. Thousand Oaks: Sage Publications.

Zachary, G. (2005). Poor Idea. *The New Republic*, pp. 16-19.

Appendix A - Povcalnet

PovcalNet report...

<http://iresearch.worldbank.org/PovcalNet/PovCalServlet?povResultFile.jsp>
[Copy](#)
[Print](#)
[<< Back](#)
Aggregation:
[Show all countries info](#)
[Copy aggregation table\(s\)](#)
Note: Regions for which survey coverage is less than 50% are highlighted

2008

Region	Pov.line (PPP\$/mo)	Headcount (%)	Pov. gap (%)	Squared pov. gap	Num of poor (mil.)	Population (mil.)	Survey coverage
East Asia and Pacific	167.00	77.98	42.58	27.39	1,546.35	1,983.01	93.60
Europe and Central Asia	167.00	23.86	7.50	3.43	113.03	473.74	89.90
Latin America and the Caribbean	167.00	43.96	20.30	12.50	250.37	569.54	94.50
Middle East and North Africa	167.00	70.48	30.86	16.62	225.56	320.03	46.70
South Asia	167.00	97.19	67.15	48.96	1,542.10	1,586.69	97.90
Sub-Saharan Africa	167.00	94.02	68.02	53.09	763.91	812.50	71.90
Total	167.00	77.30	47.21	32.93	4,441.29	5,745.52	88.80

2005

Region	Pov.line (PPP\$/mo)	Headcount (%)	Pov. gap (%)	Squared pov. gap	Num of poor (mil.)	Population (mil.)	Survey coverage
East Asia and Pacific	167.00	83.93	47.69	31.30	1,628.96	1,940.85	93.20
Europe and Central Asia	167.00	36.67	13.08	6.41	172.64	470.80	94.70
Latin America and the Caribbean	167.00	51.16	25.09	15.93	281.21	549.66	95.90
Middle East and North Africa	167.00	74.28	33.98	18.87	225.51	303.59	85.70
South Asia	167.00	97.53	68.47	50.54	1,479.78	1,517.26	98.00
Sub-Saharan Africa	167.00	95.01	70.85	56.40	717.03	754.69	82.70
Total	167.00	81.37	50.60	35.67	4,505.33	5,536.85	93.00

2002

Region	Pov.line (PPP\$/mo)	Headcount (%)	Pov. gap (%)	Squared pov. gap	Num of poor (mil.)	Population (mil.)	Survey coverage
East Asia and Pacific	167.00	89.64	55.85	39.15	1,698.36	1,894.65	93.50
Europe and Central Asia	167.00	48.38	18.73	9.69	227.43	470.09	96.30
Latin America and the Caribbean	167.00	58.71	30.51	20.04	310.46	528.81	97.50
Middle East and North Africa	167.00	75.67	35.77	20.27	217.75	287.76	21.50
South Asia	167.00	98.02	70.46	52.91	1,417.78	1,446.42	98.00
Sub-Saharan Africa	167.00	95.37	71.85	57.54	668.28	700.72	65.70
Total	167.00	85.20	55.05	39.79	4,539.84	5,328.45	87.80

1999

Region	Pov.line (PPP\$/mo)	Headcount (%)	Pov. gap (%)	Squared pov. gap	Num of poor (mil.)	Population (mil.)	Survey coverage
East Asia and Pacific	167.00	93.68	62.23	45.22	1,726.12	1,842.57	93.40
Europe and Central Asia	167.00	56.22	23.78	13.08	264.41	470.32	93.90
Latin America and the Caribbean	167.00	58.56	30.36	19.91	296.76	506.76	97.70
Middle East and North Africa	167.00	76.63	37.29	21.54	208.60	272.22	70.00
South Asia	167.00	98.17	70.82	53.35	1,348.08	1,373.21	20.10
Sub-Saharan Africa	167.00	95.60	72.58	58.43	620.88	649.46	53.10
Total	167.00	87.30	57.83	42.36	4,465.00	5,114.55	68.20

Click on the region to get the country result.

Click on the heading to get its definition.

Appendix B - Semi-structured interview template

Research question:

How bridge SME-NGO partnerships gaps in BoP networks, how do partnerships influence the technological responsiveness, and to what extent affect partnerships the performance (profitability and social impact) of technology-based ventures serving the base of the pyramid?

Related sub-questions are:

How bridge SME-NGO alliances gaps in BoP networks?

How determine SME-NGO partnerships the technological responsiveness?

To what extent do SME-NGO partnerships affect the performance of technology-based BoP ventures in financial and social terms?

Interviewee:

Type of organization and organizations name:	How related to Amphora?
Name of interviewee:	Date of interview and duration:
Position and function of interviewee:	Remarks:

1. Characteristics: Description of the most relevant Amphora project(s) you have been involved

- (1) {
- Please define the most relevant BoP projects...
 - ...with NGO cooperation
 - ...without NGO cooperation
 - When did the project(s) start?
 - Where is the project/are the projects located?
- (2) {
- How do you describe the local circumstances? (e.g. development of infrastructure; informality)
 - Who started cooperation and what were the main motivations? (e.g. who approached whom first: the NGO the SME or vice versa; who knew first about this prospective project)

2. Purpose and objectives of the cooperation with Amphora:

- (3) {
- What is the main purpose of the most relevant Amphora projects?
 - Do you identify yourself with the purpose?
 - What set of solutions is it designed to provide?
 - How do other organizations in the consortium perceive the project's targets?
- (3) + (4) {
- What are the actual targets of the Amphora project from other involved organizations' view?
 - Did your organization attain its objectives?
 - Did the cooperating organization attain its objectives?
 - Did the project(s) you have been involved attain its objectives?
 - How do you assess the financial and social performance of the Amphora projects?

3. Conduct of cooperation:

- (5) {
- What is the overall climate surrounding cooperation?
 - What organization contributes more to cooperation success or failure? How?
 - Please describe the willingness of your organization to cooperate
 - What did you learn by the cooperating organization?
 - Did you implement new knowledge or procedures into your organization devoted to the BoP project?
 - Who is the more dominant part in the cooperation?
 - Did conflicts arise between you and your counterpart?
 - Is there an exit strategy for your organization from any cooperation?
 - Do you frequently provide feedback about the cooperation itself to your partner?
 - Was the cooperation somehow revised or adapted?
 - Do you consider NGOs accountants of the poor?

4. BoP networks:

- (2) {
- Please describe which obstacles did you overcome on the project level
 - Did the cooperation help to overcome these obstacles or gaps?
- (5) {
- Did you internalize tasks or services which do not belong to your core business? (e.g. credits, training)

- (1) ➤ How do you communicate with the end users?

Financial performance of the cooperation and the projects:

- (3) ➤ What is the list price of the Amphora?
 ➤ What is the actual end price of the Amphora in your country?
 ➤ Who finances the purchases costs for the Amphora device? (e.g. the NGO by funds)
 ➤ How gets Amsterdam and you the money for the Amphoras? (e.g. remittance, cash, cheque)
 ➤ Are financial resources distributed as a lump sum, periodically or somehow else?
 ➤ Who finances recurrent costs?
 ➤ How long the projects are normally funded?
 ➤ Did any project you have been involved in attain profitability?
 ➤ Did you pay/get any money to/from your partner?
 ➤ Did you get any non-monetary support from your partner?
 ➤ Did you provide any non-monetary support to your partner?
 ➤ Besides the actual price for the technology, which further costs did you face? (e.g. distribution, customs, bribes)
 ➤ Do you think the end price for consumers is affordable for the poor?
 ➤ What is the actual amount of money invested in the Amphora?

5. Social performance:

- (4) ➤ Was the livelihood of the poor improved by the Amphora?
 ➤ For SME: Are there any differences in terms social performance if BoP projects have been executed with or without an NGO?
 ➤ For NGOs: Do you think BoP projects attain a better social performance if they are conducted with NGOs?
 ➤ Did Amphora cause a shortage of water at the local level?
 ➤ Do you think private activities such as the Amphora have advantages compared to governmental activities?

6. Environmental conditions:

- (2) ➤ Are there unique events or circumstances which affect the cooperation negatively or positively?
 ➤ Under what circumstances or conditions do you think the cooperation will work best?
 ➤ What community factors will help the cooperation from achieving its objectives?
 ➤ Are local attitudes supportive of the Amphora device?
 ➤ How do the cooperation and its players consider different local requirements?
 ➤ Which threats do you see for business at the BoP (e.g. bribes, favourism)

7. Technological responsiveness

- (1) + (6) ➤ How did you experience the BoP technology?
 ➤ What do you think how experienced the applicants the BoP technology?
 ➤ Was there any need for purified water before the BoP technology was installed? (e.g. market research)
 ➤ Was there any demand for purified water before the BoP was installed?
- (6) ➤ How did you adapt the device to local requirements?
 ➤ What do you think in which stage of technological life cycle the BoP device is?
 ➤ What individual technological adaption was done for projects you are involved?
 ➤ What role plays the packaging of the technology?
 ➤ What do you think about the costs to purchase and maintain the technology?
- (2) + (6) ➤ Follows Amphora the principles of “better, faster, cheaper” or of “development by dialogues”?
 ➤ Was there any co-creation or co-development with the NGO or the poor?
 ➤ Did the Amphora end users adapt the devices somehow by themselves?
 ➤ How do you assess the difficulty to repair the Amphora device?
 ➤ How do you assess the procurement of replacements?
 ➤ What are the most common complaints on Amphora...
- (5) ➤ ...from NGOs?
 ➤ ...from the poor?
 ➤ How do you receive these complaints
 ➤ How do you response to these?
 ➤ What are the weaknesses of the Amphora technology?

8. Marketing and distribution

- (1) ➤ Is Amphora marketed with franchising, cooperative associations or something else?
 ➤ How is the Amphora delivered to the end customers?
 ➤ Who is in charge for distribution?
 ➤ How differs the distribution in developing countries from developed markets?
 ➤ What made it difficult to deliver Amphoras to the end customer?

9. Actors and players:

- Who are the key players in the project?
 ➤ Are there any unfilled positions or roles?

10. Prevalent experiences with cooperation

- For SME: Did you cooperate with an NGO priory?
 ➤ For NGO: Did you cooperate with an SME priory?
 ➤ What are your experiences with such cooperation

Appendix C – Code list

Code_Name	Code	Description
Institutional obstacles		Exogenous variables affecting the financial and social performance
Educational obstacles	edu_ob	Low or lacking education of local people; low or lacking understanding of technology or business
liability obstacles	liab_ob	Prospective issues regarding liability
competition obstacles	comp_ob	Competitive water technology
institutional threats	inst_ob	Institutional threats in general
cultural obstacles	cult_ob	Cultural differences/obstacles in developing markets
price obstacles / affordability	pric_ob	Obstacles regarding costs to get technology
Technology		
Weaknesses of technology	weak_tec	Weak parts of any water technology
maintenance	maint	statements about maintaining technology
openness from NGOs to technology	open_to_tec	Statements about openness from NGOs to technology
technological responsiveness of company	tec_resp	Technological responsiveness of companies to local requirements/necessities
technological changes by applicants	app_changes	Technological changes from local applicants without informing provider of technology
operation of technology	operat_tec	Descriptions on operation of technologies
implementation of technology	implement_tec	Statements on how technology is implemented on a local level
trust/acceptance	trust/accep	Trust or acceptance of involved actors in other people/organization or technology
technological simplicity or complexity	tec_simpl_complex	Statements about the simplicity or complexity of technology
community water	comm_wat	Descriptions on how water is consumed in a community

individual water	indiv_wat	Descriptions on how water is consumed individually or in a family
Performance-related		
social performance	soc_perf	Descriptions of social performance of BoP ventures
financial performance	fin_perf	Descriptions of financial performance of BoP ventures
funding by donations	fund_by_donat	How BoP projects are funded by donations
self-sustaining	selfsustained	How projects are self-sustaining or not
SME-related		
internalizing non-traditional tasks	internalizing	How non-traditional tasks are internalized into the organization
Critics on NGOs	critics_on_NGOs	Critical statements on NGOs
Critics on firms/SMEs	critics_on_business	Critical statements on firms/SMEs/MNCs
financial management	fin_mgmt	Descriptions on financial management
provision of training	prov_training	Statements on provided training on local level
time investment	time_invest	Statements on how much time has been or should has been invested
seed projects	seed_proj	Descriptions of seed/pilot projects
water as core business	wat_core	Statements on water as a core business/theme
embeddedness in developing world	embedded	Statements of embeddedness of organization
bureaucracy	bureau	Bureaucracy of involved parties
investment requirement	inv_req	Descriptions on invested money or necessity of money investment
NGO-related		
internalizing non-traditional tasks	internal_tasks	Statements on internalized tasks or not internalized tasks
Critics on NGOs	critics_on_NGOs	Critical statements on NGOs
Critics on business from non-business actors	critics_on_business	Critical statements on business
financial management	fin_mgmt	Descriptions of financial management
provision of training	train	Statements on training provided for local people
time investment	time_inv	Descriptions of or call for time to invest into something
seed projects	seed	Statements on seed/pilot projects

water as core business	wat_core	Descriptions of water activities in context of organization
embededness in developing world	embeded	Statements of embededness of organization
bureaucracy	bureau	Bureaucracy of involved parties
investment requirement	inv_req	Descriptions on invested money or necessity of money investment
Economy		
Habits for paying for water	pay_wat	Descriptions of local people's habits to pay for water
business empowerment/entrepreneurship	bus_emp	Empowerment of business/entrepreneurship
personal ties	ties	Statements on relevance of personal ties/relations
filling gaps in ecosystem	ecosys	Descriptions of filling out gaps in local ecosystem
hybrid value chain		
formal business		
centralization		
linearity		
density		
structural holes		
local market distortion	market_dist	Descriptions of distortions of local market activities
supply-driven	supp_driv	Statements on flow of technology
demand-driven	dem_driv	Statements on flow of technology
public subsidies	pub_subs	Subsidies from governments or development programs
free of charge attituded	free_attituded	The attitude to get technology for free
Cooperation		
co-development	co_dev	The co-development of technology between SME, NGO and the poor
business empowerment/entrepreneurship	bus_emp	Empowerment of business/entrepreneurship
personal ties	ties	Statements on relevance of personal ties/relations

ecosystem	ecosys	Descriptions of filling out gaps in local ecosystem
communication	comm	Description of communication between different actors
openness from NGOs to cross-sectional partnerships	NGO_open_to_coop	Openness from NGOs to cross-sectional partnerships
openness from enterprises to cross-sectional partnerships	SME_open_to_coop	Openness from enterprises to cross-sectional partnerships
openness from NGOs to technology	NGO_open_to_tec	Openness from NGOs to technology
encouraging or leading-response relationship	enc_resp_model	Description of encouraging and/or response relations
green washing	green	Activities solely to green wash business' image
rejected cooperation	rej_coop	Rejected cooperation from any side
conduct of cooperation	cond_coop	Description of conduct of cooperation
creating cooperation	creat_coop	Descriptions of creating and setting up a cooperation
financial management	fin_mgmt	Descriptions on financial management
providing training	Prov_training	Descriptions of training provided on a local level
time investment	time_invest	Statements on how much time has been or should has been invested
seed projects	seed_proj	Descriptions of seed/pilot projects
trust/acceptance	trust/accep	Trust or acceptance of involved actors in other people/organization or technology
CSR	CSR	Activities in the field of CSR