Delivering safe water to BoP consumers – The art of not losing money

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Abstract

Despite the fact that many firms have failed to successfully conduct business in Bottom of the Pyramid (BoP) markets, an increasing number of enterprises intend to access those market segments. However, BoP markets pose severe challenges that differ from common markets in terms of kind, scale and scope. The aim of this paper is thus to provide an accurate strategy framework with which businesses can increase their success rate and reach financial viability. In order to establish such a framework, this paper conducts an extensive literature review with investigating 67 articles that are not older than eight years since publishing. Additionally, the author will draw upon his field experience and show exemplarily how the established framework can be applied and which financial impact those measures will have on the contribution margin. The key findings of this paper include first, that [1] the BoP proposition has undergone a significant evolution and is currently more focused on business fundamentals such as profitability and productivity. Furthermore, the literature review suggests that [2] the challenges that BoP enterprises face evolve from specific BoP characteristics. When it comes to BoP strategies, BoP impact enterprises are advised to first [3] strive for collaborations with traditional and non-traditional partners, gather market know-how and information as well as build an enabling organizational culture. In a second step [4] firms should try to adapt their business model in order to circumvent the market constraints and challenges. If "adapt" strategies are not viable or achievable, [5] firms can then in a third step try to remove those market constraints with investments in the local infrastructure and capabilities or through embedded innovation. However, [6] firms that seek "remove" strategies have to be aware of the financial resources that become necessary in that case. Such strategies require patient capital or external funding such as carbon finance in order to cover the costs for the removal of the market constraints. The case study revealed that [7] selling and distributing safe drinking water can be financially viable through applying the suggested BoP strategies. [8] Spring Health offers a highly promising solution for selling a product such as safe drinking water since it includes a home delivery distribution model which targets key aspirational needs of customers who would otherwise not be willing to pay for drinking water. In the meantime, Spring Health proved the theoretical considerations and managed to receive a positive net contribution margin from water kiosk operations. [9] When it comes to "remove" strategies that Spring Health applies, the theoretical advice has proven to be correct as far as the need for patient capital is concerned.

Acknowledgements

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Last but not least, the greatest appreciation concerns my parents who have enabled me to do what I do.

Contents

List of Figures

List of Tables

List of Abbreviations

BoP	Bottom of the Pyramid
BA	Business Associate
CHF	Swiss Franc
CSR	Corporate Social Responsibility
ICT	Information and Communication Technology
INR	Indian Rupees
MDB	Multilateral Development Banks
MNC	Multinational Corporation
NGO	Non-Governmental Organization
PPP	Purchasing Price Parity
R&D	Research & Development
SHG	Self-Help Group
SME	Small and Medium-sized Enterprises
SMO	Senior Marketing Officer
UNDP	United Nations Development Program
USD	US Dollars
UV	Ultra Violet
UVW	Ultra Violet Waterworks

1 Introduction

"Developing sustainable, scalable enterprises is a challenge in any context, and it is especially difficult in Bottom of the Pyramid (BoP[1]) markets" (London, 2016, p. 10).

In his famous book "The fortune at the Bottom of the Pyramid", Prahalad (2005) proposed to view the BoP as a potential source of profit for Multinational Corporations (MNC). Rather than lost terrain, which belongs to efforts of development agencies, MNCs should "stop thinking of the poor as victims or as a burden and start recognizing them as resilient and creative entrepreneurs and value-conscious consumers" (Prahalad, 2005, p. 25). More than ten years have passed since this proposition gained public and academic attention. Many MNCs and Small and Medium-sized Enterprises (SME) have since tried to gain access to this untapped "fortune". At the same time academia has produced a tremendous amount of literature on the topic. However, what is left of the fortune at the BoP? How has the concept evolved and changed over time? These questions seem particularly relevant, since latest research appears to confirm early criticism. There is empirical evidence that [1] the concept that Prahalad and peers have brought forth has changed significantly in terms of recipient, definition and scope (Kolk, Rivera-Santos & Rufín, 2013, p. 23-24). Furthermore, latest research suggests that [2] of the many ventures that have been launched in order to provide products and services for the BoP only few were successful in terms of financial viability and scale (Barbary, Cooper & Kubzansky, 2011, p. 39; London, 2016, p. 10; Karamchandani, Kubzansky & Lalwani, 2011, p. 2; Abeille, 2010, p. 58; Hart, London & Sheth, 2014, p. 15). Additionally, there is evidence that [3] many MNCs incorporated their BoP initiatives into their Corporate Social Responsibility (CSR) programs (Simanis & Milstein, 2012, p. 82) or Research and Development (R&D) projects (Abeille, 2010, p. 56). These are only a few of the findings that the research community has published and brought forth during the last years. In the eyes of an investor, entrepreneur or development agent, it must seem like there is a big confusion and debate of how to successfully build a venture at the BoP.

Academia has for a long time tried to be motivational and to answer the question of "why" to engage with the BoP (London, 2016, p. 9). With promises of an untapped fortune and profits, the focus of the academia, the public and MNCs should be guided towards the very poor. Now, as laid out above, there seems to be serious doubts towards those promises. However, this skepticism does not appear to influence decisions of investors, entrepreneurs and development agencies of whether to entry markets at the BoP. To the contrary: Business approaches and ventures in the BoP sector are increasing (London, 2016, p. 19; Grootveld & Vermeulen, 2014, p. 58). Hence, this paper does not aim to uphold to a potential fortune at the BoP. Instead, the author takes note of the current situation, very well described in the introductory quote by Ted London, and intends to focus on the question of "how" to engage at the BoP.

This paper seeks to support the business community in analyzing an enterprise and its business model according to the latest research concerning market approaches at the BoP. In other words: the author's key focus is to provide the business community with a "hands-on" framework to create a business or analyze an investment at the BoP. In order to illustrate how the latest research findings can be applied in a real case, the author will draw upon his field work from June to August 2015 in which he advised a company called Spring Health that delivers safe drinking water in rural India. The research question is formulated the following way: What are the key findings of the latest research concerning business approaches at the BoP and in what way can they be applied in an enterprise that operates at the

[1] Some scholars also refer to the "Base" of the Pyramid.

BoP such as Spring Health? From another perspective, this paper aims to show the art of not losing money while delivering safe drinking water to BoP costumers.

After an introduction into the evolution of the theory and the terminology, the second part of the paper will be comprised of a literature review that analyzes papers, journals, books and case studies in the last 8 years. The aim at this point is to present challenges as well as best practices for business approaches at the BoP. Methodologically, the author will use inductive reasoning and therefore intends to create a “rule” according to which one has to approach businesses at the BoP. Literature and research findings will be considered if they are [1] thematically useful, [2] not older than 8 years, [3] internationally accessible and [4] backed with reasonable evidence or logic. In a third part the case of Spring Health will first be introduced in terms of business model, challenges and strategies. In a second step the theory will be applied onto Spring Health in order to show how the theory can be used to show suited strategies for handling the different challenges. The data presented in this part has been drawn from prior research and a business plan conducted by the author during his advisory work from June to August 2015 for Spring Health in India. In the end conclusions are drawn from the literature review as well as the case study so as to suggest further research gaps and prospects.

1.1 Background and evolution of the theory

As noted in the introduction, the theory introduced by Prahalad and peers has evolved significantly over the last years. This chapter provides the general background of the discussion as well as an overview over its developments.

Making profits while alleviating poverty – what nowadays seems to be a viable statement in the academic as well as the business world and accurate characterisation of the BoP proposition has for a long time been impossible to imagine. Stuart L. Hart, one of the early proponents of the BoP proposition besides Prahalad, argues that one of the major reasons for the only recent surge of interest for doing business at the BoP is that the business community until recently believed that there is a necessary trade-off between financial performance and societal obligations (Hart, 2010, p. 21). In other words: "the social responsibility of business was to maximize profits, as Milton Friedman advocated, and it seemed clear that social or environmental concerns could only serve to reduce them" (Hart, 2010, p. 22). Regulatory bodies responded with a massive wall of rules and laws concerning environmental and societal issues in order to protect the public from the negative impact of the business community (Hart, p. 21). This of course resulted in the realisation, that the prevention of negative outcomes would likely be more effective in terms of costs than having to deal with court trials, fines and the obligation to clean up the mess (Hart, p. 25). The "illusion" of the aforementioned trade-off began to crumble in the late 1980s. It became evident, that preventing negative environmental and creating positive societal impact could be of financial and competitive interest for a firm (Hart, p. 29).

The shattering down of the perceived trade-off between financial performance and societal obligations laid the intellectual foundation for the BoP proposition. The economic base of the pyramid was for a long time ignored by the MNCs. Obviously, people with an annual purchasing power parity of less than 1500 USD are at first hand of no interest to MNCs. However, the proponents of the BoP proposition argued that looking at them individually is illusory. Hart and London (2004) postulated thus more than ten years ago: "There can be little doubt that the four billion customers in these base-of-the-pyramid markets represent a vast potential untapped market opportunity" (p. 351). A growing number of MNCs have started their projects and intended to access this market opportunity. Not only for the business community, but also for the academic realm, the tendency of MNCs to be economically interested in the very poor was a change of paradigm. Unsurprisingly Hart and London observed a lack of empirical background that could support strategies of the MNCs in reaching the untapped BoP population (p. 366). The leading voices of the BoP proposition in those early years of academic research such as C.K. Prahalad, Stuart L. Hart and Ted London all emphasized that it is important for MNCs to adopt new strategies in order to succeed in these markets (London, 2016, p. 16; Arnould & Mohr, 2005, pp. 254-274). Hart and London postulated 2004 that MNCs need to fundamentally rethink their traditional business models: "scalability, flexibility, decentralization, knowledge sharing, local sourcing, fragmented distribution, non-traditional partners, societal performance, and local entrepreneurship appear to be important to the success of such business ventures" (Hart & London, 2004, p. 367). In the search for empirical evidence of their BoP proposition, many academics cited the examples of Hindustan Lever Ltd. (HLL), the Indian subsidiary of Unilever, and Grameen Bank (Kolk, Rivera-Santos & Rufín, 2013, p. 12).

In the case of HLL, it was a mixture of measures that made their operations profitable: New marketing strategies such as sachet packaging made products extremely affordable for low-income households. New distribution channels as for example self-help groups enabled access for potential customers in rural areas. Product innovation took in consideration that consumer habits from BoP costumers differed to the ones at the top of the economic pyramid (Hart & London, 2004, p. 355; Hammond & Prahalad, 2004, p. 35; Holtbrügge & Schuster, 2012, pp. 822-823; Hart, 2010, p. 40). Furthermore, HLL began to require all employees in India to spend couple of weeks living in poor rural villages in order to gain knowledge of local needs and preferences (Hart, 2010, p. 40).

Grameen Bank gained attention in being successful at providing micro-credits to BoP customers. Providing credits to poor households was always perceived as something unconceivable since this type of customer could provide no collateral. Grameen Bank overcame this practical difficulty in securing loans by a system that uses peer pressure and thus transfers the risk to groups (Happel, 2010, p. 12-13). This method enables the lender, usually banks or institutions, to transfer default risks from itself to the borrower. This reduction of costs and risk in combination with high repayment rates "facilitates financial viability for the lending institution" (Montgomery, 1996, p. 290).

Indeed, these early affirmative signs helped to lay the foundation for the proliferation of the BoP proposition. The theorists of the latter used the aforementioned evidence to draw "the attention of business to the BoP markets and to interests of the poor, considering the poor as potential consumers" and highlighting "the possibility of combining profit strategies with social goals, as fighting poverty" (Pedrozo, 2015, p. 192). Hahn (2009) concludes, that the BoP proposition should show that the lack of engagement of the business community with the BoP segment is due to false perceptions and once given up could enable combating undersupply in BoP markets and help alleviate poverty (p. 25).

Soon after the BoP proposition gained momentum, critics such as Aneel Karnani postulated, that the BoP proposition brought forth by Prahalad and peers is heavily flawed (Karnani, 2007, p. 99). The pitfalls that were criticized by Karnani and other scholars include the "estimations of the size of the BoP market, the ability of MNCs to be successful in this market segment and the insufficient support that his case studies – some featuring non-profit organizations rather than MNCs – would provide for this position" (Oosterlaken, 2008, p. 6). Landrum (2007) was one the first to review and analyze the early criticism of the BoP proposition by academics. Landrum categorizes four main pillars of criticism:

1. **BoP Market:** Critiques argue, that Prahalad overestimates the size of the BoP market as well as the Purchasing Power Parity (PPP). Prahalad postulates, that there are 4 billion people living with less than 2 USD per day. In the eyes of Karnani (2007), this is a gross overestimation since even the World Bank projects this number to be much lower and at around 2.7 billion (p. 100)[2]. In addition Prahalad claims that the potential market with BoP customers is 13 trillion at PPP (Prahalad, 2005, p. 21). Karnani (2007) discounts this notion as an exaggeration and believes the potential market at PPP to be at around 1.2 trillion USD. For MNCs and real market exchange rates though, this number should be at only 0.3 trillion USD (p. 101).
2. **BoP and MNCs:** It is questioned, that the MNCs are actually suited for reaching BoP customers and being successful in those markets (Landrum, 2007, p. 3). Landrum states that Prahalad uses several cases for his argument that are either non-profit or SMEs (p. 3). Karnani (2007) argues, that there are several challenges in the BoP context, that make it difficult for MNCs to be profitable. Since the poor are mostly geographically dispersed and culturally heterogeneous, marketing and distribution costs increase and make economics of scale highly improbable. Together with weak infrastructure and the small size of each transaction, doing business at the BoP is very challenging and especially difficult for MNCs (p. 101). Karnani argues, that local SMEs instead of MNCs are best suited to provide the BoP with accurate products and services, since they are more flexible and able to adapt to local circumstances (p. 105).
3. **Marketing to the BoP:** On the one hand, there are questions regarding the improvement of welfare for the BoP customers. There are doubts "whether MNCs are serving a need or creating

[2] Landrum (2007) also shows how Prahalad postulated different numbers in various articles between 2002 and 2005 (p. 3).

a need where none previously existed (Landrum, 2007, p. 3). Karnani (2007) hypothesises critically: "The BoP initiative could result in the poor spending money on products such as televisions and shampoo that would have been better spent on higher-priority needs such as nutrition, education and health" (p. 106). This line of argument raises ethical concerns regarding business at the BoP and the potential exploitation of the BoP population by MNCs, especially since there is in general a lack of consumer protection in those markets (Schrader, 2011, p. 32; Landrum, 2007, p. 3).

4. **Poverty alleviation:** A fourth contested argument of the BoP proposition is the claim by BoP proponents that doing profitable business with BoP customers would alleviate poverty. Here, the critics mainly state, that the cases put forth by Prahalad and peers do not support the aforementioned claim (Landrum, 2007, p. 4). Crabtree (2007) argues, that in only three out of twelve case studies (ICICI, EID Parry and ICT) income was directly increased (p. 4). According to Crabtree, "the others engage in activities where an increase in income might result as a spin off e.g. through better health, but in none of the cases is this documented" (p. 4). These early critics thus fault the insufficient empirical basis for the radical claim that doing profits could help eradicate poverty (Landrum, 2007, p. 4). Karnani (2007) claims, that more consumption by the poor will not solve their problems. Instead, only real increases in income would alleviate poverty and there are only two ways of doing this: "[1] lower prices of the goods that the poor buy, which will in effect raise their income, and [2] raise the income that the poor earn" (Karnani, p. 107).

On the basis of this criticism, a majority of BoP theorists acknowledged the notion that perceives the BoP population as consumers as well as producers. In their famous article "The Base of the Pyramid Protocol: Toward Next Generation BoP Strategy" Stuart Hart and Erik Simanis endorsed this notion and proposed a second generation of corporate business strategies: "Second-generation BoP strategy requires an embedded process of co-invention and business co-creation that brings corporations into close, personal business partnership with BoP communities" (Hart & Simanis, 2008, p. 2). The idea of mutual value creation gained attention and meant that MNCs needed to actively engage with the BoP and see them as potential partners in doing business and make profits (Stahel, 2010, p. 42; Hart & Simanis, 2008, p. 2). London (2016) explains retrospectively, that "this transformation in thinking has meant moving away from the original question – is there a fortune at the BoP? – to a more useful one: How can we create a fortune with the BoP?" (p. 17). With that proposal though, Erik Simanis admits retrospectively to have assisted in shifting the BoP proposition out of the business realm: "corporates were being asked to do what non-profits do" (2013, p. 218). For Simanis it is far from a surprise, "that the locus of corporate interest in BoP has steadily shifted away from the profit-and-loss side of the business to the philanthropic and social responsibility departments" (p. 218). Milstein and Simanis (2012) name a number of MNCs that shut down their BoP departments altogether (e.g., Nike's World Shoe venture), "or shifted their efforts toward corporate social responsibility and philanthropic goals (e.g., P&G's PuR water purification)" (p. 82). Another trend that Milstein and Simanis observe is the surge of projects by development agencies that address the BoP proposition (p. 82). In the years after 2010 and in reaction to this situation, Erik Simanis contributes to the BoP discussion with a number of articles that address the question of how to bring the BoP proposition back into the business context (Simanis, 2011; Milstein & Simanis, 2012; Simanis, 2012; Simanis, 2013; Simanis, 2014). The second generation of the BoP proposition, also known as BoP 2.0, and its emphasis on co-creation and mutual value creation of course challenges the original intend by BoP theorists to address the business community. Milstein and Simanis (2012) argue, that "the BOP concept and BOP business strategies have evolved in such a way that they fail to connect up with corporate reality on multiple levels" (p. 83). Milstein and Simanis detect three main areas of this chasm between the BoP 2.0 theory and the business community:

1. **Macro-Level: Development Speak:** When analysing the BoP 2.0 language, Milstein and Simanis notice a troubling tendence to use words and concepts that usually belong to development programs and projects. This is due to the aforementioned criticism of the original BoP approach that focused on BoP markets as "fortune" for MNCs with the externality of alleviating poverty. Milstein and Simanis conclude, that "today, BoP is framed, first and foremost, as a market-based approach to poverty alleviation" (p. 83). However, "within corporations, generating profits by selling products to consumers is the engine that drives the system" (Milstein & Simanis, p. 83). This macro-level divide automatically moves BoP projects in CSR cost-centers.
2. **Meso-Level: The Missing Middle:** Milstein and Simanis identify a key void between the BoP theory and its assumption of profitability in high volume markets and the reality of middle managers decision competencies. This results in the creation of "some form of skunk-works–standalone structures with liberal funding, open-ended timelines, and freedom from the company's norms and parameters" (p. 83). The resulting projects that are approached outside the core processes of the company are difficult to sell for middle managers. Without highest leadership intervention, these projects will hardly get off ground. And even in the case of CEO intervention, "a change in leadership can leave the project without strategic justification for continued resourcing" (Milstein & Simanis, 2012, p. 84).
3. **Micro-Level: Consumer Engagement Myopia:** Milstein and Simanis (2012) contest the notion, that going native and engaging in deep partnership with the BoP is the cure to all the issues firms face when doing business in BoP markets (p. 84). They argue that most MNCs have highly educated staff that is capable of pursuing such analyses and therefore it cannot be the biggest barrier for such companies. Rather they perceive "the underlying structure of low-income market opportunities and the challenging business economics they present" as most challenging to the business community (Milstein & Simanis, p. 84).

Erik Simanis is aware, that in arguing against the BoP 2.0 proposition in such a way, he questions the theory he himself promoted five years earlier (Milstein & Simanis, 2012, p. 84). However, during those years Erik Simanis has supported three BoP ventures with the BoP 2.0 framework and all three failed. He writes: "Their failure, however, is not the central issue: the success rate for any high-risk venture is low. What is instructive is how they failed. All of the projects experienced a vicious cycle" (Milstein & Simanis, 2012, p. 85).

Looking back at 15 years of BoP literature, one must conclude that what began with an approach that targeted the business community, and especially MNCs, has in the last years tended to be seen as a method for development agencies and projects to make their efforts more sustainable through incorporating business processes[3]. Two main lines of argument have challenged the original proposition of Prahalad and peers. Firstly, there were ethical concerns that MNCs would use their economic and intellectual power to exploit the poorest of the poor. Secondly, with an increasing number of MNCs closing their BoP projects or moving them towards CSR and philanthropic departments of the firm, there were serious doubts towards an untapped fortune that only needed to be employed. Aneel Karnani's early criticism seemed to be confirmed. BoP theorists responded with emphasizing that the BoP population should be seen not only as potential customers, but also as producers. Therefore firms that intend to target this market segment need to co-create with the poor in order to create mutual value. But as Erik

[3] Kolk, Rivera-Santos and Rufín (2013) show in their review of BoP literature that the amount of articles concerned with BoP that were written in the context of CSR or development studies increased significantly over the years from 2000 to 2009 (p. 10).

Simanis explained, this BoP 2.0 proposition entails economic fallacies that make it difficult for a firm to have economically viable operations.
What is the conclusion then for the BoP proposition in the year 2016? On the basis of this short summary of the evolution of BoP theory one can at least postulate the following statements:

- There is probably no untapped fortune at the BoP. However, there are of course business opportunities like in every other market segment.
- The first and second generations of the BoP proposition are both not really suited for accessing those opportunities profitably and sustainably. The BoP 1.0 version has a negative track record as well as serious ethical issues that need to be addressed. The BoP 2.0 proposition also fails in practical as well as theoretical terms. In general and until now, there seems to be a vicious cycle whereby many firms do the same mistakes than predecessors (London, 2016, p. 10; Kacou, 2011, p. 12; Milstein & Simanis, 2012, p. 85).
- Bühlmann (2014) concludes in his analysis over the current BoP literature, that “experts agree that if there is a potential for profit in low-income markets only new business strategies will be able to exploit them” (p. 8). Hence, having profitable business operations at the BoP is not impossible but very challenging (London, 2016, p. 10).

The author thus intends to contribute to the discussion of how to conduct profitable and sustainable business operations in BoP market segments. This mainly since there seems to be a lack of literature that translates theoretical knowledge into practical application. In doing so, the author believes to support future business leaders, investors and development agents in creating viable business cases in the BoP market.

This paper does not address the normative question of why one should do business with the BoP population. The author believes that there are numbers of legitimate reasons why people from different backgrounds intend to do or are already doing business in those markets. Even critical authors of the BoP proposition, such as Aneel Karnani, argue, that there are good reasons for doing business with the BoP population (Karnani, 2011, p. 111-112). Some will create a business in order to maximize profits and some in order to alleviate poverty. However, both will miss their goal if the business is not financially viable and scalable. The subsequent chapters of this book will thus first lay a theoretical foundation on the basis of the latest research and in a second part apply these findings in a case study.

1.2 Terminology and definitions

Before reviewing the latest research it is necessary to define key words and terms. As explained in the previous chapter, different academic strands conceptualize these key words and terms differently.

1.2.1 Bottom or Base of the Pyramid population:

Kolk, Rivera-Santos and Rufín (2013) argue in their study of BoP literature “that the usage of the term is blurred and frequently imprecise, leading to different articles studying very different ‘bases’ of the pyramid” (p. 14). Therefore it is necessary to define explicitly which BoP population that is discussed in this paper (Kolk, Rivera-Santos and Rufín, p. 15).

Kolk, Rivera-Santos and Rufín state, that the majority of articles define the BoP with a per capita income at or below 1500 or 2000 USD per year at PPP (p. 14)[4]. Others also refer to 1 or 2 USD per day

[4] There are of course different ways of defining poverty. The author is aware that using poverty lines implicitly suggests that poverty can be measured by income. Obviously, there are certain important issues that are related to

as the poverty threshold (Kolk, Rivera-Santos and Rufín, p. 14). The World Bank has done extensive research about global poverty and has published yearly findings on their website under the title "global poverty monitoring". The World Bank estimated in the year 2012 that around 1 billion people in the developing world are living in households with a consumption or income per person below 2 USD per day at PPP (World Bank, 2016, n.p.). Shifting the "poverty line" upwards at 3 USD per day at PPP, the amount of people living below that line is estimated at over 2 billion (World Bank, 2016, n.p.)[5].

Table 1: Poverty count with poverty line of 3 USD a day.

2012

Region	Pov.line (PPP$/day)	Headcount (%)	Pov. gap (%)	Squared pov. gap	Num of poor (mil.)	Population (mil.)	Survey coverage
East Asia and Pacific	3.00	21.11	6.13	2.47	430.97	2,041.56	91.82
Europe and Central Asia	3.00	5.90	1.83	0.83	28.37	480.78	90.00
Latin America and the Caribbean	3.00	11.34	4.71	2.94	68.45	603.58	91.16
Middle East and North Africa	Survey data coverage is too low, the result is supressed						37.39
South Asia	3.00	52.18	15.61	6.28	860.58	1,649.25	98.17
Sub-Saharan Africa	3.00	65.53	30.69	18.00	597.31	911.51	68.74
Developing world	3.00	33.56	11.75	5.69	2,022.40	6,026.23	86.79

Source: World Bank. 2016.

This data set analyses quite thoroughly the specific income of households but focuses less on the consumption. The World Bank also issued a "global consumption database" which summarizes the research on consumption conducted by national authorities. Here, the newest numbers stem from 2010 and indicate, that the lowest socioeconomic segment, in this case the population with a daily income of below 2.97 USD at PPP, has a annual combined consumption of 1.931 trillion USD at PPP in the year 2010 (World Bank, 2016, n.p.). Figure 3 also suggests that the lowest economic segment also spends relatively the most on food and beverages.

Table 2: Annual household consumption 2010 by income sector.

Annual Household Consumption 2010 (Billion $PPP) by Sector and Consumption Segment (92 Countries)

Consumptio..	All Sectors	Food and..	Others	Housing	Transport	Clothing ..	Energy	ICT	Health	Education	Personal ..	Financial ..	Water Uti..
All	9,756	3,767	1,134	1,035	898	698	522	514	498	398	136	94	62
Lowest	1,931	1,041	163	157	83	113	133	54	85	55	34	4	9
Low	3,108	1,305	308	351	215	214	184	152	158	138	44	16	23
Middle	3,183	1,103	384	350	314	257	155	207	175	147	37	32	22
Higher	1,534	318	279	177	287	113	50	101	80	58	21	42	8

$PPP refer to international dollars from the ICP 2005 round.

Source: World Bank. 2016.

Using the 2010 numbers of the above mentioned "global poverty monitoring", the World Bank estimates that 2.281 billion people live with under 3 USD per day at PPP (World Bank, 2016, n.p.). Using these numbers, 2.281 billion people and annual consumption of 1.9 trillion USD at PPP in the year 2010, one arrives at a daily consumption of 2.3 USD per capita at PPP in the year 2010.

An important step towards understanding the BoP population is the proposition brought forth by Chu, Petkoski and Rangan (2011). They argue that successful companies have distinguished three different sub-segments of the BoP. The first step is to recognize "that the income level of 1 USD a day separates the extremely poor from everyone else" (p. 114). According to the "global poverty monitoring" this population counts 218 million people in the developing world (World Bank, 2016, n.p.)[6]. Chu,

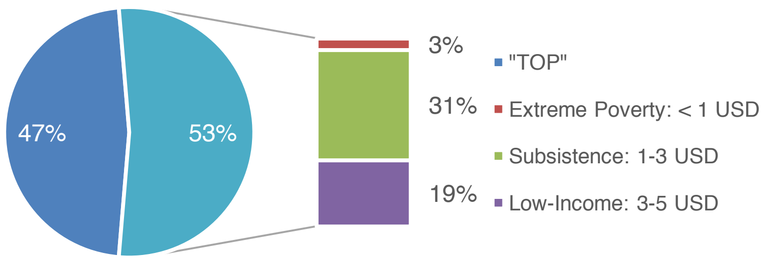
this kind of measurement. For further information concerning poverty lines the author suggests reading Agola and Awange (2014, p. 61-71).

[5] http://iresearch.worldbank.org/PovcalNet/index.htm?1#

[6] Chu, Petkoski and Rangan (2011) propose different numbers (p. 114). They count 1 billion people that earn less than 1 USD per day per capita at PPP. However, this paper intends to use the most accurate and latest numbers available. The important contribution of Chu, Petkoski and Rangan (2011) in the eyes of the author is the proposed segmentation.

Petkoski and Rangan (2011) introduce two other segments, namely the "subsistence" population with a daily income of 1-3 USD and the "low-income" socioeconomic segment from 3-5 USD per day (p. 114). The World Bank (2016) estimates that in the year 2010 the "subsistence" population accounts for 2.063 billion people and the "low-income" for 1.239 billion out of a total of 6.883 billion people worldwide (n.p.).

Figure 1: Socioeconomic segmentation 2010.



Source: World Bank. 2016.

Unfortunately, the World Bank hasn't issued newer numbers. However, the illustrations help to understand and conceptualize what the base of the pyramid means and how it is used in this paper. The base of the pyramid is therefore in this paper defined by the socioeconomic population that has a daily per capita income of less than 5 USD and can be divided in three sub-segments as aforementioned. In combination, the segments "extreme poverty" and "subsistence" have a gross consumption of 1.931 trillion USD at PPP in the year 2010.

1.2.2 BoP proposition

As explained in the previous chapter, the BoP proposition, as postulated by authors such as C.K. Prahalad, Stuart L. Hart and Ted London in the early 2000s, states that "multinational enterprises could grow their profits and help lift billions of people out of poverty by doing business with the poor" (Kolk, Rivera-Santos & Rufín, 2013, p. 2). The author of this paper recognizes three distinctive features of which two are essential. The core message is that "the pursuit of profits by private enterprise can relieve poverty on a large scale" (Kolk, Rivera-Santos and Rufín, p. 2). The aforementioned authors addressed the MNCs since they thought that MNCs could access these markets most efficiently and also had primary interest in doing so on the basis of this untapped fortune. However, MNCs do not seem to be the only necessary type of organization that is able to conduct profitable business at the BoP. It may even be probable, that SMEs are more suited, since they tend to be more flexible and innovative. The two essential features of the BoP proposition are therefore [1] alleviating poverty through [2] profitable business operations. The third feature that addresses MNCs is not a necessary component for the aforementioned statement.

This definition of the BoP proposition infers that conducting a business with the BoP population should in fact make them less poor. Selling BoP customers goods that do make them poorer and therefore follows a strategy of exploitation symbolizes the contrary of what the BoP proposition postulates. But this of course symbolizes also a very shortsighted business strategy if the main goal is to maximize profits. Firms that want to maximize profits should be interested in a long-term customer relationship since this would enable sustainable income and financial stability. Hence in BoP markets, firms either [1] sell products that the people already consume at lower prices, or they [2] create new jobs, raise the income of the people and sell them new products that they can afford on the basis of this new income.

Both options, according to Karnani (2007) guarantee sustainable business operations and poverty alleviation (p. 107). Chu, Petkoski and Rangan (2011) confirm this notion when they argue the following:

> "Indeed, decent profits can be made at the base of the pyramid if companies link their own financial success with that of their constituencies. In other words, as companies make money, the communities in which they operate must benefit by, for example, acquiring basic services or growing more affluent. This leads to more income and consumption – and triggers more demand within the communities, which in turn allows the companies' businesses to keep growing" (p. 113)

Not only is alleviating poverty an essential part for being profitable at the BoP, the author also argues that in order to alleviate poverty sustainably, profitable businesses are necessary. Only if businesses generate profits they are sustainable, scalable and thus able to be replicated in other parts of the world. As Kolk, Rivera-Santos and Rufín (2013, p. 2) rightly remark, the idea "that market forces and private ownership of productive assets lead to a prosperous society" can be traced back to philosophers such as Adam Smith (1776) and Milton Friedmann (M. Friedman & R. Friedman, 1990). The author aligns to this kind of argument and believes that the liberal market has an incremental part to play in global poverty alleviation.

1.2.3 BoP impact enterprise

Although there was a wide consensus over the notion that MNCs should be the target addressee of the BoP proposition, evidence shows that most of the businesses operating in BoP markets are SMEs (Barbary, Cooper & Kubzansky, 2011, p. 38). Thus, London (2016) uses the concept of "BoP impact enterprise" to describe firms operating in BoP markets (p. 14). He postulates the following definition:

> "A BoP impact enterprise is one that operates in the underdeveloped market environments in which the BoP transacts, seeks financial sustainability, plans for scalability within and across markets, and actively manages toward producing significant net positive changes along multiple dimensions of well-being across the BoP, their communities, and the broader environment" (London, 2016, p. 14).

This definition includes individual enterprises "as well as interconnected networks of ventures, such as those found in franchise models or value chains" (Hart, London & Sheth, 2014, p. 10). London (2016) emphasizes, that the BoP impact enterprises are "like other business ventures seeking economic sustainability and scalability, and they face a number of familiar expectations" (p. 15). However, he also mentions two distinctive elements: The first difference to common definitions of business ventures is the implication, "that the enterprises's investors are not necessarily seeking to maximize profits" (London, p. 16). Here London mentions the same motivational openness that the author explained earlier. A potential investor may be seeking mainly profits or poverty alleviation. The BoP impact enterprise should meet both expectations. The second distinction London brings forth is "that microenterprises operating in BoP markets are not necessarily BoP impact enterprises because the former generally do not seek scale beyond the local market" (p. 16)[7].

With these definitions in mind, the idea of the subsequent chapter is to conduct an extensive literature review that addresses the question of how to best conduct a business within the BoP segment.

[7] The author will also use terms such as BoP ventures or firms to describe BoP impact enterprises.

2 Literature review: doing business at the BoP

In this chapter, the author will lay the theoretical foundation that is necessary in order to assess an actual case in the third chapter. Methodologically the author will work towards creating a conceptual rule of how to conduct businesses in the BoP market segment on the basis of a profound literature review. Methodologically, literature and research findings will be considered if they are [1] thematically useful, [2] not older than 5 years[8], [3] internationally accessible and [4] backed with reasonable evidence or logic. The literature was accessed between June 2015 and July 2016 and is comprised of 67 articles, books, reports and journals published not earlier than 2008.

As explained in chapter 1.2, there is a wide spread confusion of the precise definition of the BoP population. There is on the one hand a debate on where to set the "poverty line" and on the other hand there is a vast disagreement on the exact numbers along the chosen poverty line. It is therefore far from trivial to characterise the BoP market accurately, since this characterisation would of course depend on the chosen poverty line and the related numbers. While reviewing the literature, the author has only found a handful of literature that takes these conceptual problems into account. Most often academic writers seem to just assume that there is no difference between the specific definitions of the BoP population and therefore uncritically adopt statistical numbers and observations. However, already the statistical data of the World Bank suggests that there is a significant difference between the lowest and the low socioeconomic segment in terms of consumption patterns (see chapter 1.2). This observation obviously represents a severe methodological difficulty. Being aware of this, the author intends to [1] analyse the literature in regard to its conceptual definitions and [2] mention if the latter differs significantly from the definitions used in this paper[9].

The chapter is structured so as to first present characteristics of BoP markets. In a second part, the key challenges that BoP impact enterprises face in working with and in BoP markets are presented. The third part will address the question of what successful strategies are that provide solutions to the aforementioned challenges. In the last part of the chapter the rule will be built according to the findings in the previous chapters.

2.1 Characteristics of BoP markets

The aim at this point is to characterize BoP markets. The reader should understand what main features of BoP markets are. Only in a next step it will be shown what immediate consequences these features have for BoP impact enterprises.

The title of this chapter implicitly suggests that BoP markets are somehow different from other markets and that they have certain characteristics. Akula (2008) challenges this notion when he rhetorically asks "why should business among the very poor be different than it is anywhere else" (p. 53)? However, as Herrndorf (2015) in his recent published dissertation notes, there is widespread agreement among academic literature that BoP markets are "economically, structurally and culturally different from regular, 'formal' markets" (p. 49). But what are then the specific economical, structural and cultural features that distinguish BoP markets from others?

2.1.1 Economic specifications

As stated in chapter 1.2, the BoP market generally consists of the population that has an income lower than 5 USD per day per capita at PPP. In addition to low income, Rivera-Santos and Rufín (2010) argue

[8] Older literature may only be used if the thematically usefulness is excessive and the literature is used in order to describe the phenomenon.

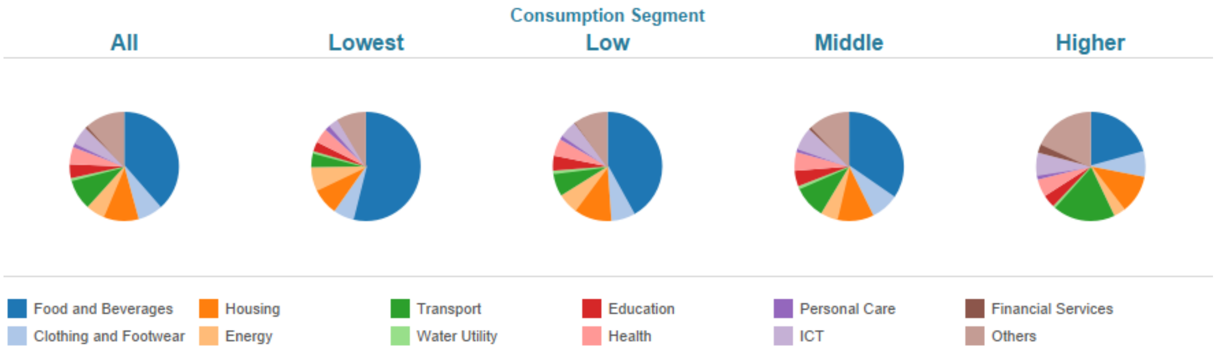
[9] There is a significant difference in the definition of the BoP population, if the poverty line is set higher than 5 USD income (or consumption) per day per capita at PPP.

that the BoP population is often faced with unpredictability and irregularity of income (p. 127). A reason for this unpredictability of income can be traced back to unforeseen expenses due to strong dependence on agriculture and its climate related risk (Herrndorf, 2015, p. 50; Alur & Schoormans, 2013, p. 191). However, what are other economic characteristics of the BoP population and how are they linked with each other?

As noted earlier, this paper uses sub-segmentation and therefore distinguishes between three segments of the BoP. Chu, Petkoski and Rangan (2011) describe extreme poverty as people lacking access to basic necessities such as sufficient nutrition, clean water and shelter. People that are extremely poor are "forced into transactions that are irregular even by the standards of informal markets" (p. 114). According to Chu, Petkoski and Rangan, extreme poverty lets people live in barter economies or bounded labour, which often results in shutting them out of the organized economy. In a often cited article about the "economic lives of the poor" in which Banerjee and Duflo (2007) conduct one of the most extensive household surveys addressing poverty, they find that one main characteristic concerning livelihood is that extremely poor people as well as the subsistence population usually live in households with six to twelve members (p. 144). In general, extremely poor people have more than one job that they pursue in order to earn a living. Oftentimes it is a mixture of self-employed work in agriculture and some small occupations outside agriculture (p. 151-153). According to Banerjee and Duflo (2007) there is no significant difference between the extremely poor and the subsistence population in terms of employment. One reason why poor people tend to have more than one job is to reduce risk: "They work part time outside agriculture to reduce their exposure to farming risk, and keep a foot in agriculture to avoid being too dependent on their nonagricultural jobs" (Banerjee & Duflo, p. 161). Another reason that seems to have more explanatory power is that poor people "cannot raise the capital they would need to run a business that would occupy them fully" (Banerjee & Duflo, p. 162). The entrepreneurial aspect of the poor thus seems far from romantic: The poor are often times trapped in a vicious cycle that does not allow specialisation, saving money and consequently scaling their businesses (Banerjee & Duflo, 2007, p. 154). Money that has been earned is usually spent since there is a lack of access to financial institutions in terms of supply and affordability. Waibel (2012) states, that "the poor borrow money from relatives, shopkeepers and moneylenders; rarely from banks" (p. 15).

There is a wide consensus among scholars and the research community, that the extremely poor and subsistence population spends more than half of their budget on food and beverages (Waibel, 2012, p. 15; Alur & Schoormans, 2013, p. 191; Banerjee & Duflo, 2007, p. 145; World Bank, 2016, n.p.). The "global consumption database" from the World Bank, as shown in the figure 2 below, suggests that there is a negative correlation between the income and the relative spending on food and beverages.
Interestingly though, there is evidence, that the very poor spend a significant part of their income on alcohol, tobacco, festivals and entertainment such as televisions or radios (Banerjee & Duflo, 2007, p. 145-147).

Figure 2: Share of consumption by sector and consumption segment in the year 2010.



Source: World Bank. 2016.

In countries where there are a lot of festivals, fewer poor people own a television or a radio and vice versa (Banerjee & Duflo, p. 146). Banerjee and Duflo conclude in stating that “the poor do see themselves as having a significant amount of choice, but they choose not to exercise that choice in the direction of spending more on food” (p. 147).

Chu, Petkoski and Rangan (2011) analyze not only the extremely poor and the people of the subsistence segment but also the population they define as “low-income”, people earning more than 3 USD but less than 5 USD per pay per capita at PPP (p. 114). The main difference to people living with less than 3 USD per day according to Chu, Petkoski and Rangan (2011) is the access to the formal market and the proximity to the high-income population. They usually have the skills and education to enter the formal job market and therefore a certain kind of stability of income, which enables them to buy different kinds of consumer goods (Chu, Petkoski & Rangan, 2011, p. 114). A major difference to the other segments in the BoP is the reasonable expectation “that they or their children will achieve a modestly higher living standard” (Chu, Petkoski & Rangan, p. 114). With these specific economic features in mind, the next step is to portray the structural attributes of BoP markets.

2.1.2 Structural attributes

This chapter aims to explain structural attributes of the BoP market that sets it apart from other market segments. There are several different structural components that need mentioning. However, it is necessary to add at this point that the BoP markets are far from homogenous and show severe differences in structural characteristics (Alur & Schoormans, 2013, p. 191; Herstatt & Ramdorai, 2015, p. 10; Banerjee & Duflo, 2007, p. 159). Nevertheless, the attempt here is to show tendencies, which of course need further reflection once a specific nation is under focus. This approach is based on Anderson, Kupp and Markides (2010) who postulate that although there are a number of differences among BoP markets, some characteristics are common to all BoP contexts, namely lack of legal frameworks, absence of key infrastructure and a shortage of skilled people (p. 8). In the beginning of this chapter however, a major difference between two types of BoP markets will be shown.

One very often-described geographical feature of BoP markets is the fact that a majority of poor people live in rural areas (Waibel, 2012, p. 16; UNDP, 2014, p. 19; Herrndorf, 2015, p. 50). Rivera-Santos and Rufín (2010) argue that the BoP population in rural areas is usually dispersed whereas the poor people living in urban contexts live in highly dense areas (p. 127). Although there is evidence that up to 75% of extremely poor people live in rural areas (Waibel, 2012, p. 16), many of them migrate to urban areas in hope of escaping poverty (Agola & Awange, 2014, p. 118). The assumption of better living conditions in urban areas seems illusory since urban poor “suffer from a set of conditions, called ‘urban penalty’, which makes them worse off than their rural counterparts” (Agola & Awange, p. 119)[10]. Living mostly in slums and squatter settlements, urban poor often times lack access to basic amenities (Agola & Awange, p. 119). In addition, basic items such as food, water and sanitation have to be paid for and in combination with further goods and services that are usually consumed in urban areas including electricity and hospital fees, this situation increases pressure to earn money (Waibel, 2012, p. 18). As poor people usually lack formal education, work options are usually constrained and low paid, which again creates vulnerability that may result in criminal activities. Unsurprisingly, urban areas in the developing world face a dramatic increase in crime (Waibel, 2012, p. 18; Agola & Awange, 2014, p. 119). In comparison, rural households face a number of difficulties such as “malnutrition, lack of education, low life expectancy, and substandard housing” that seem to be more severe than in urban contexts (Agola & Awange, 2014, p. 122). Isolation is a key feature of those rural contexts: “Opportunities for non-farm

[10] Waibel (2012) contradicts this notion when she postulates that “conditions faced by the rural poor are usually far worse than those faced by the urban poor” (p. 17).

employment are few, and the demand for labour tends to be highly seasonal" (Agola & Awange, p. 122). There is evidence that poor people living in rural areas usually have less access to tap water (Banerjee & Duflo, 2007, p. 159) and safe drinking water (Agola & Awange, 2014, p. 123). One of the very few paths out of poverty for rural poor seems to be short-term migration (Banerjee & Duflo, 2007, p. 153). Although long-term migration would lead to higher income, rural poor people conceive the income raise not more important than living in their familiar social networks that also enable informal insurance (Banerjee & Duflo, p. 165).

Another major structural characteristic of BoP markets that has already been mentioned partly is the lack of infrastructure. One major constraint of BoP markets is the poor accessibility because of geographical dispersion in combination with a lack of roads, deficient communication networks and other transportation systems (Anupindi, London & Sheth, 2010, p. 586; Simanis, 2013, p. 221; Herstatt & Ramdorai, 2015, p. 11-12; Karamchandani, Kubzansky & Lalwani, 2011, p. 4; Ireland, Kistruck, Sutter & Webb, 2011, p. 510). Badry (2009) states, that "problems of access are particularly severe in rural areas located far from roads that are regularly used for motorized transport services" (p. 30). The Multilateral Development Ban's (MDB) working group on infrastructure also confirms this observation: "Around 900 million rural dwellers worldwide are estimated have no access to all-weather roads within two kilometers – a 20-25 minute walk" (MDB, 2011, p. 1). In addition, there is a lack of access to electricity and improved water sources (MDB, 2011, p. 1). Furthermore, quality and reliability of those infrastructures are inaccurate and fragile, which leads to interruptions once access is apparent (MDB, p. 1). Hence, there is usually weak physical infrastructure in low-income contexts (Ireland, et al., 2011, p. 510).

Besides physical infrastructure, there are other relevant structural characteristics of BoP markets. Banerjee and Duflo (2007) state that although low-income countries have put effort in better schooling and education, there are doubts that these inputs actually have impact. There is evidence that absence rates are high with teachers as well as students (p. 160). Additionally, the quality of the taught lessons seems to be low since surveys indicate that children lack basic skills and competencies although they have visited school (Banerjee & Duflo, 2007, p. 161). This is confirmed by the World Bank statistics that show literacy rates for low-income countries that are lower than 60% in comparison with the worlds average of 85% in the year 2010 (World Bank, 2016, n.p.). Thus low-income countries and BoP markets in particular face severe issues concerning education and schooling which results in labour being poorly skilled (Ireland, et al., 2011, p. 510). In addition to poor infrastructure concerning education, BoP markets also face weak medical assistance. Although some BoP markets show a high density of public and private health care institutions, the quality is usually low due to a high absence rate in public institutions and low competences in private medical institutions (Banerjee & Duflo, 2007, p. 159-161).

Another key structural feature of BoP markets is informality and weak legal frameworks. Due to weak or incomplete institutional environments, "enforcement of laws and regulations at the BoP is typically low, leading to informal dispute resolution and non-existent protection for workers and consumers" (Rivera-Santos & Rufín, 2010, p. 128). Anupindi, London and Sheth (2010) endorse this notion when they state, "the BoP are not protected by established institutional rules found in the formal economy and that they tend to operate their businesses outside the official law" (p. 583). Ireland et al. (2011) postulate, that a consequence of the poorly developed formal institutions in BoP markets is the general lack of formal property rights, which again "complicates using property as collateral" and "capital more difficult to access" (p. 510). This of course results in a low status of formal contracts and high costs for legal recourse (Ireland, et al., p. 510). Local firms have usually adapted to these circumstances in operating mostly informal, being small and "offering low-quality products at high price points relative to customer incomes" (Rivera-Santos and Rufín, 2010, p. 127). Due to this informality and "inefficiencies in access to distribution, traditional intermediaries and local monopolies", an almost paradoxical situation emerges in which "low-income consumers (…) tend to pay higher prices for the same products and services than consumers of higher income levels" (Badry, 2009, p. 27). This phenomenon, also referred to as "poverty premium" or "penalty", can be observed as "price differences for basic goods, staple foods, pharmaceuticals or interest rates on credit" (Hahn, 2011, p. 52).

In their analysis "global village vs. small town: understanding networks at the base of the pyramid" Rivera-Santos and Rufín (2010) investigate the major differences between BoP and high-income markets. Their conclusion seems to confirm so the structural observations already made and add some new ones:

> "BOP networks are likely to be less centralized, wider in scope, less dense overall (but also containing high-density clusterings), and contain more structural holes; network ties are more commonly direct and informal, are actualized more frequently, and involve a multiplicity of domains of interaction among network members; the diversity of network members is greater, and, lastly, BoP networks are more unstable and unpredictable in their formal aspects but also more stable and resilient in their informal aspects" (p. 136).

BoP markets are thus structurally different from high-income contexts. Although it is worth mentioning, that BoP markets can differ strongly from each other, some characteristics are common to all BoP contexts: Geographical dispersion with local and isolated clusters, lack of infrastructure, both soft (education and health) and hard (roads, transportation & communication systems, etc.), as well as a strong proliferation of informality concerning legal and institutional frameworks are typical structural features of BoP markets. In a next step the idea is to show some cultural attributes common to BoP markets.

2.1.3 Cultural perspective

In describing BoP markets, one has also to portray common cultural attributes that help to understand the former more accurately and comprehensively.

What has already been mentioned as structural characteristic of BoP markets is also quite important when describing cultural features: The tendency of BoP markets to be isolated from other markets and social conventions, typically leads "to strong local cultures and less contact with national or international consumer habits" (Rivera-Santos & Rufín, 2010, p. 127). It would therefore be a mistake to perceive BoP markets homogenously. They are similar in the sense that they usually have strong socio-cultural conventions that are not transferable (Holtbrügge & Schuster, 2012, p. 819; Hens & Van den Waeyenberg, 2012, p. 1693; Fan & Lu, 2016, p. 461). The social and geographical distance to other markets also correlate with the observation that "cultural values and traditions will be even more present in people's behaviour than in developed markets" (Badry, 2009, p. 30). Márquez and Reficco (2009) add therefore, that trustworthiness of partners will be assessed through "highly personalized relationships" and "actor embeddedness is needed for effective participation in the network" (p. 12). This notion is confirmed by Ireland et al. (2011) in arguing, that the fragmentation in combination with often permeating high incidence of violence, "creates a strong sense of distrust toward individuals and organizations that are not native to the local community" (p. 516). Rivera-Santos and Rufín (2010) argue, that "the link between communities and the outside is often created by intermediaries such as local NGOs or influential members of the community" (p. 128). Gold and Hahn (2014) add further that "the absence of formal written agreements is not astonishing given the often insufficient literacy of the people involved and cultural backgrounds favoring oral or tacit agreements compared to formalized contracts" (p. 1328)

In their analysis of the role of cultures in BoP markets, Antalis and Nakata (2015) state that it is crucial to understand that BoP markets represent localized cultures that may differ strongly in certain aspects: "For instance, Ecuador and Indonesia are high on collectivism (top quartile of House's scale), and Georgia and Namibia are low (bottom quartile), despite all being emerging economies" (p. 767). In BoP markets where collectivism is high "consumers avoid taking on debt to make purchases in order to save the social embarrassment attached to borrowing money or failing to repay loans" (Antalis & Nakata, p. 763). This observation is in line with Karnani (2011) who argues, that "there is much evidence in the economics and psychology literature showing that people derive satisfaction not just from their own consumption but also from faring better than their peers" (p. 95). Fafchamps and Shilpi (2008) confirm in their research about consumer satisfaction in Nepal that "subjective assessment of the adequacy of their consumption increases with own consumption and falls with the average consumption of neighbours" (p. 58). They find "no evidence that poor households – in a relative or absolute sense – care less about relative consumption than more fortunate ones" (Fafchamps & Shilpi, p. 58).

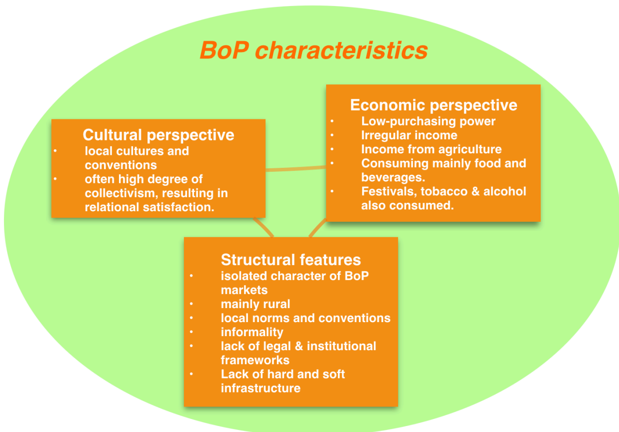
The literature review on the cultural perspective on BoP markets has shown, that the structural characteristic of geographical dispersion has a strong impact on cultural features. The emphasis on local or national culture and social conventions that are locally embedded is a consequence, or at least a co-phenomenon, of the structural characteristics of BoP markets. Interestingly in contexts that are highly collectivist, poor people show similar tendencies to relational satisfaction as the population in developed countries.

2.1.4 Conclusion

The aim of this chapter is to summarize the results from the previous one that focused on describing characteristics of BoP markets. Although there is wide agreement amongst scholars that BoP markets are far from homogenous, some features may be common to a majority of BoP markets. From an economic perspective, BoP markets consist of mainly low-income households earning less than 5 USD per capita per day at PPP. These people earn their money typically with multiple jobs. In rural BoP markets people usually work partly in agriculture and are also willing to migrate temporarily in order to pursue non-agricultural work. Their income is unpredictable and irregular. Low-income households earning more than 3 USD but less than 5 USD have more possibilities to access the formal market since they usually have some sort of formal education they can make use of. The spending patterns are characterized in general by a majority of total spending being associated with food and beverages. Astonishingly poor households spend quite an amount of consumer goods such as tobacco and alcohol, as well as cultural events such as festivals and weddings.

In terms of structural features, one major theme across BoP markets is the rather isolated character of BoP markets. In rural as well as urban contexts, they usually have a strong focus on local norms and conventions that result in an emphasis on informal communication and a lack of formal legal and institutional frameworks. Typically BoP markets face weak physical infrastructure, such as roads, transportation and communication systems, as well as a lack of quality in education and health care.

Figure 3: BoP characteristics model.



Source: Own illustration.

The geographical dispersion is correlated with strong local cultures and conventions, which make transferability of knowledge about BoP markets problematic. In BoP markets with a high degree of collectivism, poor people show similar tendencies to relational satisfaction as the population in developed countries. With these findings in mind, the aim is now to translate the former into specific business challenges that BoP impact enterprises face when entering the market or scaling the operations.

2.2 Key challenges

The intent in the previous chapter was to show what BoP markets are and how they are specifically characterised. This chapter aims to answer the question why the information of the previous chapter is highly significant for BoP impact enterprises. As explained in chapter 1.2.3, BoP impact enterprises attempt to alleviate poverty through economically viable business models and operations. Information about the BoP market is vital in order to be successful as a BoP impact enterprise. However, the mere description of the characteristics of BoP markets is not enough. What are the implications for BoP impact enterprises? This question needs to be answered through the proceeding chapter that aims to show key challenges and major opportunities in BoP markets on the basis of the previous characterisation of BoP markets.

When thinking about business challenges at the BoP, much literature nowadays seems to refer to books that have been written in the beginning of the BoP proposition, that means in the beginning of the 21th century. However, as we have seen in the last 10 years, experience with BoP projects have resulted in new perspectives on the topic. The aim in this chapter is thus to draw on the newest literature concerning challenges at the BoP. Consistently over the last 10 years BoP enterprises seem to fail for the same reasons as earlier enterprises did (London, 2016, p. 22-23). It is vital therefore, to build the theoretical model of how to best conduct business in a BoP market on sound empirical evidence. As already mentioned, the author has reviewed 67 papers, articles, books and case studies and attempts to show what the main challenges are according to the latest research. In doing so, the author attempts to draw causal lines between the characteristics from the previous chapters to the challenges that have been observed to illustrate BoP markets holistically.

In order to structure the specific challenges faced by BoP impact enterprises, this paper draws on the work of Klein (2008) who conducted an in-depth survey of 143 companies operating in BoP markets. After several stages of evaluation by SPSS Text Analysis and experts, 30 different business challenges were found that resulted in 9 categories and an "other" category (Klein, 2008, p. 41). Although the survey is from the year 2008, the classification is scientifically sound and empirically validated. The author was unable to find any newer classification with that kind of empirical background. In addition, this classification is based on a survey of companies that operate in BoP markets and not merely on theoretical consideration.

Although highly informative, the survey conducted by Klein (2008) lacks explanatory power, since theoretical considerations are not taken into account. It is not explained why it is challenging to develop a market position in the BoP context. The author therefore uses the nine categories as the basis on which this paper evaluates qualitative research findings. Challenges that are found in recent research but are not listed in the analysis of Klein (2008) will be explained at the end of the chapter.

2.2.1 Market position development & competition

1. Market creation & marketing

In the literature review, market creation was one of the most prominent issues. Simanis (2011) explains: "When there is no market and product non-consumption is the issue, companies confront an information condition of *ambiguity*. There are no competitor products against which to benchmark; there are no customers to observe" (p. 108). According to Simanis, this lack of reference points also exists for the consumers, who "have no basis for predicting the changes and shifts in their existing routines, ways of thinking, and sense of self that may come with embedding a new product into their lives" (p. 108).

According to the research, there are two main reasons why market creation is far from trivial. On the one hand, challenges for firms in creating a market emerge from structural characteristics of BoP markets. Alur and Schoormans (2013) for instance explain, "new product introduction in the presence of challenges in the rural retail outlets is far tougher than in urban retail outlets" (p. 197). This is mainly because of "substantial transaction costs, poor information infrastructures, and lack of market intermediaries" (Márquez & Reficco, 2009, p. 9). Structural constraints thus make market creation in BoP markets particularly troublesome.

On the other hand, cultural characteristics make market creation in BoP markets especially difficult. Since BoP markets are often isolated with a strong local culture, people are suspicious of new technologies and ideas (Simanis, 2012, p. 5; Simanis, 2014, p. 3). Simanis (2014) explains: "The greater the novelty, the greater the disruption, and people with limited means and limited product experience see extreme novelty in many products" (p. 3). Simanis (2011) argues that this is the main difference between market entry and market creation: Market creation poses the challenge of creating demand where before were no demand and no needs (p. 106-108). Market creation, customer acquisition and retention for new products require thus expensive high-touch engagement (Simanis, 2012, p. 2). Simanis (2012) adds "sales and marketing efforts involve deploying a substantial number of people with sales skills and deep product knowledge – an expensive proposition" (p. 5). This notion is confirmed by Karamchandani, Kubzansky and Lalwani (2011): "It's usually difficult to make the economics work for a product if demand must be generated, because marketing costs typically swamp efforts to keep prices extremely low" (p. 4). Another result of the isolated character of BoP markets is the lack of existing offerings and a lively ecosystem (Badry, 2009, p. 37). In their attempt to proliferate their water detergent PUR, Procter and Gamble (P&G) experienced challenges due to the fact that their brand was not yet known and low-income customers had to be acquired with low-prized products. Usually their approaches consisted of entering a market with high-prized products and then slide down the economic ladder. That was obviously not possible in the case of PUR (Schrader, 2011, p. 132).

Research suggests that these structural and cultural constraints not only limit market creation efforts, but on-going marketing in general. Several articles mention the poorly developed communication infrastructure as a severe challenge for marketing of firms operating in BoP markets (Ireland et al., 2011, p. 522; Chikweche & Fletcher, 2012, p. 10; Badry, 2009, p. 30; Bairiganjan & Shukla, 2011, p. 5). Mass media are usually not available or not affordable resulting in the situation where marketing efforts using these channels simply do not reach the targeted customers. Chikweche and Fletcher (2012) argue for instance, that "many at the BoP live in 'media dark' zones where they do not have access to the print media due to illiteracy, limited access to the radio, little access to TV and no access to the internet" (P. 10). Firms therefore need to engage directly with customers through individuals that build bridges and educate communities and word-of-mouth marketing, which are either very costly or have limited success rates (Ireland et al., 2011, p. 516).

Although competition seems to be often mentioned in the survey conducted by Klein (2008, p. 41), latest research does not seem to confirm that observation. As Alur and Schoormans (2013) observe: "In serving the BoP population, urban retailers face competition from different discount chains. However, competition is hardly a challenge in rural areas (p. 197). Whereas in urban areas competition obviously seems to play a greater role for BoP impact enterprises, rural areas often times are not yet reached with a wide range of consumer goods and other household products common in urban contexts. Firms are thus more likely to be pioneers in offering goods and services in rural areas and therefore hardly experience severe competition. However, this does of course not imply that firms operating in rural areas can increase prices as for example in absolute monopoly. The low purchasing power of the rural population makes it almost impossible to claim a monopoly price.

2. Lack of market information

One of the major difficulties of business operations in BoP markets is the lack of adequate information concerning the market firms are operating in (Bootsman, Gasnier, Gradl & Sobhani, 2008, p. 34). These difficulties stem mostly from structural constraints such as the isolated character of BoP markets (Badry, 2009, p. 29). Firms thus struggle to obtain detailed knowledge about the needs, desires and capabilities of potential customers (UNDP, 2008, p. 29). According to research, MNCs are challenged particularly regarding these information challenges. Badry (2009) argues that "limited access to potential customers and the absence of market research institutions" make it "nearly impossible for MNCs to design products and services that these customers actually need and appreciate" (p. 29). This lack of market knowledge therefore leads in a severe challenge to define the value proposition of products and services, since firms do not know what potential customers value. Hart, London and Sheth (2014) add that a further difficulty for BoP ventures concerning market information is the uncertainty about potential partnerships and co-creation initiatives (p. 16). In other words, BoP impact enterprises often don't know where to get help from and how to leverage potential synergies.

2.2.2 BoP as a strategic challenge

3. Low purchasing power

As already mentioned, BoP markets are by definition characterized by households with low purchasing power. This central feature of BoP markets challenges firms in various ways. Holtbrügge and Schuster (2012) explain that in the case of Allianz and their operations in BoP markets, one of the major challenges was to operate very cost-efficiently due to the low spendable individual income (p. 821). In order for the business to be profitable, firms are required "to build products that are functional, lasting, and basic and to produce large volumes in order to seize economies of scale" (Klein, 2008, p. 30). However, even if firms are very cost-efficient and reach economies of scale, the capital needed in order to afford products and services is often not at hand for households in BoP markets. Faheem and Purkayastha (2010) report this issue in the case of Waterhealth International, a social enterprise that provides safe drinking water in rural areas with decentralized plants, when they write that the challenge for the firm was that the targeted communities lacked adequate capital to afford the installment (p. 275). Firms in BoP markets therefore have to meet the challenge of offering customers low-priced products as well as finding ways of providing them with important financial liquidity that is needed to meet the upfront investments.

In addition to low purchasing power, households in BoP markets are also characterized by an irregularity of income. This challenges firms particularly since "up-front payments for certain products are simply out of the question" (Karamchandani, Kubzansky & Lalwani, 2011, p. 3). According to Barbary, Cooper and Kubzansky (2011) firms are also struggling with performance volatility: Sales are peaking in times in which products are particularly needed and demanded by households and this again requires certain precautionary measures to ensure supply (p. 49).

In terms of price sensitivity, Barbary, Cooper and Kubzansky (2011) argue that although consumers would increase spending in order to get access to better quality products, they are highly sensitive to prices which results in "reducing expenditure or shifting to substitutes in response to price increases" (p. 43).

4. Lack of education

As explained in chapter 2.1.2, BoP markets are structurally characterized by a widespread lack of education. This constrains companies in various ways. On the one hand potential consumers do not understand the value of the product (Bootsman et al., 2008, p. 34; UNDP, 2008, p. 31; Schrader, 2011, p. 129). This requires firms such as Allianz to educate costumers about insurance products through intense customer advisory services and regular educational programs (Holtbrügge & Schuster, 2012, p. 821). Another example according to Schrader (2011) can be found in the case of safe drinking water, where the biggest challenge for firms is to show the BoP population the value and long-term effect of it (p. 129).

On the other hand, customers in BoP markets hardly ever know how to use a specific product or service, since they lack the necessary knowledge and skills (UNDP, 2008, p. 31). Bootsman et al. (2008) explains it the following way: “If customers do not understand the value and use of product, or are unable to employ it, the product is not going to sell” (p. 34).

5. Lack of infrastructure

As explained in chapter 2.1.2, BoP markets are characterized by a lack of hard infrastructure. There is widespread consensus among scholars that this unique constraint poses significant challenges for BoP impact enterprises. Research suggests that the weak transportation facilities, such as roads and railways, will increase marginal costs, decrease efficiency (Simanis, 2012, p. 7; Anderson, Kupp & Markides, 2010, p. 8), raise costs of monitoring and face-to-face transactions (Ireland et al., 2011, p. 510; Bootsman et al., 2008, p. 37), increase length and price of distribution (Chikweche & Fletcher, 2012, p. 9; Badry, 2009, p. 30), hinder market access (Anupindi, London & Sheth, 2010, p. 586) and pose significant challenges in terms of storage facilities (Bairiganjan & Shukla, 2011, p. 7). Furthermore, the lack of communication technology and networks “contributes to the information asymmetry that prevents the growth of effective rural markets” (Bairiganjan & Shukla, 2011, p. 7).

6. Cognitive challenges & trust building

Other side effects of cultural characteristics of BoP markets are cognitive challenges as well as the need for building trust (Klein, 2008, p. 29). According to Banerjee and Duflo (2007) there might be “a reluctance of poor people to commit themselves psychologically to a project of making more money” (p. 165). It is not only the aspect of making money that hinders the BoP population to engage with new products but also the general suspicion towards foreign businesses. Hütte and Vermeulen (2014) therefore perceive trust building as a key challenge of foreign firms and organizations that want to target BoP markets (p. 4).

7. Unreliable partners

Firms that operate in BoP markets also have to cope with unreliable partners. It may be that “suppliers, distributors and retailers (…) lack the knowledge and skills to deliver quality products and services consistently, on time and at a set cost” (UNDP, 2008, p. 31). Karamchandani, Kubzansky and Lalwani (2011) explain furthermore, that “small suppliers rarely have access to high-quality inputs (or the credit to buy them), they often lack training, and their output can be unreliable” (p. 5). In addition, Karamchandani, Kubzansky and Lalwani warn that local partners may misuse training and other benefits provided by foreign firms and divert them elsewhere through “side selling” (p. 5).

2.2.3 Internal organization/management

8. Organizational problems

BoP characteristics challenge firms also internally when it comes to human resource management, defining objectives and values as well as monitoring business processes. When it comes to labour for example, firms operating in BoP contexts will struggle to find talent since “illiteracy and innumeracy are rampant” (Simanis, 2012, p. 5; Anderson, Kupp & Markides, 2010, p. 8). Ireland et al. (2011) confirm that observation when they argue, “undeveloped labour markets and educational institutions provide limited skilled labour” (p. 510). In addition to find talent, firms encounter severe difficulties to monitor operations and processes. According to Ireland et al., the lack of technological infrastructure in BoP markets result in a “dearth of monitoring technologies” (p. 512).

Besides issues concerning labour and human resource management, firms are also internally challenged by organizational burdens that are particularly apparent in BoP contexts. Garrette and Karnani (2010) for instance write that when it comes to firm's multiple objectives in their BoP operations, there is a threat of achieving none of them at all since they "are often in conflict, at least in the sense of drawing on a pool of limited resources and impose trade-offs" (p. 27). According to Hens and Van den Waeyenberg (2012), firms operating in BoP markets are also faced with organizational problems such as the missing transferability of knowledge: "Due to the different institutional context, especially the voids at the base of the pyramid in terms of market research and distribution, multinationals cannot rely as much on capabilities that they have built in the developed country home market and need to focus on locally developing capabilities" (p. 1697). Herstatt and Ramdorai (2015) endorse this notion when they postulate, "BoP projects require innovation that tends to be a significant departure from the companies' core activities" (p. 13). These supplementary investments need, according to Herstatt and Ramdorai, "patient capital, and tolerance that the business will generate healthy returns after longer time periods" (p. 13).

2.2.4 BoP and profitability

9. Higher costs & profitability

It is often reported that BoP impact enterprises face severe challenges regarding their cost structure. One of the main proponents of this notion is Erik Simanis, who regularly argues that lowering costs in BoP operations is central but extremely difficult. It is challenging since "operational expenses (…) are frequently much higher than those that companies face in developed markets (Simanis, 2012, p. 2). Simanis (2013) explains that "compensating for poor infrastructure and absent or inefficient social institutions with back-up diesel generators and in-house employee literacy training programs drives up operational costs beyond the levels found in traditional markets" (p. 221). Simanis also perceives the costs of market creation to be a major burden, since "acquiring and retaining customers demands a very high-touch sales and marketing strategy" (p. 221). This will of course result in higher costs because "corporations have to pay for awareness building and behavior modification through future profits" (p. 221). Ireland et al. (2011) furthermore mentions that in addition to start-up costs, "ongoing operational costs, such as employee wages and raw materials, can be substantial" (p. 514).

Since BoP impact enterprises face significant higher costs in comparison to the willingness or ability to pay of costumers, Simanis (2013) detects a severe resulting challenge for BoP impact enterprises to generate high contribution rates per transaction (p. 222). It is severe because firms have to "raise its gross margin (by decreasing variable costs) and/or raise its sale price" (Simanis, p. 222). Decreasing variable costs will be tough because, as mentioned above, costs in BoP markets are comparatively high due to structural and cultural characteristics. Raising sale prices will be problematic since households in BoP markets have per definition low purchasing power. According to Rivera-Santos and Rufín (2010) firms operating in BoP markets not only face higher operational costs but also greater instability and unpredictability and are therefore in need of transferring that risk onto the customers, which again will be a very challenging task (p. 136).

2.2.5 Obtain financial resources

10. Lack of formal financing

The lack of soft infrastructure such as formal capital markets and financing institutions constrains enterprises as well as the local population and challenges business operations. The situation can be described the following way: "Lacking credit, poor producers and consumers cannot finance investments or large purchases. (…) And lacking transactional banking services, they face insecure and expensive financial management" (UNDP, 2008, p. 31). This notion is confirmed by Bootsman et al. (2008) who writes "the poor cannot rely on a functional financial infrastructure. Credit is crucial to enable poor people to finance larger purchases" (p. 36). As reported by Ireland et al. (2011), these BoP characteristics "force entrepreneurs to rely on personal funding sources or loan sharks [although] both of these funding sources are limited and risky" (p. 510).

2.2.6 Building a BoP ecosystem

BoP impact enterprises will often find themselves in a context where a lively business ecosystem is not apparent. This will, according to research, challenge firms in regard to productivity, networking and supply chain management.

11. Lack of ecosystem

Anupindi, London and Sheth (2010) postulate that one of the reasons that BoP ventures usually show lower productivity levels "relates to the lack of access to high-quality raw material production inputs such as seeds, fertilizers, pesticides, and water in agriculture and fabric, yarn, fibers, and leather in handicrafts" (p. 585). Additionally, "lack of access to specific equipment or technical knowledge can make entering new industries infeasible" (Anupindi, London & Sheth, p. 585). When it comes to networks that are necessary to build partnerships and collaborations, Hütte and Vermeulen (2014) state that "one challenge that is frequently mentioned concerns the collaboration with a variety of non-traditional partners, including public sector organizations, non-profits and community groups" (p. 4).

12. Supply chain management

In regard to supply chain management, Anupindi, London and Sheth emphasize the lack of storage, which restrains businesses because "without the ability to protect their goods from theft or weather damage or extend the life of the product, such as through chilling facilities, producers often must sell their output as soon as possible at whatever price the buyer will pay" (p. 585). Another major challenge regarding supply chain management concerns the distribution. Herstatt and Ramdorai (2015) explain, "the BoP population in several countries is, to a very large extent, rural. This, combined with the fact that infrastructure to reach these areas is often poor, makes physical distribution of goods to the BoP segment challenging" (p. 12). Karamchandani, Kubzansky and Lalwani (2011) confirm this observation and point out that the fact that customers are scattered makes it "difficult for corporations to manage the face-to-face (and cash-based) interactions that are typically necessary for building a cost-effective distribution business" (p. 4). These difficulties result in business having to cope with higher costs than expected which again contributes to commercial failure (Garrette & Karnani, 2010, p. 22). According to Badry (2009) MNCs will be even more challenged by this BoP characteristic because of their foreignness (p. 36).

2.2.7 Production

13. Product challenges

When it comes to production, BoP markets pose a variety of difficulties for firms. One of the most challenging tasks for firms is to make products affordable for BoP households. Firms therefore "need to achieve large price and cost reductions" (Garrette & Karnani, 2010, p. 18). Since technological improvements are often not available, it is "necessary to reduce quality in order to reduce costs significantly; the challenge is to do this in such a way that the cost-quality trade-off is acceptable to poor consumers" (Garrette & Karnani, p. 18). Badry (2009) confirms that argument in the case of MNCs: "MNCs are challenged to create price-performance relations that are radically different from those in developed countries” (p. 25). However, products do not only have to be radically affordable, but also highly innovative because “as the poor living conditions of the people there require specialised products and high quality technologies, i.e. to preserve nutrition and prevent perishability without refrigeration” (Badry, 2009, p. 26). Faheem and Purkayastha (2010) bring forth the example of the Ultra Violet Waterworks (UVW), a water purification system:

> “experts contended that the system did not address risks associated with post-contamination (…). Moreover, the UV lamps required electricity to operate the system, which was challenging since most rural communities had little or no access to electricity (…). Another significant challenge was that the UVW system was not suitable for brackish and saline water” (p. 276).

Hütte and Vermeulen (2014) therefore postulate, “serving the BoP requires significant investments in developing new products, services and, foremost, business models” (p. 5).

Another major constraint for products offered in BoP markets is the unavailability of complementary products and services. Bairiganjan and Shukla (2011) explain, “lack of available complementary products and services skews purchase choice towards a product that is part of well-functioning and complete product suite, even if that purchase inadequately serves BoP customers’ unique demands” (p. 5). This is exemplified by Bairiganjan and Shukla through the popularity of kerosene lamps that, although they are costly, “less efficient and pose health and environmental hazards, they are still a preferred choice over incandescent lamps due to the easier availability of kerosene fuel as compared to electricity in rural areas” (p. 5). Karamchandani, Kubzansky and Lalwani (2011) affirm this notion when they postulate that “the business ecosystems needed to support a product or service are often missing at the bottom of the pyramid. For example, once a rural entrepreneur has purchased a cow, where does she go for veterinary services?” (p. 5).

2.2.8 Business domain expansion

14. Scaling

Most profit-oriented firms with a vision of high impact intend to expand diversify their business operations into new markets and market segments. As Hütte and Vermeulen (2014) point out correctly, “the ‘fortune’ is not in margins but in volumes” (p. 5). The specific characteristics of BoP markets pose severe challenges for BoP ventures. As Rivera-Santos and Rufín (2010) point out, the structural features of BoP markets, namely the fragmentation along geographic, ethnic, cultural or religious lines, “underscore the need for sensitivity to understand these differences and flexibility to adapt to them” (p. 136). This understanding will of course need in-depth analysis and adaptation of the business in order to be successful.

There is widespread consensus in the BoP literature that these structural constraints will make straightforward scaling of operations very difficult. Bairiganjan and Shukla (2011) argue that the geographical dispersion in rural areas prohibit “commercial players from enjoying economies of scale” (p. 7). Simanis (2012) confirms and adds that doing business in slums scattered across urban centers will pose similar difficulties as in rural areas: “Each local business unit is forced to generate its sales volumes from the consumer base living in a narrow geographical range – often just a small cluster of villages in rural areas, or several neighbourhoods in the case of larger slums” (p. 2). Besides structural constraints that cause difficulties in business expansion, there may also be institutional differences across BoP markets that “limit the benefits of standardization” (Ireland et al., 2011, p. 5). The acquired knowledge of local particularities and the investments in local infrastructure “constitute local-specific assets and cannot be transferred easily” (Márquez & Reficco, 2009, p. 32). Once acquired, “they become a sunk-cost that will generate incentives to exploit economies of breadth in the same area, as opposed to expanding the model to other venues" (Márquez & Reficco, p. 32).

2.2.9 External corporate governance

15. Informality & lack of legal institutions

As laid out in chapter 2.1.2, BoP markets often feature widespread informality of business interaction and weak legal frameworks. The latter poses unique challenges for firms such as market failure and increased costs of doing business (Badry, 2009, p. 28; Anderson, Kupp & Markides, 2010, p. 8). As Bootsman et al. (2008) point out, "rule of law is essential to provide incentives for proactive economic activity. In a market system where property rights cannot be secured, contracts cannot be enforced and the violation of laws is not punished, doing business can be a game of luck" (p. 35). It can be assumed that on the basis of this lack of legal enforcement, local firms oftentimes operate in informal business channels. However, since this informality may not be feasible and ethically acceptable for BoP impact enterprises, local firms that operate without regulation and quality standards might have a competitive advantage (Herstatt & Ramdorai, 2015, p. 12). Even if these informal markets were feasible and ethically acceptable, they are "typically fragmented and unorganized" as Barbary, Cooper and Kubzansky (2011) explain (p. 46).

16. Government intervention

Other external corporate governance challenges evolve from the interaction with governmental organizations. On the one hand Bairiganjan and Shukla (2011) argue that "ill-planned, poorly executed and intermittent government schemes in certain regions have led to a wide introduction of low-quality products that shift the end customer's perception away from better product choices" (p. 7). On the other hand authors such as Rivera-Santos and Rufín (2010) warn that the interaction with governmental organizations can "increase the risk of fraud and corruption" (p. 136).

A separate issue that is often reported is concerned with the negative side-effects of subsidies. Bairiganjan and Shukla (2011) explain that "short-term subsidy programs have led to sparse distribution of products in certain rural areas, skewing the price point perception against a more long-term market-based solution" (p. 7). Chikweche and Fletcher (2012) confirm this notion and argue that subsidies can "determine pricing strategies used by firms at the BoP" (P. 8). According to Lawaetz and Smyser (2011), a common issue reported by utility companies is a "culture of non-payment" which is "due to distrust of the utility and prior misdirected government 'social' policy allowing unlimited free electricity to the poor" (p. 136).

2.2.11 Conclusion

The literature review based on latest research revealed that BoP impact enterprises face different challenges that emerge from BoP specific characteristics and "that affect all value activities as their characteristics differ substantially from those of traditional markets" (Holtbrügge & Schuster, 2012, p. 817). On the basis of Klein's (2008) 9 categories, 16 distinct challenges were found and analysed in detail in order to integrate sound explanations and show the interlinkages with the BoP characteristics.

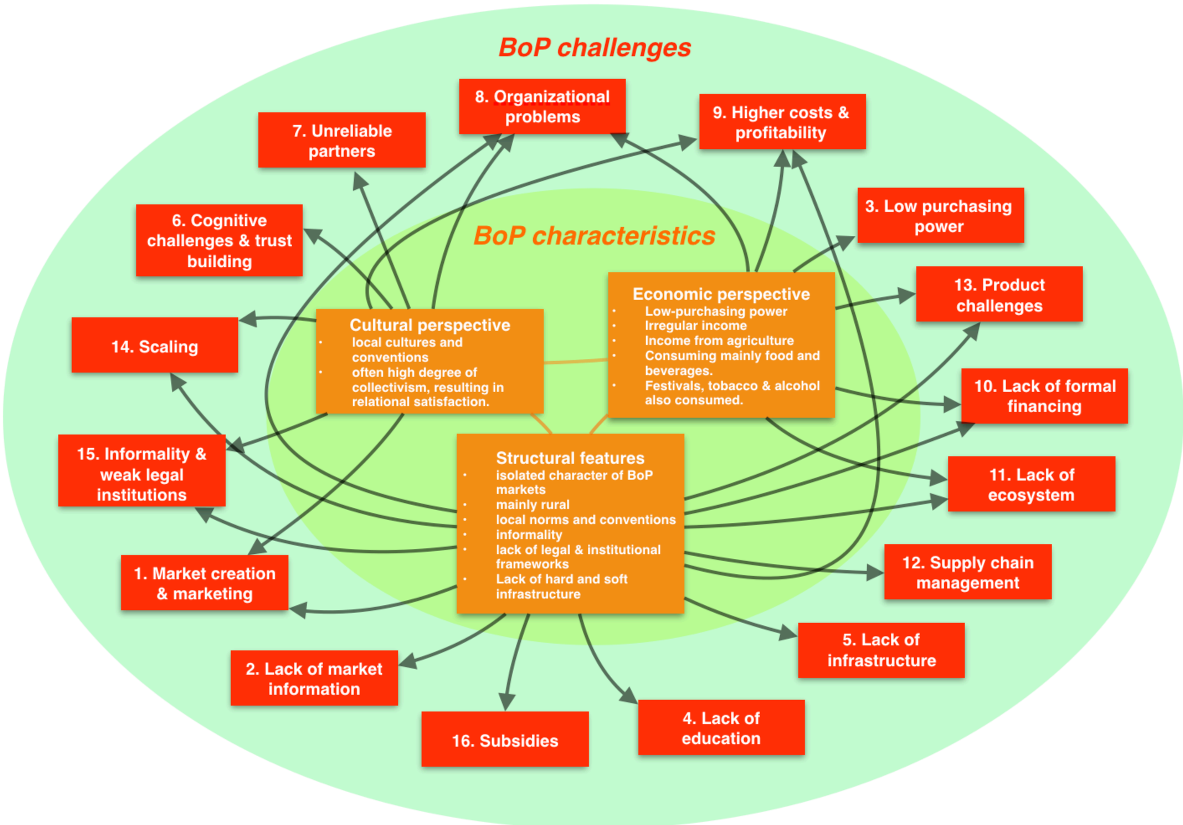
In the category market position development and competition, the literature review showed that BoP ventures are particularly constraint when it comes to [1] market creation and marketing. Structural and cultural characteristics make it very difficult for firms to get access to potential customers and convince them of buying something new and innovative. Although competition was named in Klein's (2008) challenge scheme, no further evidence could be found to back the argument that competition is serious challenge for BoP impact enterprises. However, a severe difficulty that is often reported is the

[2] lack of market information, which is caused by structural constraints and hinders BoP firms to get detailed knowledge about needs, desires and capabilities of customers.

The second category, BoP as a strategic challenge, presents first the [3] low purchasing power as a key challenge for BoP impact enterprises. The economic characteristics of BoP markets result in low purchasing power as well as irregular income, which again forces firms to operate very cost-efficient and innovative. The [4] lack of education offers a second challenge in this category and evolves from structural characteristics. Since customers struggle to understand the value and use of the product, firms are forced to engage in very intense customer relationships. Firms operating in BoP markets are oftentimes constraint by the [5] lack of infrastructure that results from structural characteristics and makes business operations slow and very costly. [6] Cognitive challenges and trust building issues result from cultural characteristics apparent in BoP markets and demand firms to engage with local culture and society. Another side effect of BoP culture is the [7] unreliability of partners that require thorough attention when firms cooperate and set contracts.

In terms of the third category, internal organization and management, research shows that, when it comes to human resource management, defining objectives and values as well as monitoring business processes, firms are challenged [8] organizationally by BoP characteristics in general. In the fourth category, BoP and profitability, a wide range of evidence suggests that firms operating in BoP contexts face [9] higher costs than expected and therefore struggle to be profitable. While structural and cultural characteristics raise variable costs, the economic characteristics lower the willingness to pay of customers and thus decrease the chances of profitability. Obtain financial resources, the fifth category, revealed that structural and economic characteristics challenge firms since there is a [10] lack of formal financing, which results in customers having no financing options available and firms having no access to investment capital and knowledge.

Figure 4: BoP Challenges.



Source: Own illustration.

When it comes to building a BoP ecosystem, the sixth category, research showed that [11] the lack of a lively ecosystem presents a severe challenge for BoP impact enterprises in terms of productivity and networking. Structural and economic characteristics such as the lack of high quality raw material have a negative impact on the local ecosystem. Also challenging in terms of building a BoP ecosystem seems to be [12] the supply chain management, since structural constraints, as for instance the lack of storage facilities and weak infrastructure, make it very difficult for firms to manage their supply chains. In terms of production, the seventh category, firms encounter a wide range of [13] product challenges that emerge mainly from structural and economic reasons. Firms need to make their products affordable in reducing costs while ensuring quality, products need to be innovative because of the poor conditions of BoP contexts and firms need to ensure the availability of complementary products and services in order to provide good reasons for the buying decision. The eighth category, business domain expansion, shows how firms are challenged when it comes to [14] scaling. Local and isolated cultural norms and structural characteristics make it difficult to transfer and expand business operations into new markets and standardize business procedures. In the ninth category, external corporate governance, the analysis has indicated that the [15] informality and the weak legal institutions, resulting from cultural and structural characteristics, challenges firms particularly in regards to avoiding risks and conducting business in an ethically acceptable manner. Last but not least, [16] subsidies also pose a severe challenge for firms operating in BoP contexts, since they lower the willingness of potential customers to pay and thus hinder sustainable and market-based solutions to flourish.

It is highly important at this point to mention, that “the constraints typically coexist, often reinforcing one another” (UNDP, 2008, p. 31). This is exemplified by the interrelation of market information and physical infrastructure, or the fact that “financial services require, that rules and regulations be enforced” (UNDP, p. 31).

After this literature review concerning challenges in BoP markets, the aim in the following chapter is to find strategies that are suited to manage the former.

2.3 Strategies for BoP impact enterprises

As shown in the previous chapters, BoP impact enterprises face severe challenges that evolve from characteristics which are unique to BoP markets. This chapter thus aims at presenting strategies for BoP impact enterprises that are suggested by the latest research and enable sustainable, financially viable and successful business venturing in BoP markets.

The findings from the literature review were clustered around five categories. These five categories represent five distinct imperatives for BoP impact enterprises, namely [1] collaborate, [2] gather, [3] enable [4] adapt and [5] remove. On the basis of the extensive literature review, which include a wide range of quantitative analysis as well as case studies, the findings should show ways and strategies to conquer the severe challenges that BoP markets inhibit.

2.3.1 Collaborate with different stakeholders

One of the most prominent advices in BoP literature over the last years is to collaborate with a wide range of different stakeholders. Research delivers an increasing amount of evidence that collaboration is a necessary ingredient for success in BoP markets. Badry (2009) postulates for instance that the main finding of her doctoral thesis is that “social embeddedness (…) is enhancing the success of initiatives in a market-based approach to low-income markets” (p. 102). This observation is confirmed by Waibel (2012) who argues in her doctoral thesis, that “partnering and entering with carefully chosen partners increases the success of BoP ventures” (p. 184), by Barki and Parente (2014) who write “partnerships are a must” (p. 2) and by Schrader (2011) who states that the level of effectiveness in cooperation determines the chances for success of a BoP venture.

The literature review has shown that there are various reasons for collaborating with specific actors or groups of actors. The aim of this chapter is to portray these different strategies and explain why they are relevant for BoP impact enterprises.

1. Collaborate to build trust

As explained in the previous chapter, BoP impact enterprises face cognitive as well as trust building challenges that evolve from isolated and local cultural ties. In order to overcome mistrust and the lack of embeddedness, BoP impact enterprises are advised to reach out to BoP communities directly or indirectly and build relationships (Bootsman et al., 2008, p. 41). As Chu, Petkoski and Rangan (2011) explain, earning the community’s trust is crucial because the needs of this customer segment are of basic nature (p. 11). In their analysis of Unilever’s BoP venture, Grootveld and Vermeulen (2014) argue that trust building requires integrity, consistency in behaviour and frequent face-to-face contact (p. 71-73).
However, there is broad agreement amongst the analysed literature, including Grootveld and Vermeulen (2014), that communities should preferably be addressed through intermediaries (p. 81). Hens and Van den waeyenberg (2012) argue for example that in the case of the BoP activities of Philips, the collaboration with NGOs and local distributors with experience in the targeted communities was important due to their credibility in those communities (p. 1696). Rivera-Santos and Rufín (2010) postulate that in order to earn “trust and political goodwill in communities tied by strong informal links” will require companies to “search for non-traditional partners such as NGOs, community organizations, or government agencies” that are able to intermediate between the firm and the BoP communities (p. 136). Badry (2009) states that collaboration with local and trusted partners is especially relevant if firms intend to sell products and services that BoP communities are not familiar (p. 37). Chu, Petkoski and Rangan (2011) explain that in order to earn trust in BoP communities, firms “should not overlook the advantages of teaming up with locally established NGOs” (p. 11). This notion of collaboration with non-traditional partners is confirmed by Anderson, Kupp and Markides (2010) who find in their study on different BoP

ventures that the sample companies developed relationships with unorthodox actors in order to gain social embeddedness. Amongst these partners were people with religious and political standing in the targeted community that could hence "influence the local population and /or offer them security, protection and a certain standing in the community" (p. 13). The role of intermediaries in reaching out to BoP communities is relevant because of the "legitimacy and the social capital these non-business partners hold in their specific environments" (Gold & Hahn, 2014, p. 1329). The lack of credibility also urged Allianz to use the social capital of the NGO CARE in order to access local markets and build trust (Gold & Hahn, p. 1329). In addition to collaboration with non-traditional actors, there is also evidence that in order to build trust, firms also need to collaborate with the relevant governmental bodies (Grootveld & Vermeulen, 2014, p. 81; Bootsman et al., 2008, p. 42).

In summary, it can be stated that there is a broad consensus that in order to build trust in local communities, BoP impact enterprises need to collaborate with a wide range of intermediaries that have credibility and social capital in the relevant BoP communities.

2. Collaborate to access know-how and reduce uncertainty

The lack of market information requires BoP impact enterprises to find alternative ways of accessing relevant know-how. Latest research suggests that one way of receiving important knowledge and expertise is to collaborate with local knowledge bearers. Badry (2009) reports that in the case of "Suez, a utility company providing water, sanitation and energy (…), leveraging the knowledge and expertise" of local NGOs "that were familiar with the customer needs in the specific markets" helped the firm "to learn about the needs and habits of the poor communities in which the business was operating" (p. 35). This is confirmed by Holtbrügge & Schuster (2012) who argue that in order to acquire market knowledge, firms need to establish stable and long-term relationships with non-market partners who "have already developed a unique knowledge base about BoP markets and possess social networks and useful resources to overcome their constraints" (p. 827). Gold and Hahn (2014) report in their case study, that partnerships are relevant due to their contribution of non-tangible assets, "such as information and know-how" (p. 1329). This argument is confirmed by Simo (2013) who states that firms "should partner with government agencies, civil society groups and development organizations with on-the-ground expertise" (p. 305). The reason for this collaboration lies in the use of synergies, which makes these cooperations "a powerhouse of resources and knowledge" (Follman, 2012, p. 305). According to research, such collaborations do not only contribute to receiving crucial market know-how, but also enable the development and implementation of marketing mixes (Chikweche and Fletcher, 2011, p. 13), acquisition of new capabilities (Hammond, Katz, Kramer, Tran & Walker, 2007, p. 10), product development, cost and risk reduction, (Barbary, Cooper & Kubzansky, 2011, p. 145) and create a catalytic climate for innovation (Fengler, Joseph & Vaughan, 2013, p. 218). A number of authors suggest collaboration in order to address institutional gaps, which evolve from weak legal institutions, and reduce uncertainty (Badry, 2009, p. 33-34; Rivera-Santos & Rufín, 2010, p. 136; Márquez & Reficco, 2009, p. 35-36).

The evidence gathered in this chapter indicates a consensus in academic as well as non-academic articles that collaboration is a necessary component, or as Hosono and Kato (2013) write, "a critical factor" (p. 234), of successful BoP ventures. Hütte and Vermeulen even argue, that in their case study, "companies had to collaborate with organizations from other sectors throughout the entire process and throughout the entire value chain" (p. 136). However, with collaboration new challenges emerge that could potentially harm the positive impact of collaboration on firm performance. As Anderson, Kupp and Markides (2010) write, over-embeddedness should be prevented, since it would "make firms vulnerable to external shocks and insulates them from valuable information that exists outside their network" (p. 24). This is especially important since the acquired market knowledge is of "limited value when transferring it to another BoP market" (Holtbrügge & Schuster, 2012, p. 827). Over-embeddedness can also make firms "vulnerable to 'selfish' partners who abuse their newfound power to extract more than their fair share of the rents" (Anderson, Kupp & Markides, 2010, p. 24). Managers thus need to be aware of the risks and downfalls that may emerge from collaborations and try to manage them accordingly.

2.3.2 Gather market know-how

The lack of accessible market information is a major constraint for BoP impact enterprises. Hence, strategies to overcome this challenge need to be found and applied. One strategy that has already been introduced is to collaborate with local knowledge bearers. This chapter will first present another strategy to overcome this challenge. However, the mere access to market information will not necessarily result in successful BoP ventures. In order to gather market know-how, firms need to understand which information they need to collect.

3. Innovative R&D

Firms need to find innovative ways of conducting Research and Development (R&D) to successfully gain market know-how and expertise. Hens and Van den waeyenberg (2012) report that in order to "collect information or test products Philips has sent students or inspire teams (groups of Young Potentials at Philips) to live in the communities" (p. 1696). Similarly Badry (2009) suggest to actively interact with the BoP population and send employees for short-term trips (p. 105). In general it can be said, that if firms want to pursue another strategy than collaboration, they are urged to receive the required knowledge through direct interaction with the communities by themselves (Holtbrügge & Schuster, 2012, p. 828). However, a promising alternative strategy is to use new technologies such as mobile phones and internet connectivity (Klein, 2008, p. 164). This approach will be further examined in the 9th strategy.

4. Identify market characteristics and its effects on firm performance

The basic assumption behind this strategy is that BoP markets differ from each other and it is therefore vital for a BoP impact enterprise to know the specific characteristics of the targeted BoP market that distinguish it from others. Chu, Petkoski and Rangan (2011) for instance postulate, that after studying a wider range of BoP ventures, they have found "that those with skill at simultaneously building private and public value tend to have a nuanced understanding of their constituencies" (p. 114). They add that in order to be successful "companies must commit to learning what constitutes value for the various components of this population" (Chu, Petkoski & Rangan, 2011, p. 114). Bhowmick, Dey, Pandit, Saren and Woodruffe-Burton (2015) confirm this argument when they explain that contextual factors and individual capabilities determines what potential customers value and thus "better value can be appropriated by providers by not generalizing the BoP characteristics as being homogenous, but rather, by recognizing and engaging with individual BoP sub-segments" (p. 46). Furthermore, BoP markets are themselves fragmented in terms of "levels of economic, social, political, educational, skill, ability and knowledge potentiality, capacity or deprivation" (Follman, 2012, p. 304-305). Follman explains that this means "the most impoverished (…) need basic services and are not a source of near-term profit for businesses" (p. 304). Another crucial question that must be addressed is how the consumer itself is constituted. Chipp and Corder (2012) explain that it is important to find out if the consumer's decision-making is done as individuals or as households because this will have an effect on consumer behavior (p. 27). Besides knowing how the market is constituted, firms also need to find out how the market functions. Waibel (2012) for instance writes that "companies must analyze the ways in which local

knowledge is generated (important for capacity building/training), exchanged (important for the exchange of best practices) and disseminated (important for distribution/marketing)" (p. 185).
This knowledge is not only important once the firm has chosen a BoP market, but an increasing amount of evidence suggests that there are important distinctions between BoP markets in terms of enabling conditions. Antalis and Nakata (2015) for instance find in their study that performance oriented BoP environments "strengthens market exchanges directly and interactively", and BoP impact enterprises thus should "select BoP environments with higher performance orientation for entry or long-term investment" (p. 774). Another finding in Antalis and Nakata's (2015) study concerns the proliferation of telecommunication technology, according to which higher penetration levels of the latter enhance market exchanges and thus improve the likelihood of success (p. 774). Anekal and Tarafdar (2011) show in their analysis of the information and communication technologies (ICT) enabled market mechanisms that BoP impact enterprises should prefer BoP markets with high levels of ICT deployment, since they enjoy "reduced cost of transactions, decreased information asymmetry between producers and consumers, and increased productivity" (p. 7). When it comes to the distinction between rural and urban BoP markets, Alur and Schoormans (2012) identify challenges in rural markets in comparison to urban contexts in terms of access, product introduction, media options and product acceptability (p. 127). However, urban markets possess a higher level of competition (Alur & Schoormans, 2012, p. 127). When firms decide to provide goods and services for the extremely poor, they are likely forced to enter into public-private partnerships (Follman, 2012, p. 305; Chu, Petkoski & Rangan, 2011, p. 114). Governments and NGOs may "provide guarantees on cost recovery, subsidies, and market exclusivity" (Chu, Petkoski & Rangan, 2011, p. 114).

5. Identify relevant needs of targeted market
Once a market has been chosen, firms have to identify relevant needs that may be a source of value and profit and in this sense of interest for the firm's business activities. In first step, it is necessary to identify the critical needs of the targeted customers. Critical needs are those that "occupy the highest priorities of consumers" (Sridharan & Viswanathan, 2012, p. 60). As Sridharan and Viswanathan (2012) report, "it is not uncommon for even fundamental survivalist life needs of individuals to remain unfulfilled" (p. 60). Adapting or developing products in such a way as to meet those latent needs will ensure successful business operations (Sridharan & Viswanathan, 2012, p. 60; Hosono & Kato, 2013, p. 234; Klein, 2008, p. 255; Chikweche & Fletcher, 2012, p. 12). At this point though, it is important to note, that a need does not necessarily imply that customers are willing to pay for it. Simanis (2011) explains that in order for a need to be a financially viable market opportunity, two distinct features need to be apparent: First, "there exists a reflexive, intuitive understanding that a value proposition is, in fact, a value worth purchasing" and second, customers "have 'embedded' a product and its value proposition into the fabric of their lives" (p. 106). Only if these two features are apparent, firms can talk about market entry, rather than market creation. Firms thus need to be aware of this differentiation, since market creation poses unique challenges that market entry does not. Simanis (2011) explains:

> "When there is no market and product non-consumption is the issue, companies confront an information condition of *ambiguity*. There are no competitor products against which to benchmark; there are no customers to observe. Without any frames of reference, any and all data companies gather about the local context and consumer needs and wants – regardless of whether the data comes from a World Bank survey, from grass-roots marketing teams using empathy-based methods, or from participatory poverty assessments with villagers – are random predictions about an *unknowable* future" (p. 108).

This notion is confirmed by Frandano, Karamchandani and Kubzansky (2009) who argue that "just because they need it doesn't mean they want it. To assume otherwise is a trap for the benevolent and a classic blunder of development assistance” (p. 105). A good example and confirmation of this postulation of Erik Simanis is presented by Hombrados et al. (2012) who find in their study that the “willingness to pay for water quality improvements is less than the cost of the technology” (p. 27). Hence, it is vital that companies recognize this differentiation and act accordingly. Needs, even critical ones, are themselves not yet a market. Oftentimes a market has to be created and demand developed. A different set of tools is necessary to conquer these kinds of challenges. Strategies that address those kinds of issues will be portrayed in chapter 2.3.4.

Customers in BoP markets not only have needs that are of critical nature, an increasing amount of literature indicates that BoP customers have aspirational needs that can be addressed by the business community. According to Barki and Parente (2010), “companies must go far beyond fulfilling consumers’ objective needs” (p. 21). Instead, a deep understanding of social and psychological needs of self-realization is necessary in order to increase higher-level relationships with customers (Barki & Parente, 2010, p. 21). This notion is confirmed by Sridharan and Viswanathan (2012) who argue that “BoP consumers strive, like any other consumers, to achieve the satisfaction of innate psychological human needs” (p. 61). Bhowmick et al. (2015) adds that instead of perceiving cost as the “only driving force behind the BoP market's value seeking behavior”, one should note that “socio-cultural inter-relationships are reflected in the customers’ product purchase and use, and determine the value creation” (p. 46).

2.3.3 Enable organizational excellence

BoP impact enterprises are operating in difficult environments that can challenge the organization internally. Hence, strategies have to developed that enable organizational excellence and thus provide the organization with the necessary ingredients to be successful.

6. Enabling organizational culture

An organizational culture which is enabling will help the organization to be successful. The management, which serves as role models, will be of particular importance in determining the organizational culture. According to Fengler, Joseph and Vaughan (2013) “management matters more than technology. In fact, good management generates technology and business innovation” (p. 218). Hosono and Kato (2013) affirm this notion when they emphasize the role of visionary leadership and argue that “it is debatable whether either venture could have occurred in the absence of the individual pioneers that led them to success” (p. 234). Schrader (2011) adds that in the case of MNCs and BoP branches, the level of support of the top management and managers from other departments is vital for the success of the BoP activities (p. 186). Ireland et al. (2011) argues that a supportive rather than an exclusive top-down approach will create a culture of ownership that also facilitates firm performance (p. 521).

Another key variable for success is formulating a strategy that is consistent and in accordance to other business operations of the firm (Schrader, 2011, p. 186). In the case of MNCs it is advisable to involve different departments and company leadership in order to “break down internal barriers and resistance to change” (Márquez & Rufín, 2011, p. 245) as well as “integrate BoP activities with the core business and share knowledge on base-of-the-pyramid strategies throughout the organization” (Hens & Van den waeyenberg, 2012, p. 1696). When it comes to timing, BoP impact enterprises should acknowledge that market creation business models require long timeframes (Kubzansky, 2013, p. 39). Bachmann, Geurts and Vermeulen (2014) found in their case study, that most firms “follow a cyclic scaling-up process in three recurring stages to address this challenge, each focusing on a different scaling-up dimension: building a robust business model for the BoP (scope focus), replicating the model in new geographies (coverage focus) and strengthening the viability of the business (penetration focus)” (p. 126). It is crucial for achieving organizational excellence, that BoP impact enterprises are aware of these different scaling up phases and set the conditions in place (Waibel, 2012, p. 184). As Waibel

(2012) postulates, “projects should start with small- to medium-scale pilot projects, and only be scaled up after successful evaluation” (p. 184).

Once a firm has BoP operations running and intends to shift responsibilities to the BoP personnel, Waibel (2012) argues that the firm needs to hold them accountable and make processes transparent. Furthermore, “some level of surveillance and incentives (external at the beginning) are necessary” (Waibel, 2012, p. 185).

2.3.4 Adapt business model

In light of the business challenges apparent in BoP markets, the most obvious strategy for BoP ventures is to adapt the business model to enable better performance. The UNDP (2008) explains:

> “While other innovation strategies entail filling market gaps or engaging other stakeholders, adapting products or processes can allow a business to circumvent constraints by acting on its own. So, this strategy is often used to deal with constraints that are very difficult to remove, an ineffective regulatory environment or inadequate physical infrastructure. Filling the gaps can be unfeasibly costly and time-consuming. Designing products and processes that get around them is sometimes the only option for an inclusive business model” (p. 45).

The cluster of strategies proposed on the following pages thus reflects a way around the severe challenges that are apparent in BoP markets. Instead of investing in removing constraints, firms are adapting to the circumstances and focus on their core competencies (Simo, 2013, p. 640).

7. BoP business modelling

During the last years of research, it became clear that firms need to rethink their way of doing business models. Business modelling for BoP markets requires a different set of features than for other market segments. Barki and Parente (2014) argue that firms need a BoP DNA with a strategy that aligns to the peculiarities of the market (p. 2). Hammond et al. (2007) postulates that firms need to completely reimagine the business when offering unique products, services and technologies that meet the needs of BoP customers (p. 10).

BoP business modelling means to customize the business model towards the specific characteristics of the BoP market. Bootsman et al. (2008) argues that “business model adaptations can change the way a business works so that it avoids constraints in the market system“ (p. 40). A good example to show how the business model can avoid constraints of the market is the rise of telecommunication services. Bootsman et al. (2008) elaborates: “First, mobile technology made land-lines unnecessary and, second, selling airtime through prepaid cards does not require that the customer have a bank account or identity documentation” (p. 40). Dymond, Esselaar and Oestmann (2013) confirms this argument and adds that “Companies must adapt their strategies to the local context of BoP markets – that is, develop products and services that are highly customized to the circumstances of people living in remote villages or poor urban areas” (p. 24). According to Dymond, Esselaar and Oestmann (2013) such customized products and services “are more likely to be adopted by consumers” (p. 98). Schrader (2011) adds furthermore, that products will be more successful if the value added for the BoP customers is recognizable and the pricing model reflects their willingness to pay (p. 185).

Jun, Lee and Park (2013) find in their extensive quantitative analysis the following business model implications for product development (p. 1075):

Table 3: Business model implications for BoP markets.

Price	Price represents the price of a product that belongs to the business model. The lower the possible price of a product, the higher the competitive force of the product in the BoP market will be.
Technology	Technology represents the level of development of the technology used on a product. The more developed the technology is, the more attractive the product will be considered to the prospective BoP customers.
Package	Package represents the unit of packaging for a product. The smaller the packaging unit of a product, the lower the price per unit will be, therefore increasing the competitive force of the product in the BoP market.
Brand	Brand represents the brand power and customer awareness of a product. The more well-known and famous a product is, the higher the competitive force of the product will be.
Environment	Environment represents the impact the production and distribution of a product has on the environment. The lower the influence the production and distribution has on the environment, the more sustainable the business model will be.

Source: Jun, Lee and Park. 2013. p. 1075.

According to Karnani (2011), BoP business modelling entails “a dramatic reduction in costs such that firms can earn a reasonable profit margin and still price the product at a level that the poor can afford. While Karnani (2011) argues that quality reduction is a necessary ingredient of BoP business modelling, the proliferation of telecommunication services shows that there are several ways of attaining business models with lean cost structures.

Very crucial for BoP business modelling is the realization that the products and services BoP impact enterprises provide to BoP consumers must lead to real increases in income for these costumers. Chu, Petkoski and Rangan (2011) argue for instance, that as companies make money, the BoP communities must be benefiting too when acquiring the firm’s services. More income and consumption will lead to increasing demand and enable the firm to grow (p. 113). This is also confirmed by Follman (2012) who writes that if firms are able to materially improve the well-being of the BoP population, they will profit by higher purchasing power and greater financial support themselves (p. 306).

It is important to note that BoP impact enterprises should perceive BoP business modelling as a learning process that enables continuous improvements over time (Klein, 2008, p. 256). As Kubzansky (2013) explains, “mature business models often take time to develop” (p. 40). Klein (2008) argues that this learning process is a vital cornerstone for the scalability of business models.

8. Open value proposition & customized marketing

When adapting the business model, firms also need to think about how to adjust marketing strategies accordingly. Much research has been published that entails lessons learned and proposes new ways of marketing that is customized for BoP consumers. In general it can be said, that firms need to focus radically on the BoP customer. In the case of SKS, a successful Indian microfinance company, it is reported that this orientation towards the BoP consumer was the most critical factor for growth. As Akula (2008) explains, “in everything we do, we ask, ‘does this work for the borrower?’ – even if it means operating against our own short-term interests” (p. 56). The aim in this chapter is thus to show ways of how to focus on BoP consumers and adjust marketing practices.

A first strategy that could be extracted is that firms are advised to consciously choose the value proposition of its product or service. As described earlier, needs do not necessarily imply that BoP consumers are willing to pay for it. This makes selling specialized and set value proposition very difficult, since the message that is portrayed limits the possible use of the product. However, as research shows, “products in BoP contexts may be used for multiple purposes beyond what is intended in their design” (Sridharan & Viswanathan, 2012, p. 61). An increasing amount of literature thus suggests to broaden the value proposition or to open it up completely. As Sridharan and Viswanathan (2012) argue, flexible products are more likely to be successful in BoP markets (p. 61). Duke and Simanis (2014) confirm this postulate and state that BoP impact enterprises “could enhance the product to meet additional needs and boost the overall value proposition. The goal is to capture greater market share with a category-leading product” (p. 7). Erik Simanis highlights that particularly in market creation business models, this strategy is vital as his experience with different enterprises showed. Simanis (2009) explains that “when consumers aren’t familiar with the product concept and have no reference point to assess value, companies must be much more open-ended in their marketing strategy, presenting as many possible uses as they can” (p. 7). “Value open propositions” so Simanis (2011) “focus on the wide range of applications in which a product can be used” (p. 114). According to Simanis (2011) this will also have an effect on the “proportion of the pocketbook that consumers will direct toward the sale” (p. 116).

Erik Simanis proposes another crucial ingredient of successful marketing in BoP markets. After consulting and leading a wide range of different BoP ventures, Simanis (2011) argues that it is important in BoP marketing to not focus on “negative” business concepts “that is, businesses aspiring to rid the community of an alleged ‘problem’” (p. 119). Rather firms “should stress how the product will make their lives more enjoyable” (Simanis, 2009, p. 7).

One major constraint in BoP markets is the isolated institutional, structural and cultural character. In order to overcome this burden, research suggests a twofold strategy. Barbary, Cooper and Kubzansky (2011) differentiate between Below-The-Line (BTL), which describes efforts that reach out to consumers directly through field force and retail presence, and Above-The-Line (ATL) marketing, which is more concerned with advertising benefits of products indirectly and through centralized attempts (p. 137). Some authors argue that in BoP markets BTL marketing is necessary in order to overcome the aforementioned constraints. Ireland et al. (2011) recommend for instance to build the brand locally and in interaction with the local community. In doing so, firms may have the opportunity to “capitalize on the cultural nuances of their communities” (p. 521). Bhowmick et al. (2015) confirms this statement when arguing that “through public events and community engagement, firms can have much intense relations with BoP markets that have limited exposure to mass media” (p. 42).

However, Barbary, Cooper and Kubzansky (2011) argue that for successful BoP ventures, ATL marketing strategies are also an essential part in order to stimulate demand. Barbary, Cooper and Kubzansky (2011) use the example of telecommunication companies that spend 15 percent of revenues on marketing to create awareness and demand within the BoP (p. 137). They add that ATL marketing for BoP customers “appears to be particularly important when an enterprise requires high sales volume to break even (…) [and] tends to be more cost-effective than relying solely on agents and one-on-one inter-actions with customers” (Barbary, Cooper & Kubzansky, 2011, p. 138). Barbary, Cooper and Kubzansky (2011) thus suggest to use a mix of BTL and ATL marketing strategies in order to stimulate demand of BoP markets. Besides building a reasonable mix between these marketing strategies, BoP impact enterprises should adapt marketing strategies towards their target market on the basis of structural and cultural characteristics. Antalis and Nakata (2015) for instance urge firms to “customize their marketing strategies and tactics based on the selected BoP market's level of performance orientation" because "executing advertising and promotions" should be "the most culturally sensitive marketing element" (p. 774). Another example for the need of customized marketing strategies is put forth by Ireland et al. (2011) who advise a more standardized ATL strategy in urban markets and a stronger focus on BTL strategies in rural markets (p. 521).

9. Leverage existing technologies, distribution channels & markets

Since most BoP markets already have existing assets that can be used, BoP firms would be wise to leverage these existing support mechanisms. Different authors suggest to make use of available resources in order to increase the prospects of success (Waibel, 2012, p. 185; Kubzansky, 2013, p. 47; Fengler, Joseph & Vaughan, 2013, p. 218). Three specific areas could be found that need to be leveraged. First, a wide range of literature emphasizes the importance of leveraging existing Information and Communication Technology (ICT). One of the most in-depth analysis of the relation between ICT and enterprise performance has been conducted by Dymond, Esselaar and Oestmann (2013). On the one hand, they argue that BoP impact enterprises can increase revenue through leveraging ICT by doing the following:

- "Discovering new markets through better data-gathering tools and achieving better fit between market needs and existing products and services;
- Launching new ICT-enabled services through innovative pricing models and payment options;
- Creating customer retention initiatives that add unique value to clients;
- Capitalizing on new sales and delivery channels to reach more clients and producers" (p. 12).

On the other hand, Dymond, Esselaar and Oestmann (2013) state that firms can reduce costs through appropriate leveraging of existing ICT channels by performing the following measures:

- "Using more efficient data-gathering and market research tools;
- Incorporating cashless payment mechanisms;
- Maximizing marketing opportunities including social networks of customers;
- Integrating supply chain management" (p. 12).

Bootsman et al. (2008) confirms these observations and emphasizes the importance of using the high penetration levels of mobile phones, because "this new information channel now enables a whole host of new services, from mobile banking to providing education and information and gathering market intelligence" (p. 40). Furthermore, ICT can be leveraged by firms providing water and electricity services to "use remote monitoring to facilitate payments as well as maintenance" and by insurance companies to "use remote monitoring data for risk calculations and claim handling" (Dymond, Esselaar & Oestmann, 2013, p. 21).

Secondly, BoP impact enterprises are advised to use existing distribution channels that facilitate fast deployment while keeping costs low. Frandano, Karamchandani and Kubzansky (2009) explain that "most low-income markets for socially beneficial products and services simply cannot support the cost of establishing and running a separate channel at any scale" (p. 104). They add that many social enterprises still try to build their own distribution channels and in so doing "destroy the economics of their offering" (p. 104). Hence, "the key is to exploit the existing channels of others" (Frandano, Karamchandani & Kubzansky, 2009, p. 104). Alur and Schoormans (2012) emphasize the role of existing retailers in providing functioning distribution channels for BoP ventures (p. 198).

Thirdly, a proposal put forth by Duke and Simanis (2014) is concerned about leveraging existing and functioning BoP markets rather than focusing solely on creating a market. They argue, that firms need to serve customers that are in close approximation to firms targeted market segments since they "might also value the product" (p. 7). If the necessary infrastructure is apparent and these markets can quickly and easily be reached, the aim for the company should be to "use the company's economies of scale to outstrip local competitors and capture significant market share, thereby establishing a platform from which to expand to other markets" (p. 9).

In conclusion it can be said that an increasing number of BoP literature suggests to leverage and access already existing resources that enable sales increase and cost reduction and therefore successful BoP operations.

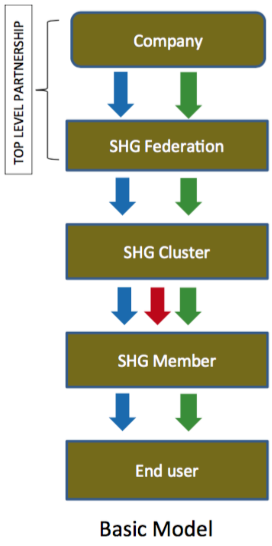
10. Lean distribution

As already noted, distribution is one of the crucial challenges for BoP impact enterprises. Setting up own distribution channels will be time consuming and costly. The management should thus carefully consider the different options and alternatives.

Sridharan and Viswanathan (2012) propose to first think about ways of designing the product with the delivery in mind. They criticize the notion often portrayed in literature, that design and delivery should be separated. The case studies they observed "indicate that in BoP contexts, the two have to be inter-twined. In other words, aspects relating to the point of sale or the point of use often have to become incorporated into the design of the product rather than kept separate" (p. 61).

Before firms aim at deciding the distribution strategy they want to pursue, they should thus consider to adapt the products and services for lean distribution. In a next step managers need to examine the different distribution choices available. As Bairiganjan and Shukla (2011) in their very insightful analysis of different BoP distribution options explain, "spending sufficient time researching and experimenting with rural distribution choices before diving into the rural BoP markets can help large, medium and small companies prevent unnecessary crash and burns" (p. 49). Bairiganjan and Shukla (2011) present in their study six different BoP distribution models, classify them and show how to assess which one is suited for proposed business model (p. 33-49). The limited scope of this paper does not allow to portray all of the strategies at this point. However, one strategy that is increasingly used and became famous through the Grameen Bank is the Self Help Group (SHG) distribution model which will be quickly introduced.

Figure 5: SHG Distribution model.



Source: Bairiganjan and Shukla. 2011. P. 39.

According to Bairiganjan and Shukla (2011) SHGs are groups of micro-entrepreneurs, "typically 10-15 local women, with similar social-economic backgrounds, who voluntarily come together to save regular small amounts of money individually, while also contributing to a common corpus to meet their emergency needs on the basis of mutual understanding" (p. 39). What was initially introduced by NGOs now has become a wide spread phenomenon with a couple of millions in India alone (p. 39). Because SHGs are locally embedded and have strong cultural and societal ties, they are able to reduce "transaction costs of external agents interested in dealing with large population bases which otherwise individually (…) [would be] an unviable target audience" (p. 40). Badry (2009) reports that in the case of CARE, SHGs were used as local distributers. This mainly because the "women in each village were able to access hidden markets, thus overcoming barriers to distribution that Bata had previously not been able to circumvent" (p. 36).

In sum it can be said, that only with careful consideration and preparation is it possible for firms to overcome the distribution challenge. Once taken the wrong path, it can have detrimental effects on the financial viability and the business as such. Different distribution strategies should be considered in order to choose the most appropriate for the chosen business model.

11. Standardization & execution

As mentioned above, BoP impact enterprises have to adapt the business model and processes in order to overcome market constraints. One of the learnings of the past when it comes to BoP business approaches is that firms need to operate cost-efficiently and very deliberately in terms of execution. Akula (2008) recounts that in the case of SKS, the aim was to quickly create standardized and computer-based learning modules that are adapted towards BoP employees and enable growth and rapid acquisition of crucial capabilities (p. 55).

A couple of authors emphasize the importance of adequate execution. Barki and Parente (2014) find in their analysis, that execution is highly relevant and demanded in the BoP context, "since it is a market full of difficulties and also because consumers need to access affordable goods" (p. 2). Frandano, Karamchandani and Kubzansky (2009) argue that although good business models and promising approaches are necessary, "in many cases the difference between success and failure, even within a given model, comes down to execution. The success of every market-based solution ultimately reflects immense hard work and attention to detail" (p. 100).

Hence, BoP impact enterprises should not lose sight of business essentials and try to standardize and execute appropriately in order to enable successful operations.

12. Innovative pricing models

BoP markets pose a wide variety of challenges when it comes to pricing and payment. Not only do BoP customers have low purchasing power, they also often have irregular income. BoP impact enterprises need to adapt to this market constraint in order to be successful. It is undoubted that the only viable strategic position for BoP ventures is to act as low-cost provider (Frandano, Karamchandani & Kubzansky, 2009, p. 105). However, the question is how to deal with this strategic position since many other ingredients for a viable low-cost proposition are not apparent. Different strategies that have emerged during the last years are presented in the following.

One way of adapting to low and irregular cash flows of BoP consumers is to lower the price per unit (Frandano, Karamchandani & Kubzansky, 2009, p. 104). This however will be difficult to achieve with durables, such as solar lanterns, cook stoves, irrigation pumps, and water filters. Barbary, Cooper and Kubzansky (2011) propose therefore to offer "a pay-per-use service rather than a product. For example, water kiosks providing clean water eliminate the need to buy household water filters or individual chlorination tablets" (p. 143). This strategy can even be further facilitated by using mobile money, since it is "a viable solution in countries where the service is widely used and available" (Dymond, Esselaar & Oestmann, 2013, p. 24). As they further explain "utilizing m-money is often the only technology-based mechanism for companies to receive payments and increase the convenience for their clients. The ability to rapidly process large quantities of payments quickly, irrespective of source proximity, can enable scale and reduce costs" (p. 24).

Another strategy that is often successfully used by BoP ventures is aggregating products or consumers. Barbary, Cooper and Kubzansky (2011) argue that bundling service offerings can "strengthen the proof of benefit, increase focus on portions of the bundle with near term benefits, and lower aversion to larger purchases" (p. 144). Frandano, Karamchandani and Kubzansky (2009) propose aggregating consumers since it has proven to be successful in achieving scale and reducing costs and risks (p. 107).

Last but not least, microfinance institutions may serve as intermediaries and enable consumers to buy beneficiary products they would otherwise not be able to afford (Bairiganjan & Shukla, 2011, p. 42). Innovative pricing models are one key for a BoP impact enterprise seeking financial viability and scaling up. Different strategies offer solutions to the market constraints that emerge from low and irregular cash flow.

13. Vertical disintegration & outsourcing

When adapting the business model to the BoP market, firms are advised to focus on core competencies, have lean operations and innovative business solutions. An increasing amount of literature suggests to vertically disintegrate and in so doing localize value creation or outsource business process all together. This is surprising because in earlier stages of the BoP research it was exactly the opposite. Rivera-Santos and Rufín (2010) for instance suggest that "the lack of firms capable of providing inputs" requires BoP ventures besides other measures, to "internalize some activities, including the supply of complementary products and the creation of distribution channels" (p. 136). Similarly are Frandano, Karamchandani and Kubzansky (2009) arguing when they state that firms need to invent "entire business ecosystem encompassing whole value chains" (p. 29). Over time though, the notion of internalization of resources has been increasingly questioned. Holtbrügge and Schuster (2014) for instance argue, that although according to resource dependency and transaction cost theory internalization seems to be the first choice, their quantitative analysis shows that internalization has no positive effect on firm performance (p. 56). Schrader (2011) confirms this finding when stating that lower the vertical integration promotes sustainable business development (p. 187). Holtbrügge and Schuster (2014) find explanations for this finding on the one hand in underestimating the firm's foreignness and overestimating the value of internalization in the light of coordinating costs. This explanation is affirmed by Dymond, Esselaar and Oestmann (2013) who argue that internalizing resources is too expensive for BoP ventures. On the other hand, flexibility seems to be a "key issue for performance in BoP markets, and companies need to dynamically adapt their way of doing business in order to be successful" (Holtbrügge & Schuster, 2014, p. 56). Holtbrügge and Schuster (2014) thus find in their study a positive effect of cooperation and building coalitions with non-traditional partners on firm performance. Schrader (2011) advices firms to build partnerships and outsource operations if common goals and complementary competencies exist (p. 185). He argues that since this externalizing creates increases in income and productivity of BoP employees, BoP ventures will profit in the short as well as the long term (p. 176).

BoP impact enterprises are thus adviced to rethink their resource allocation and if possible and beneficial to cooperate with other actors or outsource business activities in order to reduce coordination costs and gain flexibility.

14. Product differentiation & diversification

As aforementioned, leveraging existing distribution channels as well as creating more value out of the firm's own business operations is a vital strategy for optimizing the performance of BoP impact enterprises. A number of authors thus suggest some type of product differentiation and bundling or diversification. Heierli and Katz (2007) argue that "it is very important for a profitable supply chain to offer a range of products. Price differentiation linked to product differentiation is a very common strategy to cater to the needs of different customer segments" (p. 36). Márquez and Rufín (2011, p. 245-256) as well as Simanis (2014, p. 14) also argue that value bundling is an important strategy for BoP ventures. The reason can be traced in the aim of reducing the transaction costs per sold unit (Simanis, 2014, p. 14). Barbary, Cooper and Kubzansky (2011) report that in their analysis of African BoP impact enterprises, many successful firms "expanded the served segment to include those just above the target income group, which proved to be a powerful risk mitigation tool for engaging both customers and suppliers" (p. 137).

However, product differentiation or diversification should not be pursued if the organization and its members are not able to cope with the higher level of complexity. Focus on core competencies should not be traded against offering a group of products and services.

Hence, product differentiation and diversification is a viable strategy to increase the performance and utility of already installed operations and procedures and in so doing raise value creation.

15. Profit orientation & high contribution margin

Adapting the business model to circumvent market constraints also entails a radical orientation towards profits. This may seem odd, since common wisdom suggest that serving the BoP should not entail profit making. Nevertheless, gathered experience from the last ten years shows, that if profits are not incrementally targeted by a BoP impact enterprise, the project may fail sooner than expected (Duke & Simanis, 2014, p. 12, Barbary, Cooper & Kubzansky, 2011, p. 172). Additionally, if the firm intends to attract international investors with large capital stocks, significant returns are expected (Akula, 2008, p. 55).

The analyzed literature suggests that in order to cover the disproportionately high operational costs and create decent return that enables financial viability and organizational sustainability, firms need profits generated by high contribution margins (Rivera-Santos & Rufín, 2010, p. 137; Simanis, 2013, p. 222; Simanis, 2014, p. 14). Simanis (2013) explains that "to raise contribution levels, a company has to raise its gross margin (by decreasing variable costs) and/or raise its sale price" (p. 222). One crucial prerequisite for achieving high contribution margins is to understand the key economic drives of the market. According to Milstein and Simanis (2012), "the offering and the business model need to factor-in and reflect those economic drivers [because they] are a critical management tool for focusing time and attention, ensuring alignment from leadership down to the field" (p. 87). Another requirement for high contribution margins is the vital focus on profitability. West (2013) argues in his case study of the Shell Foundation, that "a disciplined focus from the outset on financial returns and earned income is a critical part of a planned exit strategy to avoid subsidy dependency" (p. 179). Duke and Simanis (2014) confirm when they write that "successes demonstrate a recurrent lesson: the value of focusing on profits" (p. 12).

In summary, profit orientation is one of the most important managerial implications of the BoP literature, since without profitability and financial viability, the organization lacks sustainability and will most certainly not be scalable. Firms thus need to pursue high contribution margins through understanding the key business economic drivers of the targeted market and a consistent focus on profitability.

2.3.5 Remove market constraints

As explained earlier, firms can cope with BoP market constraints in adapting their business model and in so doing circumvent the challenges. Another core strategy that is often applied by BoP ventures is to remove market constraints through strategic investments. The UNDP (2008) explains:

> "Investing to remove constraints in poor people's markets can create both private and social value. On the private side, investment can increase firm-level quality and productivity and stimulate market demand. It can drive development of new capabilities, enhance corporate reputation and improve the competitive context for business. On the public side, removing market constraints creates benefits that are shared outside the business" (p. 56).

It is nonetheless obvious, that these types of strategies require sufficient financial and organizational resources. The UNDP (2008) thus argues, "the question is whether investing to remove constraints in the existing market can create enough private value to be cost-effective" (p. 56-57). This is also the reason why BoP ventures should carefully consider if all other options have been examined and no alternatives are feasible. However, in the realm of BoP impact enterprises, a second crucial question arises: "Can the investment's social value proposition be leveraged to access alternative sources of funding, reducing capital costs for the firm?" (p. 57). The aim in this chapter is therefore to show which strategies are suited to remove market constraints and how firms are able to maintain financial sustainability throughout the investment.

16. Embedded innovation

An approach put forth by a wide range of BoP proponents concerns the innovation of the business model. While in the previous chapter, the core idea was to use mainly collaborations, customized marketing and open value propositions to surmount cultural distance, the lack of market information and other constraints, this strategy intends to connect with the end-consumer directly and co-create the business model. According to Dymond, Esselaar and Oestmann (2013), products and services need to be co-designed with future consumers in order to firms need to meet specific needs and truly make a difference (p. 13). Curşeu, Soers and Vermeulen (2014) affirm this notion when arguing that firms are successful in understanding the needs of the communities when they have frequent dialogue with the targeted BoP community and involve them in the process (p. 97). Anderson, Kupp and Markides (2010) postulate that against the conventional wisdom, firms that want to engage in meeting the needs of the BoP community need to unlearn and become a part of the fabric of the community (p. 11-24). This will create an atmosphere of inclusion, which again enables "deep understanding of and integration with the local environment" (Anderson, Kupp & Markides, 2010, p. 24).

Simanis (2011) explains that embedded innovation "creates a sense of ownership" (p. 117). Furthermore, "the business-development process itself is structured to generate demand, rather than relying on marketing and awareness-building campaigns carried out at the point of commercialization or at the 'go-to-market' stage" (Simanis, 2011, p. 117-118). He argues that in such market creation strategies, initial consumers are invited to take part of a "sense-making" process that "invites consumers to figure out on their own terms how a product fits into their lives and the value it holds, and to then catalyze a bandwagon effect that, in sociological terms, normalizes the offering and makes it seem a necessary and vital part of any person's life" (p. 220). This type of procedure also prevents mistrust and skepticism to arise, since regular marketing efforts at the "go-to-market" stage "often come across to consumers as efforts to convince them of a need the company believes they have, and for which the company – no surprise! – has a solution" (Simanis, 2011, p. 118). Hence, embedded innovation also makes the firms' market presence possible and acceptable for the BoP communities. An important last contribution comes from Bachmann, Geurts and Vermeulen (2014) who emphasize, that the process of social embeddedness is largely company-driven and therefore "the locus of control for scaling the business remains within the company" (p. 127).

Embedded innovation thus is a viable strategy for market creation efforts that aim to serve real needs and have vital beneficiary outcomes for the BoP population. Customer involvement creates a sense of ownership that also enables trust building and innovative product development.

17. Investments in local infrastructure & capabilities

Besides gaining social embeddedness, resources can also be deployed to build local infrastructure and capacity. Investments of this sort will remove a wide variety of challenges in the long run and enable future profits.

In order to create value locally and engage with BoP producers, firms need to build local capacity and knowledge (Klein, 2008, p. 255; Schrader, 2011, p. 184, Anderson, Kupp & Markides, 2010, p. 25; Bootsman et al., 2008, p. 40; Pedrozo, 2015, p. 201). Holtbrügge and Schuster (2012) report that the companies of their study trained external staff and enhanced the capabilities of partners (p. 827). Efforts to build local capacity will enable the BoP population to engage in doing business (Klein, 2008, p. 255), which results in higher income and thus poverty alleviation (Follman, 2012, p. 306; Anderson, Kupp & Markides, 2010, p. 25). This is also confirmed by Antalis and Nakata (2015) who find in their quantitative analysis that "human-centered assets of social and creative capitals are pivotal for growth in market exchanges" (p. 774). In general, training and educating the BoP population may be a much more cost-efficient way of removing market constraints as building roads or hard infrastructure (Bootsman et al., 2008, p. 40). Nevertheless, investing in hard infrastructure may be a necessary and viable option in some cases (Schrader, 2011, p. 184; Hammond et al., 2007, p. 10).

When it comes to distribution, firms may want to build their own channels and to integrate vertically. According to Bairiganjan and Shukla (2011), in the so called proprietary distribution, firms "choose to develop and own dedicated retail distribution networks for branding" which resembles "a desire to push a more complex product and an intention to create competitive barriers to entry in niche markets" (p. 33). However, they add that it is "an expensive pursuit unless developed for funnelling a suite of complementary products" (p. 33).

Investing in and building local capacity and infrastructure can in the long run be a vital tool to increase firm's performance. Through such measures the BoP population increases their capabilities and opportunities in engaging with businesses and thus raise their income. For BoP impact enterprises, such investments may be interesting since they provide promising profits in the future.

18. Patient capital

Although the above mentioned strategies that intend to remove market constraints provide long term value creation, they themselves pose significant challenges in terms of financing. The amount of uncertainty in this complex market environment requires patient capital (Ireland et al., 2011, p. 519) since it "takes longer to build successful operations (…) and hence the investment timeframe also is longer" (Barbary, Cooper & Kubzansky, 2011, p. 176). This is also confirmed in the case study of Frandano, Karamchandani and Kubzansky (2009) where they observe, that "some market-based solutions may need such funding to get started, address critical barriers, or scale up" (p. 29). These type of funding can be access from development agencies (Waibel, 2012, p. 193), or other external investors (Schrader, 2011, p. 186). An interesting and promising approach for such external funding is carbon finance, where companies can buy credits from others in order to receive higher CO_2 emission allowances (Disch, Maheshwari & Rai, 2010, p. 5; Buschor, 2013, p. 14). However, Hart, London and Sheth (2014) remark that even though impact investing has grown during the past years, BoP ventures need more than just capital "but find it difficult to receive assistance relating to capacity-building, technical support, becoming investor-ready, and networking" (p. 16).

Patient capital is a necessary precondition for investments in market constraint removal strategies. Firms that intend to follow such strategies should actively seek to receive such funding in order to cover the accruing costs.

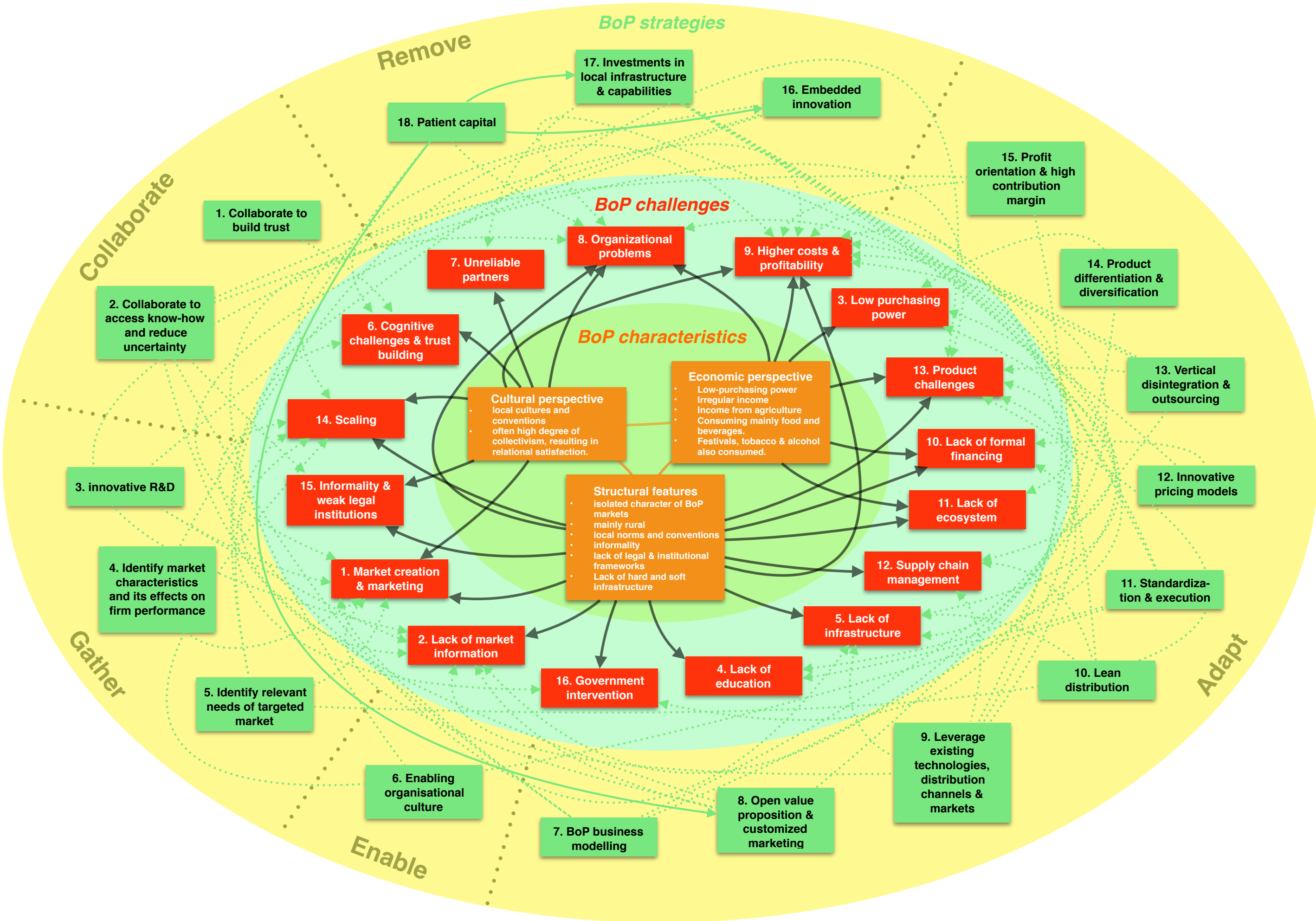
2.4 Summary and theory building

This chapter aimed at gathering strategies that are put forth by the latest research and intend to show ways of handling the difficult and complex market conditions and challenges that are apparent in BoP markets. The goal now is to summarize the findings and build a sound theory that can later be applied onto the case.

The conducted literature review suggested 18 different strategies that are capable of handling the different challenges that are apparent in BoP markets. These 18 strategies are grouped along the imperatives [1] collaborate, [2] gather, [3] enable [4] adapt and [5] remove. Collaborations with different market and non-market actors are advised so as to leverage synergies, build trust, access know-how and reduce uncertainty. Gathering know-how can be executed through collaborations or innovative R&D. This again enables the firm to access the relevant information such as market characteristics and its effects on firm performance as well as the critical and aspirational needs of the targeted community. A BoP impact enterprise needs an enabling organisational culture that leads to higher performance and capability to deal with organizational issues. When dealing with market constraints, BoP ventures should first try to adapt its business model and processes to overcome and circumvent the challenges. This will save resources and enable fast scaling up. In some cases though, firms need to remove the market constraints in order to establish a reasonable foundation that allows the business to operate. However, in the short and long run "remove" strategies require more resources such as time, labour and financial capital. Important to note at this point is that in the case of heavy demand creation efforts, customized marketing and thus an "adapt" strategy can become a "remove" strategy, since it intends to remove a market constraint completely and in doing so become dependent on substantial amounts of resources. Patient capital or external funding are thus necessary ingredients for such strategies.

The theory is built by showing which strategies are targeting which challenge and thus show ways of managing those market constraints. The author is aware that the implied causality cannot be proven scientifically. However, the literature review suggested those interlinkages and the aim of this chapter is to gather the experiences and learnings that are published in literature to build a sound theory. Proving those causal mechanisms in presenting more empirical evidence is a task for further research.

Figure 6: BoP Strategies and framework.



Source: Own illustration.

Table 4: BoP framework with challenges and matching strategies.

Challenges	Strategies
1. Market creation & marketing	2. Collaborate to access know-how & reduce uncertainty
	3. Innovative R&D
	4. Identify market characteristics and its effects on firm performance
	5. Identify relevant needs of targeted market
	7. BoP business modelling
	8. Open value proposition & customized marketing
	16. Embedded innovation
2. Lack of market information	2. Collaborate to access know-how & reduce uncertainty
	3. Innovative R&D
	8. Open value proposition & customized marketing
	9. Leverage existing technologies, distribution channels & markets
	13. Vertical disintegration & outsourcing
	16. Embedded innovation
3. Low purchasing power	7. BoP business modelling
	12. Innovative pricing models
	14. Product differentiation & diversification
4. Lack of education	17. Investments in local infrastructure & capabilities
5. Lack of infrastructure	2. Collaborate to access know-how & reduce uncertainty
	9. Leverage existing technologies, distribution channels & markets
	10. Lean distribution
	14. Product differentiation & diversification
	17. Investments in local infrastructure & capabilities
6. Cognitive challenges & trust building	1. Collaborate to build trust
	5. Identify relevant needs of targeted market
	16. Embedded innovation
7. Unreliable partners	17. Investments in local infrastructure & capabilities
8. Organizational problems	6. Enabling organizational culture
	11. Standardization & execution
	13. Vertical disintegration & outsourcing
	18. Patient capital
9. Higher costs & profitability	2. Collaborate to access know-how & reduce uncertainty
	4. Identify market characteristics and its effects on firm performance
	8. Open value proposition & customized marketing
	9. Leverage existing technologies, distribution channels & markets
	10. Lean distribution
	11. Standardization & execution
	13. Vertical disintegration & outsourcing
	15. Profit orientation & high contribution margin
10. Lack of formal financing	9. Leverage existing technologies, distribution channels & markets
	12. Innovative pricing models
11. Lack of ecosystem	17. Investments in local infrastructure & capabilities
12. Supply chain management	9. Leverage existing technologies, distribution channels & markets
	10. Lean distribution
	17. Investments in local infrastructure & capabilities
13. Product challenges	2. Collaborate to access know-how & reduce uncertainty
	3. Innovative R&D
	5. Identify relevant needs of targeted market
	7. BoP business modelling
	9. Leverage existing technologies, distribution channels & markets
	13. Vertical disintegration & outsourcing
14. Scaling	5. Identify relevant needs of targeted market
	7. BoP business modelling
	8. Open value proposition & customized marketing
	11. Standardization & execution
	15. Profit orientation & high contribution margin
15. Informality & lack of legal institutions	2. Collaborate to access know-how & reduce uncertainty
16. Government intervention	15. Profit orientation & high contribution margin
	18. Patient capital

3 Theory application: Spring Health

After review the literature and building the theory, this chapter aims at applying the acquired knowledge onto the case of Spring Health. Spring Health is an "Indian-based for-profit social enterprise that provides safe drinking water to the poor rural population in Orissa (India)" (Ammann, Boulloud & Heierli, 2014, p. 2). The information in this chapter stems on the one hand from earlier reports that document the beginning of the enterprise and were authored by the Swiss foundation Antenna Technologies. On the other hand, more recent information has been gathered by the author himself during a two months' field study in Bhubaneswar from June to August 2015, along with regular exchange with the managing board of the firm in the following months. The description of the business thus relies on information that has been gathered in the year 2015. At the end of this chapter, a short outlook will present the current situation and experiences from the year 2016.

Spring Health provides an interesting case and a promising solution to provide safe drinking water in rural areas. This chapter intends to first describe the firm and its business model in detail. In a next step the firm's challenges and its strategy will be presented and explained. After this introduction, the case will be analysed according to the theory by first showing which challenges of the theory are affected. On the basis of this finding, the concerned strategies are selected and applied onto Spring Health. The aim of this chapter is answering the second research question and to show how the findings of the BoP literature can be applied in practical terms. In the end, the goal is to present ways of not losing money while delivering safe drinking water to BoP costumers.

3.1 Overview

The following two subchapters should provide an overview of Spring Health in order to lay the ground for the subsequent analysis.

3.1.1 Background and current situation

Spring Health was established in 2010 by International Development Enterprises (IDE) founder Dr. Paul Polak through the for-profit venture Windhorse International. The purpose of the company has been defined as selling "affordable safe drinking water to poor people living in small rural villages in Eastern India (Orissa) through a network of local water kiosk owners, with an ultimate objective is to reach 20'000 villages in 2020" (Ammann, Boulloud & Heierli, 2014, p. 3). During the piloting phase in the year 2010, kiosks were rolled out in 10 villages, "selling chlorinated water in branded designed 10 L jerry can" (Ammann, Boulloud & Heierli, p. 3). The operative management consisted of externally hired experienced professionals that had all the attributes from the private sector to supervise the scaling up of the venture. In November 2011 and after the piloting phase, the business started rolling out kiosks on a much larger scale. During the first months of business operations, sales massively increased from 632'000 litres a month to over 2'712'900 litres a month in the first half of 2012. Table 2 shows the growth over the years.

Table 5: Annual sales of Spring Health

	2012	2013	2014
Annual sales in litres	3'672'186	16'346'065	40'833'739

Source: Spring Health. 2015.

Sales increased till the end of 2014 to up to 39’048’700 litres. The annual growth rate (GR) between December 2011 and December 2014 is calculated in the following way:

$$\text{GR} = \left(\frac{\text{Present sales}}{\text{Past Sales}}\right)^{1/\text{Time}} - 1$$

$$\text{GR} = \left(\frac{39048700}{165850}\right)^{1/3} - 1 = 5.1749 \times 100 = 517.5\%$$

The GR in the number of sales is enormously high and shows the successful growth of the company in terms of scaling up the business[11]. These numbers indicate the strong growth and scaling of the company. In terms of creating distribution channels and customer contact, the number of kiosks/plants and thus business partners have increased from 2 in December 2011 to 221 in December 2014. This equals an annual growth rate in terms of plants of 380%. These and all the other relevant growth rates are listed in table 3.

Table 6: Annual growth rates of Spring Health.

	Sales	Plants	Customers
Annual growth rates	518%	380%	367%

Source: Spring Health. 2015.

Hired staff has grown to over 134 in the last 3 years including Executive Management (3), Mid-level Management (6) and Field Staff (123). The company therefore is prepared for the next stage of the progress, development and scaling. In terms of scaling geographically, the company succeeded in reaching big parts of Odisha and thus providing safe drinking water to many rural areas, which lack the former.

Spring Health’s vision is to “provide safe and affordable drinking water to one and all” (Ammann, Boulloud & Heierli, 2014, p. 3). Additionally Spring Health intends to “reduce the incidence of water-borne diseases and the related expenses for medical treatment” (Ammann, Boulloud & Heierli, p. 3). The long-term aim is to have operations running in the entire country.

3.1.2 Technology

The technological resource on which the company is built on is called WATA and was developed and designed by Antenna Technologies. The technology enables “local production of sodium hypochlorite for water treatment and disinfection purposes”, a non-corrosive chlorinated derivative also known as chlorine (Antenna Technologies, 2015a, n.p.). It is extremely low cost, since it only uses a simple, manageable process of electrolysis to convert a measure of salt and water into chlorine (Antenna Technologies, 2015b, n.p.). The resulting solution may be used for different purposes such as drinking water chlorination or as a “disinfectant for use in households, hospitals or community clinics” (Antenna Technologies, 2015b, n.p.). Antenna Technologies argues that the advantages of WATA include [1] local production of active chlorine, [2] simple processes, [3] reliable technology, [4] sustainable and endurable, [5] low cost and [6] adaptable to a wide range of application purposes (Antenna Technologies, 2015b, n.p.). There are three different WATA devices available that differentiate themselves over the amount of chlorine producible. The Mini-WATA produces 167 ml, the Standard-WATA 1 litre, the Maxi-WATA up to 12.5 litres of chlorine per hour (Antenna Technologies, 2015c, n.p.). Spring Health

[11] The monthly growth rate during that time equals 16.4%.

currently possesses three Standard-WATAs operating in the field and one Maxi-WATA that is used as a back-up in the head office. These WATA devices produce enough chlorine to clean and purify 3.9 Million litres of water monthly (due December 2014).

3.2 Business Model

After the introduction into the evolution of Spring Health and its technological aspects, this chapter intends to present the business model of Spring Health and explain the adaptations during the last years.

3.2.1 Revenue model and processes

In a first step, the business model is explained through a documentation of the revenue model and the required supporting processes.

Revenue Model

Since the beginning Spring Health offers safe drinking water in 10 litre jerry cans for affordable prices in rural areas. The revenue model was first designed for self-pickup by the customers in close approximation of the water kiosks. However, during the piloting phase the firm found evidence that the cultural characteristics in this context constrain their revenue model. The caste system apparent in those areas implied, that if members of the untouchable community (so-called Dalits) while picking-up the water accidentally touched the tap of the water tank, the other villagers would refuse to drink the water since it would be considered as impure. Based on this experience, Spring Health decided to introduce a delivery service which was non-discriminatory (Ammann, 2012, p. 33). Due to higher costs for the delivery, home delivered water was priced at 4 INR, whereas self-pick-up costed 3 INR. Still during piloting, the firm experienced a massive increase in demand for home delivery by other customers which lead to the current situation, that almost all sales are home delivered (Ammann, Boulloud & Heierli, 2014, p. 3). Hence, todays “product” includes a home delivery of the cans on a daily basis and thus provides an additional service that is very demanded and highly welcomed. The main costumer base is the BoP population in rural areas of eastern India.

Infrastructure

Spring Health builds business partnerships with village kiosks and then installs water tanks for the decentralized production. The water tanks are filled with a local water source, which is tested beforehand for suitability. The centralized production sites of the chlorine, the Electric Chlorination Plants (ECP) are serving 50 village kiosks each and produce up to 20 litres of chlorine solution per day with the Antenna Standard-WATA Kit, sufficient to sterilize 80’000 litres of water.

Scaling

In order to rapidly scale up the business, Spring Health’s roll out team is divided in 3 distinct groups of professionals. The scout team consists of 3 people and surveys, identifies and co-operates with the village elders in selection of entrepreneurs and signs up the business partner. The business partner is incentivized for collaboration with a revenue participation of 25 percent. Another task they have is to test the water source for suitability. The build team consists of 5 people that make sure the water tanks are built properly and in time on the premises of the village entrepreneur. They are in direct contact with masons, plumbers and electricians.

Scaling up the business also implies demand creation. As research shows, the majority of potential customers is not aware of the health benefits of safe drinking water and therefore not willing to pay a substantial amount of their earnings for Spring Health’s offering (Ammann, 2012, p. 42-44). Since the beginning therefore, Spring Health uses a substantial amount of resources for demand creation and creating awareness. Hence, the biggest group of the roll out team is comprised of the social marketing team. With 60 people available, the social marketing team is able to conduct "blitz marketing" to get the kiosk sales volumes increasing in a short amount of time. The "blitz marketing" consists of simultaneously creating a buzz in the village with miking and announcements with loudspeakers on an auto-rickshaw, a team of 20 staff members conducting door to door campaigning and explaining the benefits of the Spring Health product in comparison with traditional water sources. In addition, so called "water test melas" are organized in which potential customers can hand in their drinking water for a laboratory bacterial test in petridishes. Furthermore, at least one drama is performed in every village by a local drama troupe using folk drama with a mix of humor and entertainment to convey the safe drinking water message. The roll out team is able to launch up to 25 villages every month and through the social marketing procedures which gets the kiosk sales upwards at around 600 litres per day within the first month of opening.

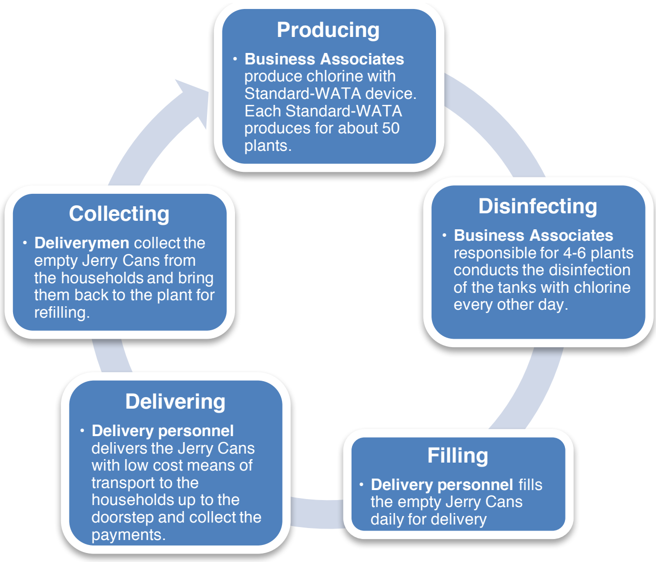
Figure 7: Spring Health's scaling up framework.

Source: Spring Health. 2015.

Supply Chain

Once the plant is built and installed, the roll out team hands over to the operational team. Originally the team was intended to consist of 1 senior marketing officer (SMO) with a team of 4-6 business associates (BA) who are in charge of 50 villages. This would imply, that one business associate is responsible for 8-12 villages and does the chlorine application, filling, maintenance and customer evaluation for the latter. Big tanks make chlorine application not necessary each day, which reduces operational costs since the BA is able to be in charge of a number of kiosks. However, these numbers could not be reached until the time of investigation. BA's were in 2014/2015 averagely in charge of 4-6 villages. The supply chain also involves the delivering to the doorstep by delivery personnel on bicycles, auto-rickshaws or other low cost means of transport. The deliveryman delivers the water, collects the payments and the empty jerry cans for the refill. This strong customer relationship is essential for the last mile distribution and other cultural aspects relevant in India[12].

Figure 8: Spring Health's supply chain.



Source: Spring Health. 2015.

[12] Annex I provides a more detailed version of the supply chain with numbers and explanations.

3.2.2 Business essentials

After describing the technology and business model, one can conclude which parts are essential and crucial for the business to run. Three different clusters of essential ingredients can be detected.

Resources

Spring Health needs different resources in order for starting the business. In terms of physical resources, Spring Health is in need of local water sources that allow local production. While contamination is not necessarily a problem, the abundance of the water source is indeed crucial and must be apparent. Without a safe and stable flow of water, Spring Health is not able to uphold its supply. A further necessary component is the availability of local transportation. Spring Health delivers its products in rural areas and till the last mile. The jerry cans (10 litres) are heavy and to transport 100 jerry cans daily, a bicycle may not be suited thus another low-cost distribution vehicle is necessary. Auto-rickshaws have proved to be a promising solution for delivering more products per day. However, such vehicles must be available and low-cost. An additional decisive element is local staff that can conduct the business practices necessary for the supply chain. This includes business associates, village entrepreneur and delivery boys who are permanently deployed in those rural areas and can therefore hardly be living somewhere else.

Geographical conditions

Geographical essentials include the density of the area. The Spring Health business model is based on a certain density of people per square kilometre in order to get the business working and keep the costs relatively low. The delivery of about 100 cans per day needs to be possible with low-cost vehicles. Furthermore, the whole supply chain is affected by this condition since the personnel cluster described above needs to able to cover clusters of 50 villages. This includes of course the distances between these villages, since BAs need to disinfect several water tanks a day. Since it is vital for the business to have a certain sales count, enough potential customers must be in close approximation of the plant. The population density in Odisha, India is approximately 270 per km^2.

Management

The Spring Health business model is based on a large number of networks, field stuff, connections and coordination issues. In order to address these adequately, the management needs to be accustomed to local norms and habits, connected with key leaders in rural areas and able to build new networks and maintain them in a professional manner. Since the supply chain is decentralized, the management needs to manage potential inefficiencies or human resource issues effectively and time efficient. A professional management ensures that the business is able to grow steadily and obtain control over stuff and financials.

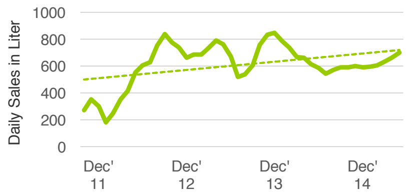
3.3 Performance and challenges

While the last chapter presented the business model and business essentials, the following chapter intends to show performance indicators and the challenges that Spring Health faces in their business operations. Spring Health has agreed on using financial numbers in the framework of a contribution margin calculation in order to show the effect of challenges on financial performance. These numbers stem from the financial year 2014/2015 (from April 2014 to March 2015). It is important to note at this point though, that this paper provides no financial statements that allow implications of Spring Health's gross profitability. The published numbers include sales performance and the operational cost structure of a single water kiosk, which are then embedded into a contribution margin calculation on the level of a water kiosk. Although these numbers do not allow further implications about gross profitability, such information about financial performance of BoP ventures are rare and therefore highly appreciated when it comes to learning curves of the BoP community.

3.3.1 Performance

The sales performance of Spring Health India is determined by a strong growth during the last three years. The company was able to grow rapidly in terms of villages reached and thus in terms of sales. Scaling up and building new locations as fast as possible in order to reach a crucial size that allows stability determined the sales strategy. Average sales per day per village vary and have grown steadily over the last three years. Growth was thus mainly determined by investing in new plants. In May 2015 the average sales per village are at around 700 litres. Only in some exceptional months like in October 2012 or in November and December 2013 average sales per day have exceeded 800 litres. Taken out the first phase of the company, the numbers tend to level out between 600-700 litres a day per village.

Figure 9: Average daily sales per village.



Source: Spring Health. 2015.

Table 7: Spring Health's sales development.

	May 2012	May 2013	May 2014	May 2015
Monthly Sales in litres	229'430	804'790	3'338'520	5'074'340
Villages	14	34	182	234
People Reached	5'610	24'515	90'475	133'315

Source: Spring Health. 2015.

When it comes to distribution, Spring Health currently operates in most villages with auto-rickshaws which results in monthly renting costs of 5000 INR per plant. As already mentioned, BAs are currently in charge of 4-6 plants, the monthly salary is thus divided by this amount when calculating the contribution margin at kiosk level. The following contribution margin can be calculated on the basis of these financial numbers.

Table 8: Monthly contribution margin at kiosk level in 2014/2015.

Monthly contribution margin per kiosk (INR)	2014/2015
Revenue for home delivery/month	8'400
Deliveryman salary	- 2'100
25% Commission for Village entrepreneur	- 1'575
Rent for Auto	- 5'000
Business Associate	- 2'500
Result	**- 2'775**

Source: Spring Health. 2015.

3.3.2 Challenges and Spring Health's strategies

In this section, the challenges that Spring Health faced are presented and explained. The different challenges are directly embedded in the framework that has been developed in this paper in order to show which of them are affected. This documentation also includes the strategies that Spring Health has applied in order to handle the different challenges.

1. Market creation & marketing

Unsurprisingly, Spring Health faces difficulties when it comes to market creation and marketing. As already mentioned, the BoP customers are often not aware of the negative impact of contaminated drinking water. Diarrhoea is perceived as part of daily life and not an ultimate result of unsafe drinking water and contaminated water sources. To combat this lack of awareness, Spring Health has designed a promising scaling-up strategy that is adapted to the local cultural context and uses social marketing initiatives such as Door-to-Door (D2D) campaigns, theatre dramas, water testing initiatives as well as school awareness programs to create awareness and demand [strategy 8] (Ammann, Boulloud & Heierli, 2014, p. 6-8). Another interesting strategy that has been introduced in the beginning of the year 2014 is to cooperate with SHGs and integrate them in continuous social marketing efforts [strategy 2] (Ammann, Boulloud & Heierli, 2014, p. 10). However, sales numbers per village do not seem to grow as fast as expected.

Spring Health also experienced constraints that emerged from cultural characteristics of the targeted rural areas in India. The persistence of the caste system forced Spring Health to adapt its business model and introduce a home delivery service.

In order to access market information [strategy 4] and identify relevant needs [strategy 5], Spring Health has conducted a wide range of field research and surveys [strategy 3]. Spring Health has also tried to work in close partnership with the targeted customers to pursue embedded innovation and product development [strategy 16].

2. Lack of market information

The lack of market information was observable for Spring Health in that most of the relevant information about the customers and their willingness to pay had to be gathered by themselves. Spring Health thus invested quite some time in the beginning in pilots and customer surveys [strategy 3] and aimed at embedded innovation to meet customer needs [strategy 16]. However, through their collaboration with local village entrepreneurs and knowledge bearers [strategy 2], Spring Health was able to gather market know-how and leverage existing distribution networks [strategy 9]. Another important constraint was the lack of information concerning geological characteristics that is needed to build the plants and access wells. Spring Health thus spends quite some of its resources in gathering information for various reasons.

3. Low purchasing power

Spring Health provides its products to BoP consumers and thus intends to be affordable for these kinds of customers. This implies that prices have to be kept low and adapted to the irregularity of income of the consumers. Spring Health's solution is to use low-cost technology [strategy 7] and offer pay per use pricing which helps to overcome these constraints [strategy 12]. However, as the research shows, the willingness to pay for safe drinking water is in the majority of cases lower than the costs of the technology.

4. Lack of education

Spring Health faces severe constraints concerning the lack of education. As the household survey conducted by Ammann (2012) shows, 74 percent of the targeted consumers are not aware of the negative health effects when drinking raw water (p. 42). This is why Spring Health is investing so much of its resources in educating potential consumers [strategy 17].

5. Lack of infrastructure

The lack of infrastructure effects Spring Health's business operations in various ways. On the one hand Spring Health had to find ways of providing water on a daily basis despite the weak transportation infrastructure. Length and price of distribution, finding the right infrastructure for building their production facilities as well as coping with the lack of stable electricity provision poses challenges for Spring Health, that require accurate solutions. Spring Health therefore has decentralized its production sites, collaborated with local entrepreneurs [strategy 2 & 9] and set up their own distribution network [strategy 10]. Furthermore, Spring Health invested in setting up new infrastructure in rural villages that are suited for this context [strategy 17].

6. Cognitive challenges & trust building

Spring Health does not face cognitive challenges as well as mistrust in particular, although they are apparent as in other BoP markets. Spring Health has therefore invested from the beginning of their piloting phase in cooperating with local communities and leaders [strategy 1] in order to bridge this potential cultural gap and identify relevant needs [strategy 5]. In this piloting phase, Spring Health also aimed at co-inventing their product together with the communities [strategy 16].

7. Unreliable partners

Since Spring Health has a very high number of village entrepreneurs, the firm faces from time to time challenges that stem from unreliable partners. Spring Health has therefore integrated many of the value creating activities inside the firm and invested in local infrastructure to reduce these uncertainties [strategy 17]. This is one of the reasons why Spring Health has difficulties in increasing efficiency of its field personnel. Much more effort has to be put in monitoring and enforcing business partnerships.

8. Organizational problems

Spring Health has difficulties finding educated and efficient labour for their business operations. Since the firm requires quite a high amount of labour for their business processes, this poses a significant challenge for the company. Spring Health thus has to educate and train its personnel when they are hired as well as on a continuous level. Although field staff efficiency is still not as high as predicted, Spring Health has an enabling organizational culture with a clear vision and professional management [strategy 6]. Since the firm is strongly investing in removing market constraints, patient capital has been acquired and external funding such as carbon finance is in planning [strategy 18] (Ammann, Boulloud & Heierli, 2014, p. 4).

9. Higher costs & profitability

One of the major challenges for Spring Health is to deal with the costs related to remove some of the market constraints and adapt the business to meet the requirements of the market. Spring Health compensates the weak infrastructure and other market constraints by integrating value creating processes. The initial costs of the demand creation programs and the setting up of the distribution channels were higher than expected and the predicted penetration rates could not be established as quickly as wished. This is one of the reasons why the contribution margin at the kiosk level was negative in the financial year 2014/2015. The average daily sales numbers per kiosk were expected to rise quickly above 1000 litres, which would have resulted in positive contribution margins and thus higher cost coverage. Another cost factor that was not included in the original business plan was the cost for the delivery. The transition from the originally planned cycle-rickshaws to auto-rickshaws implied much higher costs. Additionally, higher costs have resulted from the changing economic context and the resulting increase of rural wages in the areas where Spring Health operates. As Ninan (2015) points out, that during the last years of economic growth, incomes have went up and poverty has decreased even in rural areas. He adds, “the acceleration of agricultural growth during this period may have been the main contributor to the reduced spread of poverty” (p. 170). In addition, governmental regulations supported this process by raising minimum wages. In May 2015 the government of Odisha, of which Bhubaneswar is the capital, announced a hike of minimum wages from 150 INR to 200 INR per day for unskilled labour (The Hindu, 2015, n.p.). These increases in wages had significant influence on the cost structure of Spring Health, since it operates with a high number of employees. Furthermore, the hired staff could not operate as efficient as expected which also resulted in higher operational costs than predicted.

Nevertheless, Spring Health collaborated with local village entrepreneurs [strategy 2 & 9] and communities to identify market characteristics [strategy 4]. Furthermore, Spring Health has always intended to reach financial break even and establish a for-profit venture [strategy 15].

10. Lack of formal financing

The lack of formal financing was circumvented by Spring Health by creating a business model which uses pay per use financing [strategy 12]. Still, Spring Health has to collect the revenue from each customer by themselves which again results in higher labour costs.

11. Lack of ecosystem

Spring Health had to invest a lot of resources to cope with the lack of a lively ecosystem that could provide important inputs [strategy 17]. In these rural areas, Spring Health's business approach is unique and revolutionary and therefore supporting networks or high quality inputs need to be established first. One example concerns the water tanks: Spring Health originally planned to use big water tanks (at least 3000 L) in order to keep operational costs low since the BA would not have to visit the plant each day for disinfecting. However, it turned out that it was very difficult or almost impossible to find firms that provide Spring Health with such tanks since the most common size was smaller (1000 L). The lack of adequate supportive products resulted in higher costs for Spring Health since they had no other option than dealing with what they could get.

12. Supply chain management

Supply chain management was one of the major concerns for Spring Health since it decided early on to build its own distribution channels [strategy 17]. The supply chain of Spring Health is revolutionary since it involves daily customer contact and delivery. One challenge that Spring Health had to deal with was to insure the stable and continuous functioning of the local water sources even in dry months. In the last years, the dry summers have led to some defaults which created additional challenges for the company. Another difficulty is to ensure daily distribution even in times in which the staff may be disabled or sick. When it comes to the transportation vehicle, Spring Health began their operations in 2012 with cycle-rickshaws when the management realized that auto-rickshaws are better suited to cope with the distances in rural villages and were more reliable than its alternative [strategy 10]. However, this decision had a major impact on the cost structure and thus created a new challenge that has to be dealt with. Hence, all of these challenges require a great amount of supply chain management and coordination.
However, Spring Health leveraged existing market structures and collaborated with local village entrepreneurs [strategy 9].

13. Product challenges

Spring Health knew from the beginning, that in order to scale up the business and reach the targeted BoP population, the product needs to be affordable and innovative. For this reason, Spring Health used the chlorination technology from Antenna Technologies, because it enables low-cost water purification and thus radically affordable safe drinking water [strategy 9 & 7]. It also collaborated with design companies for creating aspirational packaging and product design [strategy 2 & 3].

14. Scaling

Spring Health was successful in scaling its operations in Odisha through social marketing initiatives and the aforementioned other marketing channels [strategy 8]. However, these efforts also required significant resources in terms of manpower and capital. The business model of Spring Health was designed in order to reach scale [strategy 7]. Furthermore, Spring Health provides a product from which the firm knows that there is a need in almost all rural areas in India [strategy 5].

15. Informality & lack of legal institutions

The informal characteristic of the targeted market of Spring Health poses challenges when it comes to interaction with all the different stakeholders and partners. Spring Health has to be aware of the context in which they operate which again results in the fact that doing business is more time consuming and less predictable. Still, Spring Health collaborates with local knowledge bearers in order to reduce uncertainty and gain market know-how [strategy 2].

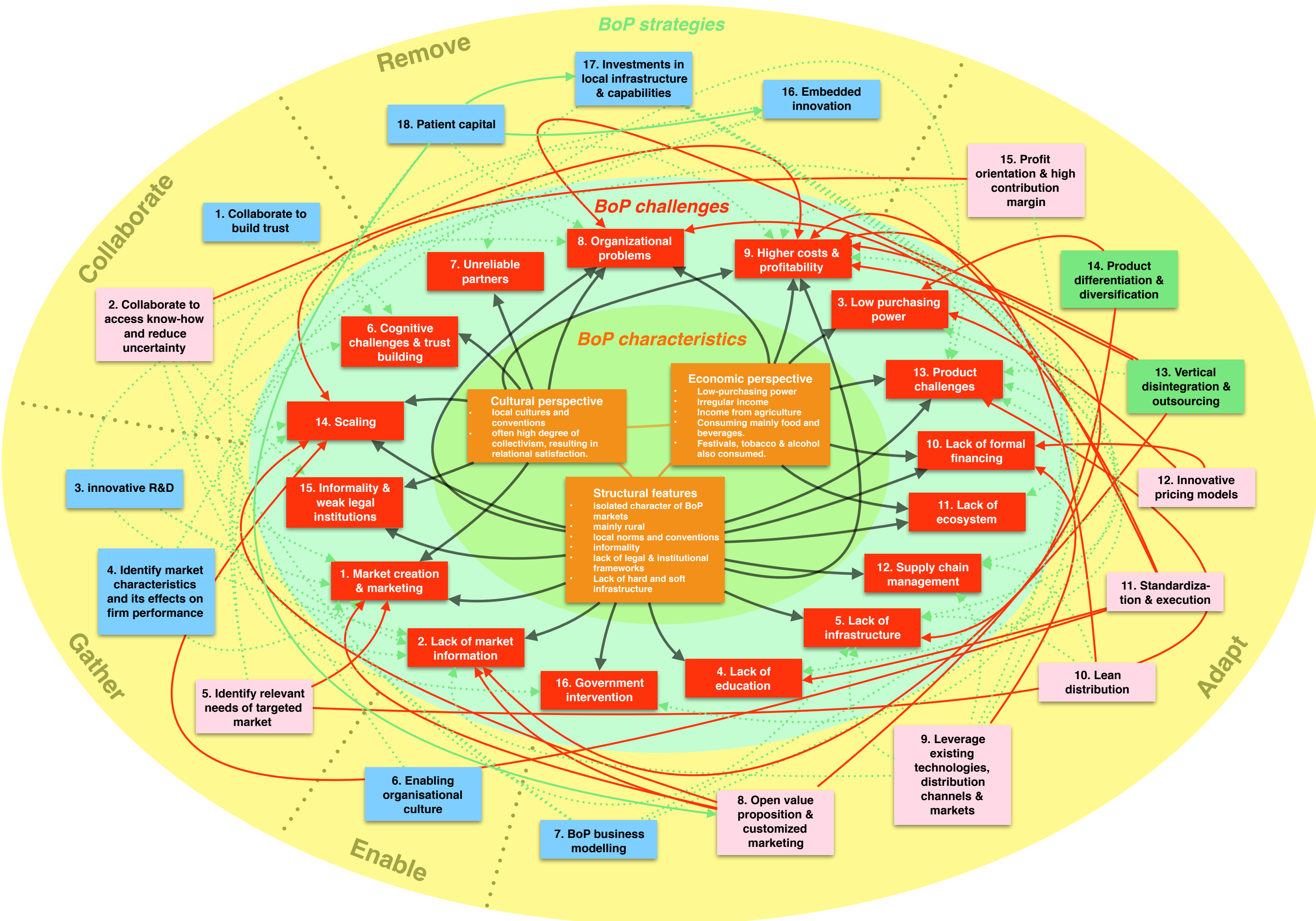
16. Government intervention

Government intervention is a latent threat for Spring Health because it could have detrimental effects on the business case. Since access to safe drinking water is perceived as a basic human right, the government could either invest in building water facilities and infrastructure and in so doing subsidize water, or it could restrict the commercial market of selling safe drinking water through regulation. Both alternatives are threatening the business model of Spring Health. Spring Health thus intends to focus on profitability which would make the company less vulnerable to subsidies [strategy 15]. Additionally, Spring Health acquired access to patient capital and external funding which enables the company to deal with governmental regulations and burdens [strategy 18].

3.4 Applying the BoP framework

The previous chapter showed accurately which challenges of the BoP framework are affected in the case of Spring Health and which strategies from the BoP framework the company already applies. On the basis of the information that is available from Spring Health all challenges that were found in the literature review have also been in some or the other way experienced by the firm. Hence, all challenges from the framework are affected. The question now arises, which of the strategies from the literature review are already applied by Spring Health and thus need not to be transformed onto the firm. The analysis has shown that Spring Health already applies a variety of strategies successfully that were found in the BoP literature. These include strategies 1, 2, 3, 4, 6, 7, 16, 17 and 18 (indicated by the colour blue). Some strategies are partly applied by Spring Health and should therefore only be considered in order to manage certain crucial additional challenges. These include strategies 5, 8, 9, 10, 11, 12 and 15 (indicated by the colour pink). The other strategies are not applied by Spring Health and are therefore translated in the following chapter.

Figure 10: BoP framework applied onto Spring Health.



Source: Own illustration.

Table 9: BoP framework with Spring Health's challenges and the proposed strategies. (Blue: already applied. Pink: partly applied. Green: not applied).

Challenges	Strategies
1. Market creation & marketing	2. Collaborate to access know-how & reduce uncertainty
	3. Innovative R&D
	4. Identify market characteristics and its effects on firm performance
	5. Identify relevant needs of targeted market
	7. BoP business modelling
	8. Open value proposition & customized marketing
	16. Embedded innovation
2. Lack of market information	2. Collaborate to access know-how & reduce uncertainty
	3. Innovative R&D
	8. Open value proposition & customized marketing
	9. Leverage existing technologies, distribution channels & markets
	13. Vertical disintegration & outsourcing
	16. Embedded innovation
3. Low purchasing power	7. BoP business modelling
	12. Innovative pricing models
	14. Product differentiation & diversification
4. Lack of education	17. Investments in local infrastructure & capabilities
5. Lack of infrastructure	2. Collaborate to access know-how & reduce uncertainty
	9. Leverage existing technologies, distribution channels & markets
	10. Lean distribution
	14. Product differentiation & diversification
	17. Investments in local infrastructure & capabilities
6. Cognitive challenges & trust building	1. Collaborate to build trust
	5. Identify relevant needs of targeted market
	16. Embedded innovation
7. Unreliable partners	17. Investments in local infrastructure & capabilities
8. Organizational problems	6. Enabling organizational culture
	11. Standardization & execution
	13. Vertical disintegration & outsourcing
	18. Patient capital
9. Higher costs & profitability	2. Collaborate to access know-how & reduce uncertainty
	4. Identify market characteristics and its effects on firm performance
	8. Open value proposition & customized marketing
	9. Leverage existing technologies, distribution channels & markets
	10. Lean distribution
	11. Standardization & execution
	13. Vertical disintegration & outsourcing
	15. Profit orientation & high contribution margin
10. Lack of formal financing	9. Leverage existing technologies, distribution channels & markets
	12. Innovative pricing models
11. Lack of ecosystem	17. Investments in local infrastructure & capabilities
12. Supply chain management	9. Leverage existing technologies, distribution channels & markets
	10. Lean distribution
	17. Investments in local infrastructure & capabilities
13. Product challenges	2. Collaborate to access know-how & reduce uncertainty
	3. Innovative R&D
	5. Identify relevant needs of targeted market
	7. BoP business modelling
	9. Leverage existing technologies, distribution channels & markets
	13. Vertical disintegration & outsourcing
14. Scaling	5. Identify relevant needs of targeted market
	7. BoP business modelling
	8. Open value proposition & customized marketing
	11. Standardization & execution
	15. Profit orientation & high contribution margin
15. Informality & lack of legal institutions	2. Collaborate to access know-how & reduce uncertainty
16. Government intervention	15. Profit orientation & high contribution margin 18. Patient capital

3.4.1 Standardization & execution [11]

One of the crucial strategies that Spring Health needs apply more vividly is concerned with standardization and execution. The original business model included the following plan: 1 SMO and 4-6 BA's will take care of about 50 villages. That implies, that one BA has around 10 villages under his immediate control. He visits these different villages in a turnaround of approximately 2-3 days and conducts the disinfection and maintenance that is due. He also does water tests and insures the water quality of Spring Health water. One BA will have an ECP at his home run by his family and receive 1400 INR additionally for this service. However, during the last years, Spring Health faced a wide range of difficulties and did not manage to reach these goals. There are several observable reasons for this:

- **Efficiency**: BA's are at the moment taking care of around 4-6 villages each. This of course needs improvement in order to reach the significant number of 10 villages per BA.
- **Infrastructure**: Due to the rapid growth of the company, Spring Health wasn't able to build the infrastructure as planed and used mostly 1000 litre tanks rather than 3000 litre tanks. This had severe impacts on the work of the BA's since this implied that they had to visit the villages more often and disinfect the water almost each day. Oftentimes one BA is in charge of 3-5 plants, which means that for 50 villages, there are around 10-15 BA's instead of 4-6.
- **Lack of commitment**: Another reason for the higher number of BA's is the lack of the village entrepreneur's commitment to the business activities. The BA's have to do much more maintenance work than intended due to the fact that the village entrepreneur often times has the impression that the commission he gets is mainly for the water source he provides and not for running the business. Furthermore, the water source is rather seldom at the same location as his shop, resulting in a decentralized location of the tank.

Should Spring Health succeed in targeting these weak spots and improving the field staff efficiency, the costs for the BA at kiosk level could be reduced to 1000 INR per month.

3.4.2 Vertical disintegration & outsourcing [13]

Spring Health's core strategy during the last years was to integrate the value chain in order to ensure smooth business operations. However, this strategy also implied the investment of a substantial amount of resources. Spring Health should thus consider to disintegrate and outsource part of the business activities so as to solve issues that relate to the lack of market information, organizational problems, higher costs and product challenges. One solution may be to cooperate and outsource the kiosk management to SHGs that know the context and needs of the potential customers. Spring Health is already testing SHGs in their business activities. SHGs will mainly provide additional marketing and customer contact. The SHGs are variably compensated based on their performance, which makes SHGs very valuable for Spring Health as a company. The Door-to-Door (D2D) activities of the SHGs make a huge difference in costumer binding and costumer acquisition since the contact is based on already known relationships. The SHGs thus reduce the gap between the company and the rural customers and conquer another important challenge that concerns potential mistrust on the side of consumers. Furthermore, some SHGs also take care of a whole water kiosk as such. The experience is that the SHGs are much more involved in the business activities and lower the operational costs for Spring Health significantly. This mainly since the business associate is less involved in the different water kiosks and can therefore be in charge of more than 4 kiosks at the same time.

Another potential strategy that involves disintegration measures could be to test a micro-franchise business model that outsources the local distribution and kiosk management altogether. This implies, that Spring Health would be a company focused on branding, marketing, scaling and insuring quality for its customers. Instead of providing the product itself, Spring Health would enable local business partners to start a new business with high accountability but also high profits. However, it is important to note that this approach involves a substantial change of the business case and would therefore need to be tested and piloted.

3.4.3 Identify relevant needs of targeted market [5]

The value proposition is essential in product-based business activities. Spring Health needs to actively shape the value proposition in order to get the customers to pay for the relative costs. The value proposition of Spring Health is very much centred on providing "safe drinking water". Since selling safe drinking water is not yet really a market in rural areas, Spring Health should focus on different attributes concerning their product. The proposal in this work is to include the home delivery as central part of the Spring Health product marketing. Home delivery of products and services is a highly aspirational need that raises the social status of the respective customers. In doing so, Spring Health could meet the critical need by focusing on aspirational aspects of their product. The intention behind such a strategy is of course to increase the value of the product and in doing so lowering marketing costs and "demand creation" as well as increase the willingness to pay (from 4 INR to 6 INR).

3.4.4 Open value proposition & customized marketing [8]

As already noted, Spring Health should focus their marketing initiatives on the aspect of "home delivery" rather than on providing safe drinking water. On the one hand, this focuses on positive aspects of the product and not on negative ones that evolve out of the impression that all other water sources are unsafe. On the other hand, this enables an open value proposition since the use of the product is not defined and limited. Customers of Spring Health may also value the product for other reasons as for drinking purposes.

Another important strategy that concerns marketing is branding. Spring Health reaches areas where there are no competitors and very low costumer habits. People are not used to products like the one Spring Health offers. Furthermore, the product is praised for its "safety". The product is thus heavily depending on its brand as a sign for product quality and standard. The opportunities for a market creator like Spring Health, to shape the customer sensitivity in a sense that this specific value proposition is reserved for Spring Health solely, are immense. The branding needs to be deepened and further improved. The brand needs to be present all through the supply chain and obvious for customers and non-costumers. This will on the one hand increase the value of the product for the customers and on the other hand make the product more understandable for non-costumers.

3.4.5 Leveraging existing technologies [9]

Spring Health should make use of existing ICTs that enable increased productivity, efficiency and convenience for customers. Handling of the lack of education and organizational problems serves as a good example. Here Spring Health should leverage ICT channels for educational purposes for customers as well as training and monitoring efforts for the staff and business partners. Such technologies enable standardization and raised productivity as the case of SKS shows.

Spring Health should also make use mobile money to raise the convenience of the consumers as well as reducing the transaction costs. Chapter 3.4.7 will provide more information about this strategy.

3.4.6 Lean distribution [10]

Spring Health has established its own distribution channels and value chain. As research indicates and the cost structure of Spring Health shows, this approach requires a substantial amount of resources. The aim must be to lean these processes in order to increase efficiency and reduce costs. The original business model included the following plan: A deliveryman riding on a trolley or bike with a loading area with approximately 30 cans per load conducts the delivery of the cans. The costs of the delivery are covered fully by the customers in paying an extra 1 INR for the home delivery, which at same time is the salary for the deliveryman. The salary of the deliveryman (1 INR per can delivered) is thus variable and includes the transport vehicle, which belongs to the delivery boy or can be bought at a low price. The original plan thus did not include costs relating to the rent or investments necessary for the transport vehicle. However, Spring Health currently operates almost completely with auto-rickshaws. The company pays a rent for using the auto-rickshaws to the owner of the vehicle. This rent amounts to up to 5000 INR per month per village. Of course these costs have a severe impact on the cost structure: In the ideal case of a village selling 1000 litres a day in average (12’000 INR/month) the rent for the transport vehicle almost consumes half of the revenue.

Although the delivery can be conducted much faster with autos than with bicycles, this change of plans of course burdens the profitability severely. The rent of the autos costs in average 5000 INR monthly. The delivery vehicles need to be as low-cost as possible, since the low prices do not allow further costs concerning the delivery on top of the salary of the delivery boy. One possible solution may be to switch back to lower-cost means of distribution such as cycle-rickshaws or trolleys. However, auto-rickshaws provide not only less uncertainty and faster distribution, they also create a high level of social status that needs to be considered when thinking about leaning the distribution channels. Nevertheless, better renting contracts should enable lowering the costs to 1000 INR per month per kiosk. Another possible solution may be to make use of the SHGs. However, since the business model of Spring Health involves the daily distribution of 10 L water cans, SHGs may not be suited to serve in the physical distribution process.

3.4.7 Innovative pricing models [12]

Spring Health already uses pay-per-use pricing which enables the firm to handle the low purchasing power of its customers. However, when Spring Health decides to increase the price of its products, it may not be affordable for the lowest economic segment. Here innovative pricing models could provide solutions in offering to serve consumers as aggregates instead of providing direct delivery. This price differentiation model reduces transaction costs and enables Spring Health to offer their product at a lower price, which results in higher demand and the possibility to scale.

Another application of innovative pricing models involves leveraging the existing ICTs. Spring Health should consider using mobile money for payment purposes which would allow to cope with the lack of formal financing that forces Spring Health to collect the money. Spring Health could also calculate the relative costs of collecting the money and offer customers that switch to mobile money discounts.

3.4.8 Product differentiation & diversification [14]

Spring Health has up to this point not diversified or considered product differentiation. However, research indicates that this would be a vital strategy for successful BoP ventures. First of all, Spring Health could consider bundling other health products and thus leveraging existing the established distribution channels in order to reduce the transaction costs per unit. The costs for establishing the distribution channels would thus be lowered. Spring Health’s distribution channels are a vital asset when it comes to market access and creation.

Second of all product differentiation would enable to satisfy the increasing middle class in rural areas. Spring Health could for instance offer other products related to its core activities. Spring Health is currently testing ways of improving the taste of the water. This could be the chance of creating a higher quality product that increases the willingness to pay as Ammann (2012) was able to show in her analysis (p. 44).

Third of all, Spring Health could diversify in offering various other actors to use their distribution channel. This could be interesting for marketing purposes, NGOs that intend to provide goods, governmental bodies who want to get in contact with local communities and commercial interests of MNCs that intend to reach the BoP population in Odisha.

3.4.9 Profit orientation & high contribution margin [15]

Spring Health is a for-profit enterprise and thus seeks to earn return on investment. This focus needs to be strengthened especially when it comes to scaling the business model. Spring Health needs consolidate and their business operations in order to optimize their profitability. Only then the business model is able to be scaled to provide safe drinking water to millions of BoP customers. One way to achieve this is to concentrate on the contribution margin. As soon as the contribution margin at kiosk level is positive, Spring Health is viable business case that is highly interesting to potential investors.

3.5 Financial impact of the applied strategies

All of these measures would result in a significant impact in financial terms. It is assumed that with applying the proposed strategies, Spring Health could raise the price of its product from 4 to 6 INR and increase average daily sales from 700 litres to 1000 litres per kiosk. Wages of the deliveryman have increased due to the changing economic context as well as government regulation from 2’100 INR to at least 3’000 INR. The commission for the village entrepreneur is not expected to change. However, introducing lean distribution and outsourcing will decrease the cost for the delivery vehicle to around 1’000 INR. Through rigid execution and standardization, BAs will be more efficient and thus reduce the costs per kiosk from 2’500 INR to 1’000 INR. These adjustments will produce a positive net contribution margin of 9’250 INR.

Table 10: Monthly contribution margin at kiosk level with assumed strategy implementation.

Monthly contribution margin per kiosk (INR)	2014/2015	2014/2015 adjusted
Revenue for home delivery/month	8’400	18’000
Deliveryman salary	- 2’100	- 3’000
25% Commission for Village entrepreneur	- 1’575	- 3’750
Rent for Auto	- 5’000	- 1’000
Business Associate	- 2’500	- 1’000
Result	**- 2’775**	**9’250**

Source: Own illustration adapted from Spring Health. 2015.

3.6 Current situation and breaking even

As indicated before, the conducted analysis is based on numbers and information from the financial year 2014/2015. Since then it was not possible to organize another field visit. However, Spring Health has reported that the firm was able to reach break-even in the financial year 2015/2016 through a variety of measures, some of which are also portrayed in this paper. Average daily sales could be raised to 720 L per kiosk despite a price increase from 4 INR to 5 INR. While the wages of the deliverymen increased to 3’500 INR, Spring Health succeeded in reducing the cost for the delivery vehicles from 5’000 INR to 1’100. Spring Health was also able to increase the efficiency of the field staff which resulted in a cost reduction of 834 INR for the kiosks since BAs are in charge of 6 kiosks at the moment. All of these measures result in a positive net contribution margin and thus show that delivering safe water can be profitable and viable. This of course is a major step towards scaling up the enterprise and reaching regions and areas where people still lack access to safe drinking water.

Table 11: Monthly contribution margin at kiosk level with current numbers.

Monthly contribution margin per kiosk (INR)	2014/2015	2015/2016
Revenue for home delivery/month	8’400	10’800
Deliveryman salary	- 2’100	- 3’500
25% Commission for Village entrepreneur	- 1’575	- 2’100
Rent for Auto	- 5’000	- 1’100
Business Associate	- 2’500	- 1’666
Result	**- 2’775**	**2’434**

Source: Spring Health. 2015.

4 Conclusion

Based on the evolution of the BoP proposition and theory, this paper did not aim at motivating the readers of engaging with the BoP but rather intended to show ways of successfully doing business in BoP markets. The goal was to support the business community in analyzing an enterprise and its business model according to the latest research concerning market approaches at the BoP. Put it differently, the key focus was to provide the business community with a “hands-on” framework to create a business or analyze an investment at the BoP. In order to illustrate how the latest research findings can be applied in a real case, the author drew upon his field work from June to August 2015 in which he advised a company called Spring Health that delivers safe drinking water in rural India. The research question was formulated the following way: What are the key findings of the latest research concerning business approaches at the BoP and in what way can they be applied in an enterprise that operates at the BoP such as Spring Health? From another perspective, this paper aimed to show the art of not losing money while delivering safe drinking water to BoP costumers.

After a short introduction into the evolution of the BoP theory and the terminology, the second chapter presented an extensive literature review. First, characteristics of BoP markets were examined along the lines of economic, structural and cultural perspectives. In a second part, the aim was to find key challenges that BoP impact enterprises face while doing business in those markets. The third part provided strategies that were found in literature along the imperatives [1] collaborate, [2] gather, [3] enable [4] adapt and [5] remove and summarized the findings to build a sound theory that could be applied onto cases.

The third chapter contained the case study of Spring Health and thus the theory application. In a first step, Spring Health was introduced with giving an overview of the background and the business model. Then the challenges that Spring Health faces and the strategies the firm already applies have been investigated. Based on these findings, the theory was applied onto the case of Spring Health. In a last step, the strategies have been analysed in light of the financial impact.

The key findings of this paper include first, that [1] the BoP proposition has undergone a significant evolution and is currently more focused on business fundamentals such as profitability and productivity since many ventures have failed to reach financial viability. Furthermore, the literature review suggests that [2] the challenges that BoP enterprises face evolve from specific BoP characteristics such as the isolated character of BoP markets in terms of culture and structure, the low purchasing power or the lack of infrastructure. When it comes to BoP strategies, [3] BoP impact enterprises are advised to first strive for collaborations with traditional and non-traditional partners, gather market know-how and information as well as build an enabling organizational culture. In a second step [4] firms should try to adapt their business model in order to circumvent the market constraints and challenges. Literature has put forth a wide range of possible “adapt” strategies that are promising and have been successful in the past. If “adapt” strategies are not viable or achievable, [5] firms can in a third step try to remove those market constraints with investments in the local infrastructure and capabilities or through embedded innovation. However, [6] firms that seek “remove” strategies have to be aware of the financial resources that become necessary in that case. Such strategies require patient capital or external funding such as carbon finance in order to cover the costs for the removal of the market constraints.

The case study revealed that [7] selling and distributing safe drinking water can be financially viable through applying the suggested BoP strategies. [8] Spring Health offers a highly promising solution for selling a product such as safe drinking water since it includes a home delivery distribution model which targets key aspirational needs of customers who would otherwise not be willing to pay for drinking water. In the meantime, Spring Health proved the theoretical considerations and managed to receive a positive net contribution margin from water kiosk operations. [9] When it comes to “remove” strategies that Spring Health applies, the theoretical advice has proven to be correct as far as the need for patient capital is concerned.

At this point it is crucial to note that the frameworks developed as well as the causal mechanisms that were assumed are not fully empirically validated and should thus be critically examined. The same applies to the methods used in order to review the literature, which are of qualitative nature and should thus also be questionable. The suggested strategies are based on inductive reasoning and thus need more empirical evidence to be scientifically viable.

In conclusion it can be said that BoP impact enterprises operate in one of the most difficult market contexts and therefore need to gather as much know-how and lessons learnt as possible in order to be successful and financially viable. Too many enterprises have tried to apply out-dated BoP theories and realized that they are not suited to be successful in such vast circumstances. However, BoP markets were and still are very promising since most of them grow steadily in terms of income and population. Successful ventures will have a significant competitive advantage when they enter those markets when they are still difficult to cultivate. The acquired know-how and expertise will lay the ground for future profits and growth.

In light of the rising interest of the business community in doing business in BoP markets, research should focus on publishing lessons learnt and successful strategies, since only then firms will be able to access the relevant know-how that they need to build a financially viable and therefore sustainable venture. BoP impact enterprises that lose money during operations will do no good, neither for the investors nor for the BoP population, which desperately needs economic growth and access to important products and services.

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Annex I: Supply chain expanded

50 Villages	SMO	Business Associate	Business Partner	Delivery Personnel
Number	1	10-15	50	50
Tasks	- Maintaining all operations - Contact between local network and centralized management - Getting sales numbers up -	- Producing chlorine (at home of 1 BA) - Disinfecting all water tanks every second or third day - Testing water quality	- Providing and securing water source - Getting sales numbers up - Filling the tank and helping the delivery boy with filling the cans	- Delivering the cans to the customers - Collecting the payments - Collecting the empty cans
Salary structure	Fixed	Fixed	Variable, commission-based	Variable

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