Delivering Medicines to the Poor Profitably

Investigating Business Models of Profitable Pharmacy Companies at the Base of the Pyramid

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Abstract

This master thesis researches the success factors of business models of profitable pharmaceutical companies at the Base of the Pyramid (BOP). Due to huge profitable business opportunities for health related products and services in BOP countries ($158.4 billion), there are a few BOP companies that have entered this market. However, it is unknown why these companies can be profitable, despite the low prices these medicines have. Because the business model of a company enables a company to create and capture value and therefore determines the profitability, this research looks at the business models of such companies. In this research a theoretical framework has been built to describe the business models of pharmaceutical companies at the Base of the Pyramid. This framework has been operationalised to capture these business models. To study the success factors of these business models a document analysis has been undertaken and the results have been verified during an interview with an expert on this subject.

Four pharmacy companies have been found that deliver medicines to the poor and are profitable doing so. This research has found out what business model characteristics have contributed to the profitability of these companies. One characteristic is that the companies focus reducing the customers' effort to get the medicines. The companies have an innovative value proposition where they focus on making the medicines available and accessible to the poor. Next, the companies focus on purchasing phase of the value life cycle. Their most important resources are intangible. The value configuration they use is based on a value chain configuration: selling the same solution (the medicine) to the problem (the illness). Next to that, partnerships are very important to these companies. They cannot do the job on their own and, therefore, these companies have partnerships with other companies to help them. It is important that these partner firms are no competitor of the company. The pricing strategy these companies use is based on a differential pricing method, in order to get volume-based discounts or to be able to change prices due to local competitors. Another aspect that is important for these companies is that they educate their customers on the benefits and use of their generic medicines, as many customers do not trust generic medicines. To be profitable these companies also need to operate at a large scale to keep the costs low. For the poor it is expensive to travel far, therefore the shops that sell the medicines should position themselves at places that the customers come often, such as a community centre.

The last characteristics that has been identified is that the business models compete on price and availability and these business models are therefore not very advanced, compared to other business models.

Preface

This master thesis is the final assignment to completed my ECIU Joint Master Programme Innovation & Entrepreneurship at the University of Twente, the Netherlands and the Aalborg University, Denmark. After having read the book by Prahalad on the bottom of the pyramid, I got interested in this subject. I decided to do my master thesis in this field, although I did not know much about BOP innovation or health care. It has been quite a challenge to do a master thesis on a subject that has not been taught by the lecturers during my study, but this made it exciting too. By doing this research I have learned a lot about the health care situation in the Base of the Pyramid and I hope that much more research will be done in this field to improve the lives of the poor and the ill in this world.

This research report would not have been what it is without the help of other people. First and foremost I would like to thank Marianne van der Steen, Maarten IJzerman and Bengt-Åke Lundvall for their help, support and supervision of this thesis. They always gave me good comments and remarks that I could use to improve this research report and by giving these comments in constructive and positive way they encouraged me to improve my research even further. Besides my supervisors I would like to thank professor Hindrik Vondeling for the two discussions we have had on the role of governments and NGO's in health care innovation at the base of the pyramid. Your remarks were very useful to get a better insight in this matter.

Last but not least I would like to thank my family and friends for supporting me and being there when I needed you. Thank you very much!

Enschede, August 2010

Arjan Frederiks

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Chapter 1

Introduction

In 2002 the World Bank offered the world some disquieting news: four billion people on our planet earn less than $2 per day (World Bank 2002*b*) and live at the base of the (economic) pyramid (BOP) as is shown in Figure 1.1. For more than 50 years different organisations like the World Bank, the United Nations, aid organisations and national governments have done much to improve the lives of the poor but they have not eradicated poverty. At the beginning of this century the United Nations adopted the Millennium Development Goals (MDG) to underscore that poverty remains one of the world's most daunting problems.

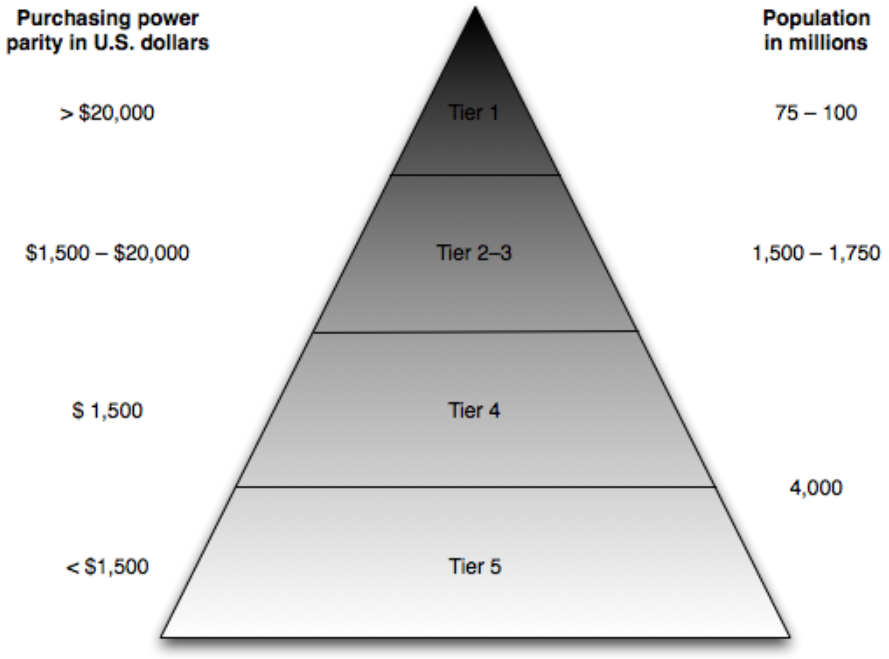

Figure 1.1: The Economic Pyramid. Source: Own creation based on Prahalad & Hart (2002) and Prahalad (2004)

Because of this poverty the poor are hardly able to meet their basic needs like food and medicines. They have to live in an environment that makes them sick. The ill health of these people calls for better health care. In the developed countries much research has been done to find new medicines and new ways of treatment for various diseases and therefore these diseases like dengue fever, diabetes, hypertension, HIV/AIDS and others can be treated[1]. However, these medicines are often too expensive for the poor. The high amount of preventable diseases is, for example, evidence for about 40 per cent of the 35 million Filipinos that live in poverty (UNDP 2007*b*).

Besides the problem of affordability, there is a problem of availability. Nearly all developing countries (95 per cent) have made a government-approved national Essential Medicines List (United Nations 2008*a*). This is list containing an overview of medicines that are considered essential and this list guides the procurement and supply of medicines in the public sector. The availability of essential medicines is quite low, especially in the public sector. The availability of medicines in the private sector is better than in the public sector, as can be seen in Figure 1.2, but still, on average, 36.8 per cent of private providers in developing countries lacked availability of essential medcines (United Nations 2008*a*, United Nations 2008*b*).

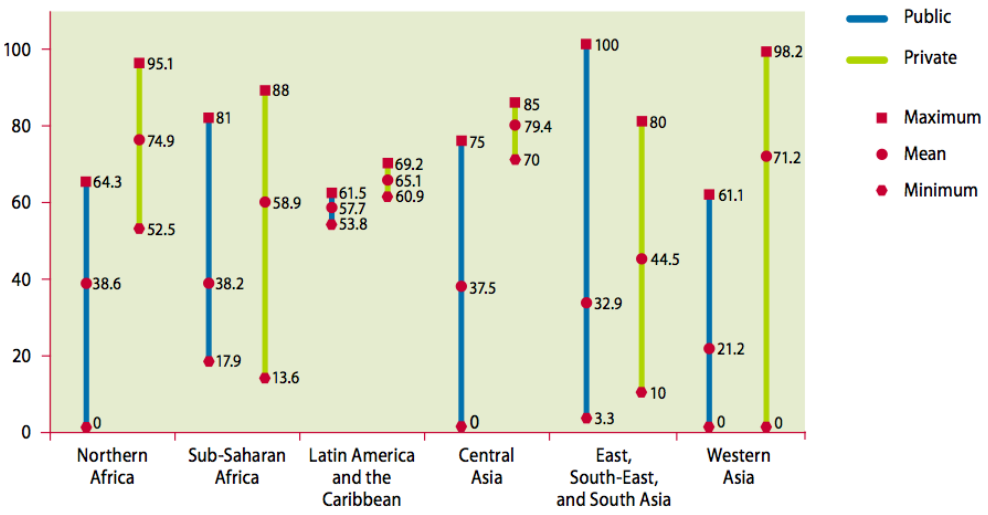

Figure 1.2: Availability of selected medicines in public and private health facilities between 2001 and 2007 (percentages). Source: (United Nations 2008*a*)

Besides availability and affordability, there are multiple causes to the problem of inadequate and irrational use of medicines by the poor as can be seen in Figure 1.3. In this research the focus will be on the high prices of the medicines

Although the poor have little money, they spend relatively much on health care, due to the so called BOP penalty[2] and lack of insurances (World Resources Institute

[1]This is connected to Goal 6 of the Millennium Development Goals: *Combat HIV/AIDS, malaria and other diseases.*

[2]The BOP penalty is the penalty the poor people pay for their products compared to the

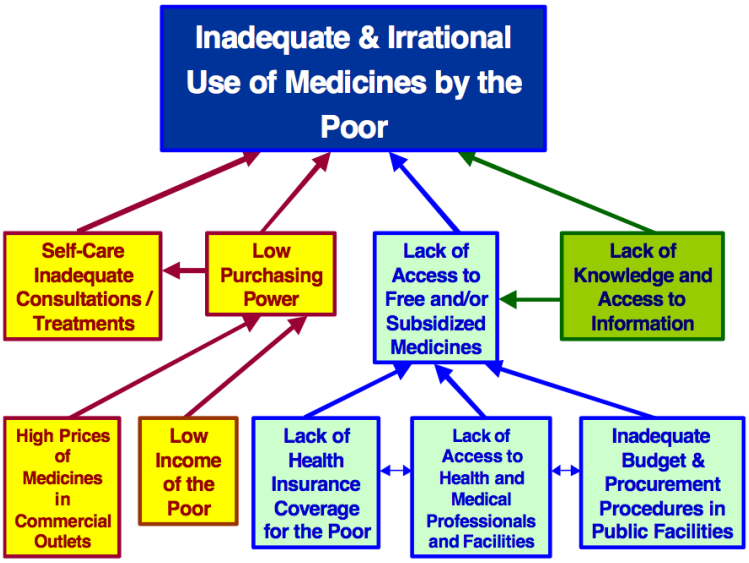

Figure 1.3: Factors leading to Inadequate and Irrational Use of Medicines by the Poor. Source: (World Bank 2002*a*)

2007*a*). In India, for example, where 75.6 per cent of the people have an income of less than $2 per day, private expenditure on health accounts for 81.0 per cent of total health care expenditure and 94.0 per cent of this amount is paid by the people out of their pocket. This results in a total market for health related products and services in BOP countries of $158.4 billion (World Resources Institute 2007*a*). This means that there is a big market with enormous profitable business opportunities. Why have pharmaceutical companies not entered this market yet?

1.1 Entering the Base of the Pyramid

Pharmaceutical companies have not entered this market due to what Prahalad calls *The Dominant Logic* (2004, p. 6): everyone has assumptions on poverty and poverty eradication and these assumptions dictate decisions about BOP countries. The most important assumptions and their implications can be found in Table 1.1. One of the dominant assumptions is that the poor have no purchasing power and therefore do not represent a viable market. However, the Chinese economy, with its population of 1.2 billion people, has a dollar purchasing power parity (PPP) of $5.0 trillion, making it the second largest economy behind the United States and the Indian economy has a PPP of $3.0 trillion. The total BOP market potential is enormous: 4 billion underserved people and an economy of more than $13 trillion PPP (Prahalad 2004). These markets cannot be ignored.

The solution is to access the BOP consumer differently (Prahalad & Hart 2002, Prahalad 2004, Hart 2007). These markets should be converted into a consumer

wealthier people. This penalty could be either in cash or because of the extra effort they have to do to obtain the product (World Resources Institute 2007*a*).

Assumption	Implication
The poor are not our target customers; they cannot afford our products or services.	Our cost structure is given; with our cost structure, we cannot serve the BOP market.
The poor do not have use for products sold in developed countries.	We are committed to a form over functionality. The poor might need sanitation, but can't afford detergents in formats we offer. Therefore, there is no market in the BOP.
Only developed countries appreciate and pay for technological innovations.	The BOP does not need advanced technology solutions; they will not pay for them. Therefore, the BOP cannot be a source of innovations.
The BOP market is not critical for long-term growth and vitality of MNCs.	BOP markets are at best an attractive distraction.
Intellectual excitement is in developed markets; it is very hard to recruit managers for BOP markets.	We cannot assign our best people to work on market development in BOP markets.

Table 1.1: The Dominant Logic of companies as it Relates to BOP. Adapted from Prahalad & Hart (2002) and Prahalad (2004)

market and the capacity to consume has to be created. Neither governments, nor non-governmental organisations (NGO's), but the private sector, the multinationals and SME's, can eradicate poverty. And they can do that profitably. Prahalad calls for a better approach to help the poor. This approach involves partnering with the poor to innovate. This innovation should lead to win-win scenarios where the poor are actively engaged and where companies, at the same time, deliver products and services to them in a profitable way. This also corresponds to eighth Millennium Development Goal, Target 17: *In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.*

To participate in these markets and to create the capacity to consume the private sector needs to innovate (Prahalad 2004). For example, the environment in BOP countries is rather different and companies need to adapt to those hostile environments. For example, medicines that require clean water have to be adapted for patients in regions where it is difficult to get clean water. Solely product innovations are not enough. Based on his research, Prahalad (2004) identified twelve principles that constitute the building blocks of a philosophy of innovation for BOP markets. These twelve principles require innovations that go beyond product innovation; they require a different way of doing business. For example, the focus on price-performance needs to change dramatically. The poor have little money to spend on health care products like medicines, but require the same level of quality. This would mean that these companies should deliver products that are adapted to the hostile environments, provide an equal level of quality and care and deliver these products with lower prices. The distribution of the products needs to be changed as well, because many BOP countries lack distribution channels as we know them in the developed world. Therefore, companies have to rethink how they deliver and market their products. All these changes will change the profit potential of such companies completely. To stay profitable, these companies need to change there

way of doing business radically. To become profitable companies need to rethink the whole process of how they do business: they need to change their business model (Prahalad & Hart 2002, Prahalad 2004, Hart 2007).

1.2 Business Models

Although the term *business model* is often used these days and every company has a business model, whether it is articulated or not, it is seldom defined explicitly (Chesbrough & Rosenbloom 2002, Chesbrough 2007, Johnson, Christensen & Kagermann 2008). Chesbrough (2006) describes that the purpose of a business model is twofold: the first is creating value and the second is capturing a portion of that value. Value is being created by a business model by defining a series of activities from raw materials to the final consumer that leads to a new product or service, with value being added in each activity. The value is captured by a business model by *"establishing a unique resource, asset or position within that series of activities, where the firm enjoys a competitive advantage"* (Chesbrough 2006, p. 2). The business model is thus the mechanism that can make the difference.

1.3 Research Goal

There is little known about what aspects of a business model enable pharmacy companies to profitably deliver medicines to the BOP. It is known that there are some BOP pharmaceutical companies that deliver medicines that cost less than the medicines of companies that deliver to the developed countries. Two examples of such companies are Aspen Pharmacare that delivers HIV/AIDS medicines in South Africa (UNDP 2007*a*) and RiteMed that delivers medicines in the Philippines (UNDP 2007*b*). Apparently there are some business models that enable these for-profit companies to deliver medicines to the poor and to make a profit out of it. The goal of this research is to solve the challenge of pharmacy companies by investigating how business models of pharmacy companies that operate in the BOP look like and to figure out why they enable these companies to make a profit. This makes the business model the level of analysis for this research.

Researching differences in business models adds to our knowledge the fundamental characteristics of the business models of pharmacy companies that operate in the BOP. This research builds further on business model literature and base of the pyramid innovation literature and integrates them by building a framework to analyse the business models of base of the pyramid companies. This enables researchers to better analyse and understand the problems and difficulties that BOP pharmaceutical companies face. Pharmaceutical companies in the developed world can benefit from this research as it shows them profitable and sustainable ways of serving the BOP markets and it, therefore, may help them to find new ways of bringing medicines, that are currently not available to the poor, to the underserved BOP market. These companies already participate in initiatives like "*The Tropical*

Disease Initiative – An Open Source Drug Discovery Project[3]" and may use the results of this research to better supply their medicines to the poor people they do this research for. It will help managers of BOP pharmaceutical companies to better understand and improve the core principles of money-making in their companies. It aims to show them why BOP pharmacy companies can deliver their medicines for a much lower price, which may help them to restructure their company to deliver medicines for a lower price in developed countries as well. In the end this may result in medicines for the poor that cost less, which means that lives are saved.

1.4 Central Question

This research goal leads to the following research question:

> What are the main characteristics of the business models of profitable pharmacy companies at the Base of the Pyramid and which ones contribute to their profitability?

In order to understand this question better, some definition of terms used in this question are given.

Business model The mechanism that creates and captures value for a company (Chesbrough 2006).

Base of the Pyramid The poor people who live at less than $2 a day (Prahalad 2004).

1.5 Research Questions

To be able to answer the central question, some research questions are formulated.

1. What is a business model and how can the business model of a pharmacy company at the BOP be described?
2. What are distinctive characteristics of business models of profitable BOP pharmacy companies that contribute to profitability?

The first research question will be answered in Chapter 3 and in Chapter 4. The second research question will be answered in in Chapter 5.

1.6 Research Strategy

In order to find an answer to the research questions, the literature on business model (innovation) and on BOP innovation will be studied. Next to that, researchers on (BOP) health care innovation have been consulted. The main data for this research

[3]The Tropical Disease Initiative. (2010) `http://www.tropicaldisease.org/`. Last visited: 15 May 2010

will be secondary data from case studies. Additionally two other sources were used: secondary data from websites and annual reports, where they were available, and primary data from an interview.

Van de Ven (2007) argues that it is important for every research to think about the philosophy of science that underlies that research. Because a philosophy of science is implicitly used to interpret the theory and data it is important to make this more explicit. This will be done in Chapter 2.

Research consists of four activities that can be performed in any sequence. These activities are highly interdependent and therefore multiple iterations and revisions are needed to get a fair fit between these activities. The first activity is the problem formulation. This has been done in the parts above. The purpose of this activity is to situate, ground, diagnose, and infer the problem up close and from afar. The second activity is theory building. Theory will be created, elaborated and justified to create a conceptual framework that can be used to look at the research problem. This will be done in Chapter 3. The third activity consists of designing the research for empirically examining the alternative theories that were created in the previous activity. This will be done in Chapter 4. In Chapter 5 and Chapter 6 the fourth activity of research, communicating the findings and interpreting the results, will be presented. In Chapter 5 the findings of the research are communicated and interpreted and in Chapter 6 the conclusion and recommendations of this research are presented.

Chapter 2

Philosophy of Science

There is a philosophy of science underlying any kind of research that tells us of the nature of the phenomenon examined (ontology) and the methods for understanding it (epistemology). The philosophy of science one has, is explicitly or implicitly used to interpret the meanings, logical relations, and consequences of ones observational and theoretical statements. Because language, culture, social norms, political ideologies, mental biases, and selective perception constitute the inputs and processes of science, social science cannot be objective, rational, and cumulative. The philosophy underlying the scientific practice of this research is important and should be made explicit. In that way one is be able to understand and interpret this research, its results, and its limitations. The section on philosophy of science is based on Bechara & Van de Ven (2007), Grix (2004) and Van de Ven (2007) and the section on the methodological perspective is based on Arbnor & Bjerke (1997), Grix (2004) and the handouts and notes of lectures by Svane-Sørensen (2005, 2006).

2.1 Ontology and Epistemology

There are many philosophies of science, but four major philosophical schools can be distinguished: positivism, relativism, pragmatism and realism. This research adopts a realistic perspective which means that an objective ontology and subjective epistemology view is taken. This means that I assume that reality exists independent of our cognition. There is a real world, but our individual understanding of it is limited. This means that for this research it is assumed that business models really exist, although they are intangible. Every researcher that studies a specific business model, studies this particular business model, but because of everyone's limited understanding everyone sees their own representation of this particular business model. What one researcher observes by the use of his/her research model is different from what this researcher would have seen if he/she would have chosen another research model. Therefore, all data, observations and facts are theory-laden. Knowing a complex reality demands use of multiple perspectives. One can look at the business model and see how a company creates value, how it gets its revenues

and how it allocates its costs. One cannot understand a phenomenon completely by just looking at it from one perspective. By looking at a business model from multiple perspectives a better view on this phenomenon is given. Because of the subjective epistemology, there is no predefined or predetermined methodology a researcher should use. This means that one should make an explicit choice for a research method and research model. Research models that better fit the problems they are intended to solve are selected allowing an evolutionary growth of knowledge.

There are two basic epistemologies that can be distinguished for answering two different types of research questions. On the on hand there are 'what' questions, that lead to outcome-driven explanations. By focusing on variables to represent the important aspects or attributes of the subject under study, a variance model epistemology is used to research such a question. On the other hand there are 'how' questions, that lead to event-driven explanations. By focusing on processes and events that explain how the subject under study changes, a process model epistemology is used to research such a question. The difference between these two types of research is that the former looks at 'what causes what' and the latter looks at 'how things develop and change over time'.

Having made this distinction, it is important to note that they have a complementary relationship. An answer to a 'what' question typically assumes an answer to a 'how' question and vice versa. "Whether implicit or explicit, the logic underlying an answer to a variance model is a process story about how a sequence of events unfolds to cause and independent (input) variable to exert its influence on a dependent (outcome) variable" (Van de Ven 2007, p. 146). Similarly, when answering the question how something changes assumptions have to be made about what caused the change. As said in the introduction, this research does not look at how the different components of which a business model consists of relate to the success of a business model. However, there must be some assumptions underlying this research, for else it would not be necessary to do this research.

This research focuses on the 'what' question (What are the main characteristics of the business models of profitable pharmacy companies at the base of the pyramid and which ones contribute to their profitability?) and thus gives outcome-driven explanations of which characteristics lead to profitability. As stated above, answering a 'what' question assumes an answer to the 'how' question. In this research I first of all assume that the business model of a pharmacy company at the BOP is not the only aspect that determines the profitability of a company as the company is influenced by other continuously changing circumstances as new technological inventions, public policies and the economy. Secondly, the success of a business model not only relates to its design but also to its implementation, which is not part of this thesis. Thirdly it is assumed that the business model influences which activities the company undertakes or outsources, what costs and revenues are made, whether or not the company partners with other companies and it influences what customers are served. All these aspects influence the profitability of the company and

this is in short the assumption behind the question how business models influence profitability.

The methodological perspective that is used in this research should be based upon the ontology and epistemology, because only then a solid basis for this research is made. The ontology behind this research and the epistemological differences and assumptions have been made clear, so the methodological perspective of this research can be explained in the next section.

2.2 Methodological Perspective

Characteristics of business models can be seen as components of a system. This research focuses on these components and their relations and, therefore, a systemic approach suits this research very well. Because this research is based on an objective ontology, the world is seen as of systems of components in which everything is functioning. In this research, the systems that are discussed are on a company level, because the companies, which consist of components and their relations, are analysed as a group with similar business model structures and properties.

The companies looked at in this research are defined as components of the BOP pharmacy system. They are integrated as a part of this system, which means that the analysis will be conducted with the pre-understanding that the companies are, more or less, influenced by the same external aspects, like the political will to treat curable diseases, lack of distribution systems as they are known in the developed world and a lack of knowledge and information on the use of medicines. This means that, although there are differences in the external environment, all the companies are treated as part of one system and, therefore, are assumed to have a similar external environment.

The systems approach is based on an ideographic science, which means that it focuses on the particular and the unique and not on the generalised and universal laws. This is according to the subjective epistemology, because by focusing on the particular, one assumes that there are multiple ways to look at phenomena and that with each particular, unique view you only capture a particular part of the phenomena. This means that also is assumed that the data that is collected only captures a part of the truth. The main method that will be used in this research is documents analysis (see Chapter 4) and this means that the information in the documents is biased by the people who wrote the documents. To be able to lose the bias and deal with the subjectivity of the data, the results of the document analysis will be compared to information from interviews. Although the information of the interview is biased too, this is a different bias, because this are different people and, therefore, the results from this research will be less biased.

In this chapter the ontology, epistemology and the methodological perspective of this research have been made explicit. By having done this, the development of a theoretical framework in the next chapter and the use of the methods as described

in Chapter 4, the results and the limitations of this research can be understood and interpreted correctly.

Chapter 3

Theoretical Framework

In this chapter a theoretical framework will be developed. This framework will be used as a lens to look at the problem. To be able to look at pharmacy companies at the base of the pyramid, the pharmaceutical industry and the pharmaceutical value chain need to be introduced. This is done is the Section 3.1. Section 3.2 explains what a business model is and explains the different views in the literature on business models. Section 3.3 explains what a business model consists of by decomposing business models. Section 3.4 explains that innovation at the BOP is achieved by innovating the business model and it explains how the generic business model framework is adapted to fit the BOP environment. In Section 3.5 it will be explained that when business models advance, they go through different stages and it is explained how BOP business models continuously can innovate their business model to advance them. In the last section an answer is given to the first research question "What is a business model and how can the business model of a pharmacy company at the BOP be described?".

3.1 Pharmaceutical Industry

In Chapter 1 the purpose of a business model is defined as creating value and capturing a part of that value. In this section the pharmaceutical value chain is discussed, to make clear in which phases value is created. In its most simple form, the pharmaceutical value chain can be divided in five main parts as can be seen in Figure 3.1. In the first phase money is raised because research and development are two very expensive phases in the pharmaceutical value chain. This money comes from the profits the company made on previous medicines and from external financiers. When the money has been collected, research can be conducted in order to discover new medicines. This is a time consuming process with no guarantee for success. After a medicine has been discovered clinical trials have to be performed, the company will apply for a patent and the medicine has to be submitted to the regulators. These steps are described as the development phase. In the manufacturing and distribution phase the production process is developed,

the medicines are produced and shipped to the warehouses. In the final phase, the marketing and sales phase, promotional material is developed and the medicines are sold to health care professionals and retail pharmacy stores.

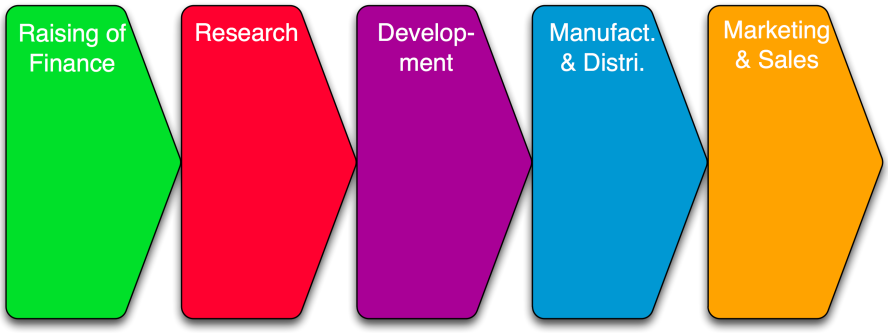

Figure 3.1: The Pharmaceutical Value Chain. Source: Based on PricewaterhouseCoopers (2009*b*).

Most Big Pharma companies do everything in this value chain themselves. However, the times are changing. Traditionally, pharmaceutical companies identify promising new molecules, test them in expensive clinical trials and then promote and sale them. In this model, the big pharmaceutical company may employ contractors to supplement some activities, but it mainly tries to generate profit on its own. According to a study on the future of the pharmaceutical industry by PricewaterhouseCoopers (2009*a*), by 2020 no pharmaceutical company will be able to *profit alone*. It will have to *profit together* by collaborating with other companies. It will become too risky for a single company to place big bets on a few molecules. Instead of trying to take the whole pie by doing everything themselves, the companies should collaborate, so they can bet on even more molecules and then take their part of the multiple pies. In this way, the companies can profit together instead of profiting alone.

The suggested solution is that the business model of the pharmaceutical industry should move towards two, non-mutually exclusive directions. The first is based on a diversified model. This means that the company "*expands from its core business into the provision of related products and services, such as diagnostics and devices, generics, nutraceuticals and health management*" (PricewaterhouseCoopers 2009*a*, p. 11). The other solution is based on the federated model: "*most or all of a company's operations are outsourced and the company itself acts as a management hub, coordinating the activities of its partners*" (PricewaterhouseCoopers 2009*a*, p. 8). The last model is illustrated in Figure 3.2 on page 15. As said, these options are non-mutually exclusive, which means that the company could move its business into both directions: it could diversify its portfolio while outsourcing different value chain activities. This means that pharmaceutical companies can be the multinational companies Prahalad sees as the ones that can help to poor to eradicate poverty. By delivering generic medicines to the poor (diversification) pharmaceutical companies can help making the medicines available to the poor. By outsourcing

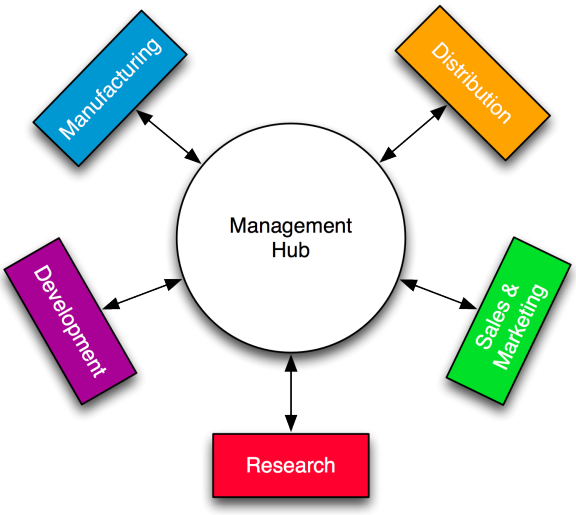

Figure 3.2: The Virtual Variant of the Federated Model. Source: Based on PricewaterhouseCoopers (2009*a*).

the *manufacturing & distribution* and *marketing & sales* value chain activities it can enable the poor to manufacture, distribute and market the medicines themselves (federated model). By doing this it can help alleviate poverty, because only by seeing the poor not as consumers only but also as producers (Karnani 2007) poverty can be eradicated. Next to this, the pharmaceutical companies help themselves by adopting a future-proof model (PricewaterhouseCoopers 2009*a*), through which they keep existing in the coming years and cure even more people.

If pharmaceutical companies would diversify towards generics and if they would apply a federated model which enables them to collaborate with the poor to manufacture, distribute and market the medicines themselves, these companies need to be profitable too. Therefore, these companies need a business model which enables them to be profitable. To find out how companies at the Base of the Pyramid are able to profitably manufacture, distribute and market medicines to the poor, we need to take a look at their business model. This will be done in the following section.

3.2 Business Model

In the first chapter the concept of a business model has been introduced and in this section the concept of a business model will be elaborated. Osterwalder (2004) has created a business model framework. He made an extensive overview about what has been written on the subject of business models and created an framework to describe what a business model is. His framework will be the basis for the description what a business model is in this research. However alternative views will be discussed as well. It will be argued, however, that these alternative views can be integrated in Osterwalder's framework.

3.2.1 Definition

In the first chapter a business model has been defined as a mechanism that creates and captures value for a company (Chesbrough 2006). Osterwalder (2004) first gives a short definition which in other words tells us the same as Chesbrough: *"In a nutshell I describe a business model [...] as an abstract conceptual model that represents the business and money earning logic of a company [...]"* (Osterwalder 2004, p. 15). Both definitions are rather wide and unspecific. Therefore, Osterwalder goes on by giving a working definition of a business model:

> A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing a company's logic of earning money. It is a description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, in order to generate profitable and sustainable revenue streams. (Osterwalder 2004, p. 15)

This definition still acknowledges that it is about creating and capturing value, but adds the important notion that it contains a set of elements. In the following section the different views on business models show that there is some discussion about what these elements exactly are.

3.2.2 Different Views on Business Models

In this section the different views on business models are discussed based upon the aforementioned definition of a business model. A summary of this overview can be found in Table 3.1 on page 17.

The first view on the business that is discussed is the one by Osterwalder (2004). In this view a business model can visualised as four main pillars, *Product*, *Customer Interface*, *Infrastructure Management* and *Financial Aspects*. Each pillar consists of one or multiple building blocks as can be seen in Figure 3.3 on page 18. The first building block of a business model is the value proposition: it describes what value is created for the customer. The second building block is the target customer, which describes at what customer the value proposition is targeted. The distribution channel building block discusses how the value proposition is brought to the target customer. The fourth building block discusses the relationship the company has with its customers. The value configuration of the company is discussed in the fifth building block, whereas the resources that enable the company to have specific capabilities are discussed in the sixth building block. The seventh building block describes the partnerships the company has for outsourcing some capabilities and resources. Building block eight and nine describe the financial aspects of the company: building block eight describes how the company gets its resources whereas the ninth building block describes the cost structure of the company. A more in-depth description of these building blocks is given in Section 3.3 on page 19.

Osterwalder (2004)	**Chesbrough (2006)**	**Christensen, Grossman & Hwang (2009)**	**Johnson et al. (2008)**
Value Proposition	Value Proposition Competitive Strategy		Customer Value Proposition
Target customer Distribution Channel Relationship	Market Segment Value Network		
Value Configuration Capability Partnership	Structure of Value Chain Value Network	Three ideal Business Model types	Key Resources & Key Processes
Cost Structure Revenue Model	Cost Structure Profit Potential		Profit Formula

Table 3.1: A comparison of the four main frameworks of business models.

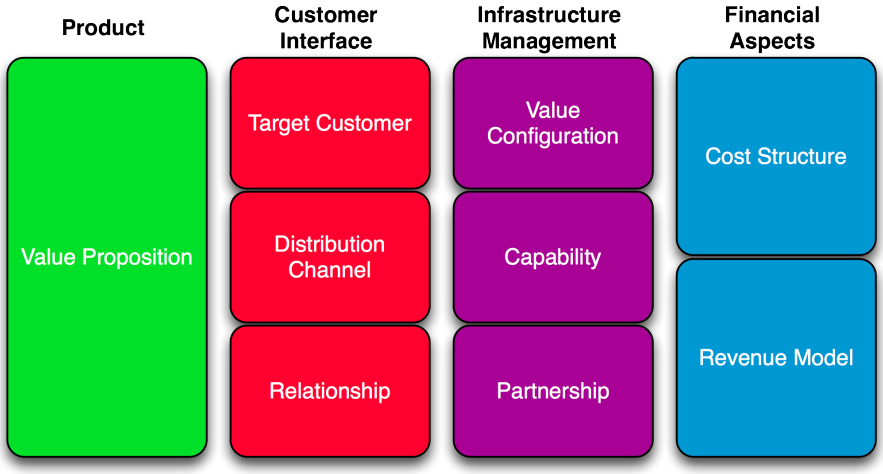

Figure 3.3: Conceptual Framework of a Business Model

In the introduction a definition of a business model by Chesbrough (2006) is given. Chesbrough states that a business model can be described by looking at its six purposes. The purpose of a business model can be explained by its six functions (Chesbrough 2006). The first function of a business model is to articulate the value proposition, which means that it needs to articulate the value of the offering that is created for users. The second function is to identify the market segment and the third function is to define the structure of the value chain. By defining the structure of the value chain within the firm a company knows what it needs to create, what it needs to buy and how it needs to distribute the offerings. The fourth function is to estimate the cost structure and the profit potential of the value proposition, based on the value chain structure that is chosen. The company will need to work within a network of suppliers and customers, potential complementors and competitors. Therefore, the fifth function of the business model is to describe the position of the firm within this network. The last function is to formulate a competitive strategy in order to gain and hold an advantage over the competitors.

All the purposes that are described by Chesbrough can be found in the conceptual framework by Osterwalder (2004). The main difference between these two views is that Osterwalder covers even more aspects than Chesbrough and already operationalised the framework. Osterwalder's framework is therefore preferred over the one by Chesbrough. In the following section, where the business model framework will be decomposed, these two views will be linked together to show that there are many places where these views overlap.

Christensen, Grossman & Hwang (2009) argue, based on the work by Porter (1985, 2001) and Stabell & Fjeldstad (1998), that there are three basic types of business models: the value chain, the value shop and the value network, each with its own way of configuring how a company should create and capture value. The value chain business model is based on the logic of selling a solution by transforming inputs into products. A drugstore is an example of a value chain. When a customer

goes to a drugstore because he is coughing all the time, he gets a cough sirup and when he has got a headache, he gets some aspirins. A drugstore gets information (coughing, headache) and transforms this automatically into a standard solution (cough sirup, aspirin). The value shop business model is based on finding solutions to particular customer problems. These problems are unique and the solutions are made specifically for this customer. An example of a value shop is an architect, as they design a building for one specific customer and will start from scratch for another customer. The value network business model is based on facilitating network relationships between different organisations and people. Estate agents are based on a value network business model.

In my opinion, and in agreement with the aforementioned definition of a business model, a business model is much broader than only representing the way value is created. Therefore, I agree with the view of Osterwalder (2004). He recognises the differences between these three basic types, but does not see them as different business models. He sees them as three different types of value configurations and he uses this typology as a measurement scale for this framework building block as can be seen in Chapter 4.

Johnson et al. (2008) argue that a business model consists of four elements, the *Customer Value Proposition* (CVP), the *Profit Formula*, the *Key Resources* and the *Key Processes*. These four elements can be compared to the ones by Osterwalder as they show many similarities. However, the framework for this research is based mainly on Osterwalder's framework because his framework is more detailed and he already operationalised his framework. In the following section, where the business model is decomposed, these two views will be linked together to show that there are many places where these views overlap.

3.3 Business Models Decomposed

This decomposition is based upon the work by Osterwalder (2004) and Osterwalder, Pigneur & Tucci (2005). There are multiple reasons why the framework by Osterwalder (2004) is preferred over the other frameworks. The most important reason is already mentioned: the other views only focus on a part of the business model, whereas this framework gives a full overview. Secondly, this framework is based on the systems approach: it sees business models as systems that consists of multiple building blocks (subsystems). Because this research takes a systems approach, this conceptual framework fits this research.

For this research I could only find four cases of profitable pharmacy companies at the BOP and I need all these four cases for the research itself. This means I cannot build my own operationalisation and verify its validity and reliability using a pretest group. The other authors have not made an operationalisation available to describe the business model. Only Osterwalder (2004) has operationalised his theory. This is the third reason I have chosen for Osterwalder's conceptual framework.

Originally this framework was intended for e-Businesses only, but nowadays it

used by many, many non-e-business companies[1]. Osterwalder uses his framework to analyse the pharmaceutical industry too[2], making this framework even more suited for this research. Based on an extensive literature study, Osterwalder (2004) built a framework that is very technical[3].

The framework consists of four main pillars. Each pillar consists of one, two or three building blocks that together form the pillar as can be seen Figure 3.3. The first pillar, *Product*, and the building block it consists of, will be discussed in Section 3.3.1. The second pillar, *Customer Interface*, and the three building blocks it consists of, will be discussed in Section 3.3.2, the third pillar, *Infrastructure Management* and the three building blocks it consists of, in Section 3.3.3 and the fourth and last pillar, *Financial Aspects* and the two building blocks it consists of, in Section 3.3.4. An overview of the definitions of the building blocks can be found in Table 3.2 on page 21.

3.3.1 Product

Traditionally companies focused mainly on their products or services. If they got their products right, the company thought they would succeed (Tidd & Bessant 2005). Things have changed though. Because of globalisation, new technologies, and rapidly changing markets (e.g. the BOP market), doing business has become more complicated. A company should get the distribution, finance, marketing, and several other aspects of doing business right to convince the potential customer to buy the product or service. The main pillar *Product* is defined as:

> [*Product*] covers all aspects of what a firm offers its customers. This comprises not only the company's bundles of products and services but the manner in which it differentiates itself from its competitors. (Osterwalder 2004, p. 49)

The purpose of articulating value to the customer (Chesbrough 2006) is reflected in this pillar.

1. Value Proposition Building Block

The main pillar *Product* consists of one building block, the *Value Proposition*: an overall view of a company's bundle of products and services. A company can identify its value proposition and can compare it with its competitors' value proposition to

[1] On their website Alexander Osterwalder and Yves Pigneur offer an overview of the many companies, like Ericsson, Capgemini, 3M, Deloitte, Logica and PricewaterhouseCoopers, that have used their business model approach. `http://www.businessmodelgeneration.com`

[2] Osterwalder, A. (2005) Aging *[sic]* business models in the pharmaceutical industry – Business Model Alchemist. `http://www.businessmodelalchemist.com/2005/06/aging-business-models-in.html`. Last visited 15 May 2010.

[3] Describing all building blocks of the business took him sixty pages of text including many UML-based diagrams. I have tried to explain his framework shorter and more simple than he did. Because of the risk that information may have been lost, readers that would like to know more about the framework are referred to Osterwalder (2004) and Osterwalder, Pigneur & Tucci (2005).

Pillar	Building Block	Description
Product	Value Proposition	A Value Proposition is an overall view of a company's bundle of products and services that are of value to the customer.
Customer interface	Target customer	The Target Customer is a segment of customers a company wants to offer value to.
	Distribution Channel	A Distribution Channel is a means of getting in touch with the customer
	Relationship	The Relationship describes the kind of link a company establishes between itself and the customer
Infrastructure management	Value Configuration	The Value Configuration describes the arrangement of activities and resources that are necessary to create value for the customer
	Capability	A Capability is the ability to execute a repeatable pattern of actions that is necessary in order to create value for the customer
	Partnership	A Partnership is a voluntarily initiated cooperative agreement between two or more companies in order to create value for the customer
Financial Aspects	Cost Structure	The Cost Structure is the representation in money of all the means employed in the business model
	Revenue Model	The Revenue Model describes the way a company makes money through a variety of revenue flows

Table 3.2: The Nine Business Model Building Blocks. Based on Osterwalder (2004)

see how they perform compared to the competitors. By making the value proposition explicit they can see what they need to innovate if they do not deliver a good value proposition to their customers.

3.3.2 Customer Interface

The second pillar of a business model is the *Customer Interface*. The relationship with its customers is very important for a company. Companies should perceive customer relationships as an integral part of their company and business model. By understanding the essence of, and the relations between, a company's value proposition, distribution channels, target customer segments and the actual customer interactions, a company can design a business model that better suits its customers and itself. The main pillar *Customer Interface* is defined as:

> The *Customer Interface* covers all customer related aspects. This comprises the choice of a firm's *Target Customer*s, the *Distribution Channel*s through which it gets in touch with them and the kind of *Relationship*s the company wants to establish with its *Customer*s. The *Customer Interface* describes how and to whom it delivers its *Value Proposition*, which is the firm's bundle of products and services (Osterwalder 2004, p. 60).

This main pillar consists of three building blocks: *Target Customer*, *Distribution Channel*, and *Relationship*.

2. Target Customer

The second building block in the business model framework is the *Target Customer*. Segmentation is very important for selecting a *Target Customer*, because when a company knows its target customer segment, it is able to allocate its resources in such a way that this target segment is serviced properly. Many companies start by making a general segmentation between their customers using geographical or demographical properties (Reynolds & Beatty 1999, Kotler & Keller 2006).

3. Distribution Channel

The third building block in the business model framework is the *Distribution Channel*. Distribution channels are the connection between a firm's *Value Proposition* and its *Target Customer*, because it allows companies to deliver the value proposition to its customers. This can be done either directly, for instance using a sales force, or indirectly by, for instance, using resellers. The purpose of a distribution channel is to make the right quantities of the right products and/or services available at the right place, at the right time to the right people, subject to the constraints of cost, investment, and flexibility.

4. Relationship

The relationships a firm builds with its customers is what the fourth building block of the business model framework focuses on. The strength of a relationship that a company builds with its customers is affected by all customer interactions between this firm and its clients. These interactions come with a given cost. Companies can invest in lifelong relationships of selling, service and maintenance or can invest in relationships of one-time-only selling. The latter costs less, but the company gains less. This means that firms must carefully examine what kind of relationship they would like to establish with each customer as investments in customers should finally come back to the company as a profit, the lifeblood of all companies.

3.3.3 Infrastructure Management

The third pillar, the *Infrastructure Management* pillar, is about how a company creates value by describing what abilities are necessary to provide its *Value Proposition* and maintain its *Customer Interface*. This pillar specifies the capabilities and resources of the business model, the owners and providers of these capabilities and resources, who executes which activity, and how these activities relate to each other. The main pillar *Infrastructure Management* consists of three building blocks: *Capability*, *Value Configuration* and *Partnerships* and is defined as:

> *Infrastructure Management* describes the value system configuration that is necessary to deliver the value proposition and maintain customer interfaces. This comprises the *Value Configuration* of the firm, in other words, the activities to create and deliver value, and, the relationship between them, the in-house *Capabilities* and those acquired through the firm's *Partnership* network (Osterwalder 2004, p. 79).

5. Capability

The fifth building block of the business model framework is the *Capability* building block. A capability is described as repeatable patterns of action in the use of assets to create, produce, and/or offer products and services to the market (Wallin 2000 in Osterwalder 2004). A company thus needs a set of capabilities to be able to provide its value proposition. The capabilities a company has, depends on the assets and resources this company has. Increasingly, these capabilities are outsourced to partner companies, because outsourcing can be cheaper than investing in these capabilities and then doing it yourself. In that way a company can deliver value propositions to its customers without owning the specific assets and resources.

6. Value Configuration

The sixth building block is the *Value Configuration* building block. Creating value that customers are willing to pay for is the main purpose of a company. This value is the outcome of a configuration of processes and activities, both inside and outside

the company. The *Value Configuration* therefore shows the necessary processes and activities and the links among them that facilitate the value creation.

7. Partnership

The seventh building block of the business model framework is the *Partnership* network building block. It describes the partnerships a company has for outsourcing some capabilities and resources. Many companies are in partnerships, because they cannot create all the requirements themselves, they cannot do it good enough, or they do this too expensive.

3.3.4 Financial Aspects

The last pillar of the business model framework is the *Financial Aspects* pillar. This is an important pillar that is influenced by all other pillars. This pillar is composed of two building blocks: the *Revenue Model* and the *Cost Structure*.

8. Revenue Model

The *Revenue Model* is the eighth building block of the business model framework. It measures the ability of a company to translate the value it offers to its customers into money and incoming revenue streams. A company can charge its customer selling the medicines or it can, for instance, charge a subscription fee for the length of the treatment.

9. Cost Structure

The ninth and last building block of the business model framework is the *Cost Structure* building block. This building block measures all the costs the firm incurs in order to create, market, and deliver value to its customers by setting a price tag on all the resources, assets, activities, and partner network relationships and exchanges that cost the company money.

Now the business model has been decomposed it needs to be adapted to base of the pyramid circumstances. This will be done in the following section.

3.4 Business Models at the Base of the Pyramid

In this section it is discussed how base of the pyramid innovation makes it possible to better adapt the business model to the BOP market. In the introduction it is shown that many companies do not enter the BOP due to the *Dominant Logic* and that when companies have accepted that their former assumptions were false, they can see the opportunities at the BOP and they will see that the company needs to innovate in order to exploit these opportunities. Many aspects of a company or a product can be innovated and, therefore, Prahalad (2004, p. 25–27) formulated

twelve principles of innovation to show the main focus areas that enable a company to enter BOP markets. These principles can be found in Box 1.

1. **Price Performance** Addressing the market opportunity at the BOP requires that we start with a radically new understanding of the price-performance relationship compared to that currently employed in developed markets. This is not about lowering prices. It is about altering the price-performance envelope.
2. **Innovation: Hybrids** The BOP market opportunity cannot be satisfied by watered-down versions of traditional technology solutions from the developed markets. The BOP market can and must be addressed by the most advanced technologies creatively combined with existing (and evolving) infrastructure.
3. **Scale of Operations** It is easy to succeed in a limited experiment, but the market needs of 4 to 5 billion people suggest that the experiments must be commercially scalable.
4. **Sustainable Development: Eco-friendly** The poor as a market are 5 billion strong. This means that solutions that we develop cannot be based on the same patterns of resource use that we expect to use in developed countries. Solutions must be sustainable and ecologically friendly.
5. **Identifying Functionality: Is the BOP Different?** Recognising that the functionality required in products or services in the BOP market might be different from that available in the developed markets is a critical starting point. In fact, developers must start from this perspective and look for anomalies from their prior expectations based on their experience with developed markets.
6. **Process innovation** A significant opportunity for innovation in BOP markets centres around redefining the process to suit the infrastructure. Process innovation is a critical step in making products and services affordable for the poor. How to deliver is as important as what to deliver.
7. **Deskilling of Work** In most BOP markets there is a shortage of talent. Work must, therefore, be deskilled.
8. **Education of Customers** Innovation in BOP markets requires significant investments in educating customers on the appropriate use and the benefits of specific products and services. Given the poor infrastructure for customer access, innovation in the educational process is vital.
9. **Designing for Hostile Infrastructure** The BOP markets exist in a hostile infrastructure. Design of products and services must take this into account.

10. Interfaces The design of the interface must be carefully thought through. Most of the customers in BOP markets are first-time users of products and services and the learning curve cannot be long or arduous.

11. Distribution: Accessing the Customer Distribution systems that reach the BOP are critical for developing this market. Innovations in distribution are as critical as products and process innovations.

12. [...] Challenge the Conventional Wisdom [...] By its very nature, success in BOP markets will break existing paradigms.

Box 1: An overview of all the BOP innovation Principles by Prahalad (2004).

From this list of innovation principles it can be seen that many forms of innovation are required to access the BOP. Only changing the product is not enough, only lowering the price is not enough, only educating your potential customers is not enough: all of the above mentioned principles have to be taken into consideration when a company would like to market to the BOP. By innovating the business model a company is forced to rethink their complete way of doing business and is, therefore, forced to rethink all the aspects these principles cover. Innovating for the BOP implies innovating the business model. In Table 3.3 an overview is given how business models and the innovation principles are connected.

Base of the Pyramid Innovation Principles	**Business Model Pillars**
Price Performance	Product Financial Aspects
Innovation Hybrids	Infrastructural Management
Scale of Operations	Infrastructural Management
Sustainable Development	Product Infrastructural Management
Identifying Functionality	Product
Process Innovation	Infrastructural Management
Deskilling of Work	Infrastructural Management
Education of Customers	Customer Interface
Designing for Hostile Infrastructures	Product Infrastructural Management
Interface	Product Customer Interface
Distribution	Customer Interface
Challenge Conventional Wisdom	All

Table 3.3: Linking the Base of the Pyramid Innovation Principles with the Business Model Pillars

The *Price Performance* principle discusses both the price of the value proposition as the performance of the value proposition. The performance (or value) of the value proposition is reflected in the *Product* pillar, whereas the price is reflected in

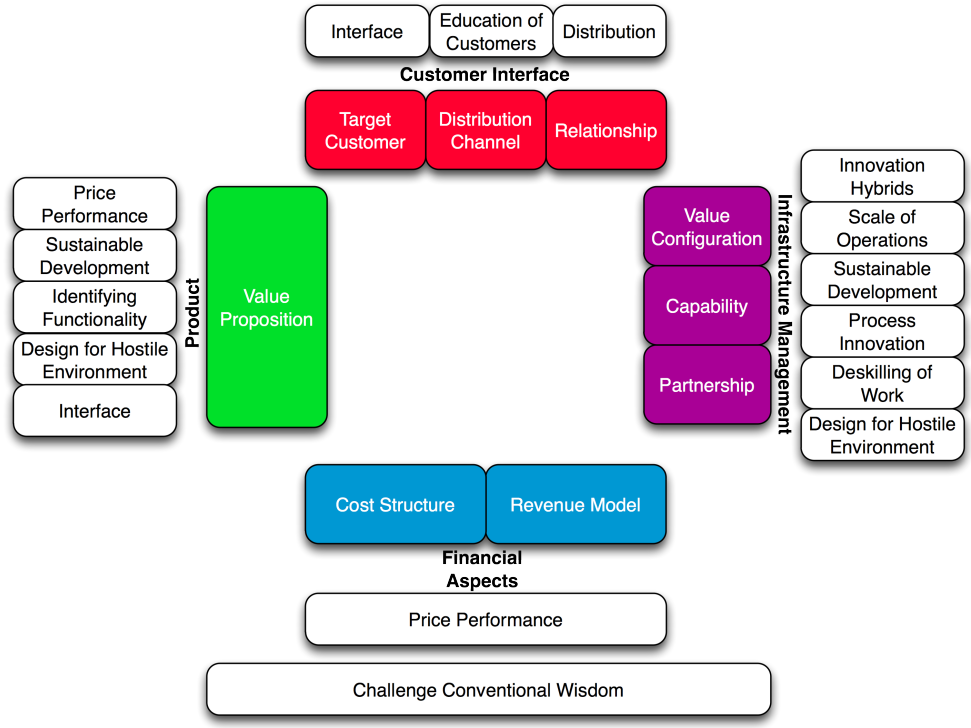

Figure 3.4: Conceptual Framework of a Business Model with Base of the Pyramid Principles.

the *Financial Aspects* pillar. Because of this innovation principle the business plan should not only focus on the value of the value proposition, nor only on the price, but on the combination.

The *Innovation Hybrids* innovation principle influences the *Infrastructural Management* pillar. Because this innovation principle states that the most advanced technology should be used, creatively combined with existing (and evolving) infrastructure, this innovation principle influences the way the *Infrastructural Management* pillar of the business plan is designed.

The *Scale of Operations* principle also influences the *Infrastructural Management* pillar, because when a product has to be produced in huge quantities, the company should have the infrastructure to be able to do that.

The *Sustainable Development* principle is reflected in both the *Product* and the *Infrastructural Management* pillar. Sustainable development requires both the product as the production process to be sustainable and ecologically friendly and therefore, both pillars are affected.

Identifying Functionality influences the *Product* pillar, because after it is recognised that the people at the base of the pyramid may need different products, the product needs to be changed to meet the different needs.

The *Process Innovation* principle states that the process should suit the infrastructure and, therefore, this innovation principle clearly affects the *Infrastructure Management* pillar of the business plan.

Also the *Deskilling of Work* innovation principle influences the *Infrastructure Management* pillar, because deskilling of work means that the production process should be adapted to the skills that the people have and the production process is determined by the *Infrastructure Management* pillar.

The eighth innovation principle, *Education of Customers* influences the *Target Customer* pillar, because giving education to the customers, means that customers should be addressed differently and the products should be distributed differently (e.g. labelling and package leaflet).

Base of the pyramid innovation principle nine, *Designing for Hostile Infrastructure* influences, as the name indicates, the *Infrastructure Management* pillar, but also the *Product* pillar. To adapt a value proposition to the hostile environment, the product should be designed to perform in this environment, but also the production process and should be adapted to this environment (e.g. temperature and humidity).

Because the interface of the product should be adapted to the customer, according to innovation principle *Interface*, this innovation principle influences the *Product* and the *Target Customer* pillars. The product pillar is affected because the packaging and the product itself should be adapted to the knowledge and capabilities of the customer and the target customer pillar is affected because this also changes the way the products are delivered to the customer.

Innovation principle eleven, *Distribution*, is about accessing the customer and therefore influences the *Customer Interface* pillar.

The last base of the pyramid innovation principle, is definitely not the least principle: *Challenge the Conventional Wisdom*. This principle is the basis for BOP innovation and therefore influences every aspect of the Business Model. In Figure 3.4 the innovation principles are connected to the business model building block, through which a base of the pyramid business model framework is created.

Now that a BOP business model framework is developed, this framework needs to be adapted for continuous business model innovation. This will be done in the following sections.

3.5 Continuous Business Model Innovation

As said in the introduction, every company has a business model, whether they articulate it or not (Chesbrough 2007). Until now the business model has been seen as a rather static concept in this research. The business models of the cases have been measured at a specific point in time and changes in business models have not been discussed yet. However, because business models adapt and change over time, we have to look at business models as a continuous concept that adapts and changes over time. Because business models can change over time, it is possible to think of stages of business model advancement. The Business Model Framework (BMF) is "*a model that sequences possible business models from very basic (and not very valuable) models to far more advanced (and very valuable) models*" (Chesbrough 2007, p. 13).

In this model six types of business models are distinguished, see Table 3.4 on page 29.

Type	Description
Type 1	Company has an undifferentiated business model
Type 2	Company has some differentiation in its business model
Type 3	Company develops a segmented business model
Type 4	Company has an externally aware business model
Type 5	Company integrates its innovation process with its business model
Type 6	Company's business model is an adaptive platform

Table 3.4: The Six Types of Business Models. Source: Chesbrough (2007)

If a company has a *Type 1* business model, the company has not articulated a distinct business model, it competes on price and availability, and it serves customers who buy on those criteria. A company with a *Type 2* business model created some degree of differentiation through which the company is able to serve a different and less congested market segment. Using a *Type 3* business model, the company now serves multiple different segments simultaneously. This means that more of the market is served and more profit is made out of this market too. When a company has a *Type 4* business model, the company is open to external ideas and technologies, which unlocks a significantly greater set of opportunities. A *Type 5* business model plays an integrative role in the organisation. These companies understand their business model and actively experiment with it. In final stage, a *Type 6* business model, companies are even more open and adaptive than in the previous two stages. These companies are committed to active experimentation with one or more kinds of business model variants. For a more in-depth description of these stages, please have a look at Appendix A.

To continuously innovate a business model, a company should move its business model from one stage to the next. To do this a company should "*be objective about identifying the stage where [the] business is right now [...] and then look at the attributes of the next stage, [because] they provide some guidelines for how to advance [the] business model further*" (Chesbrough 2007, p. 15). This is a very short and vague method to innovate a business model. Fortunately, Voelpel, Leibold & Tekie (2004) introduced a better method for continuous business model innovation: the Wheel of Business Model Reinvention, see Figure 3.5 on page 30.

This wheel illustrates the continuous process a company undertakes when it (re)invents its business model. Although the figure may imply that this is sequential process, nothing is farther from the truth: this is a reciprocal process where a company moves back and forward over the wheel. For explanation purposes, however, it will be explained in a sequential way. The wheel (often) starts turning when a company finds a possible value proposition (Johnson et al. 2008) and then looks for the right target customer segment that could be served with this value proposition. Next, the right infrastructure should be shaped in such a way that the company is able to produce and deliver this value proposition to the target

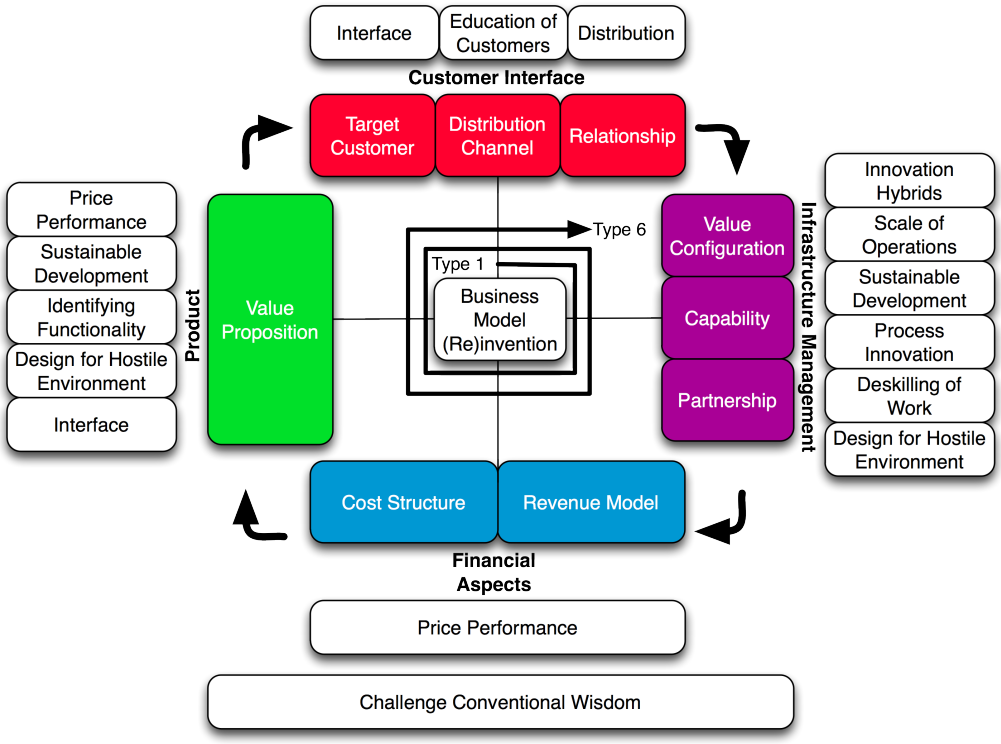

Figure 3.5: The Wheel of Business Model (Re)invention. Source: Own creation, a modification of Voelpel, Leibold & Tekie (2004)

customer. And, to close the circle, delivering the value proposition to the target customer should be economically feasible. But as customers, technology and other aspects from the (external) environment changes, so does the business model need to change. Therefore, the company immediately starts all over again to continuously reinvent themselves in order to better serve the changing customers, using new technologies and better resources and processes. This means that the wheel starts all over again and just keeps turning around and around.

Although the figure may suggest that it takes one full turn of the wheel to move from a *Type 1* to a *Type 2* business model, this is certainly not the case. Some companies move very quickly from one phase to another, while for other companies it may take many more turns of the wheel before they advance.

3.6 Summary

This chapter started by introducing the pharmaceutical value chain and the five main phases where a company in this industry can create value and capture a part of this value. Due to changes in the pharmaceutical industry, the pharmaceutical companies in the developed world will need to diversify their products and outsource different activities. From a BOP innovation point of view a solution could be to diversify towards generic medicines and outsource the manufacturing and marketing

of these generic medicines.

To be able to create value and capture a part of this value at the BOP, different innovation principles at the BOP have been introduced. From these innovation principles it was concluded that the complete way of doing business needs to be changed and, therefore, the concept of business models is introduced. After introducing a generic business model framework, this framework is adapted to fit the BOP environment.

The first research question, "What is a business model and how can the business model of a pharmacy company at the BOP be described?" has been answered in this chapter. A business model is a conceptual tool that describes the value a company offers and the architecture of the firm and its network to deliver that value. In the conceptual framework of this research a business model consists of four main pillars that together consist of nine building blocks. To adapt the business model to the BOP environment, BOP innovation principles should be taken into account. Next to this, one should keep in mind that business models are not static and need to change to be able to fit to the fast changing circumstances.

In the following chapter this conceptual framework is operationalised to be able to use this framework in this research.

Chapter 4

Methodology

This chapter introduces the methodology of this research. In Section 4.1 the research design of this research is described, followed by a description of the data collection and analysis of the document analysis in Section 4.2 and of the interviews in Section 4.3. In Section 4.4 the conceptual framework that is built in the previous chapter is operationalised. By operationalising the conceptual framework this framework can be used to describe business models. In Section 4.5 the four cases that are used in this research are shortly introduced to give the reader some background information of these companies.

4.1 Research Design

A case study is "*an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident*" (Yin 2003, p. 13) and is therefore a good method for explorative studies, such as this one. This research contains an embedded multiple-case study and the unit of analysis are the business models of the companies. It will be embedded because multiple subunits are studied, namely the building blocks of the business models, and it will be a multiple-case study, because there is not one best way for a pharmaceutical company to deliver to the base of the pyramid. In this way multiple successful companies can be compared and multiple sources of success can be identified. For this research four case studies are used that are selected on the criteria that the company is making a profit out of delivering medicines at the BOP. Two cases focus on the manufacturing of medicines (the fourth phase of the pharmaceutical value chain), whereas the other two cases focus on the marketing and sales of the medicines (the fifth phase of the pharmaceutical value chain), as can be seen in Figure 4.1. The unit of observation for this research are documents on the companies (mainly the case descriptions, and where available information from the company website, financial statements and annual reports) and interviews with experts from pharmaceutical companies in the Netherlands. Interviews will be conducted to verify whether experts in this field recognise the results from the

document analysis and if the results are generalizable for other profitable pharmacy companies at the base of the pyramid.

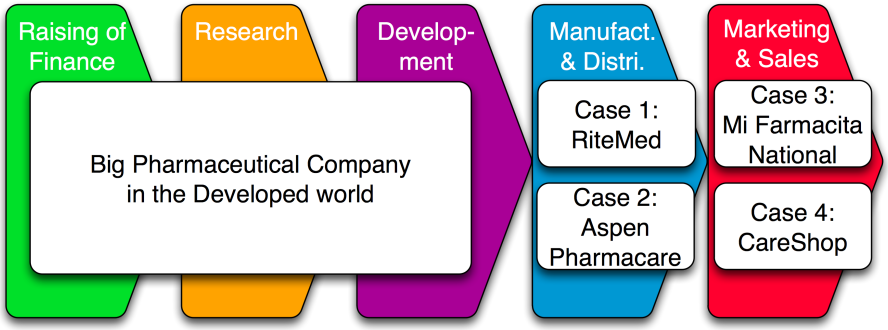

Figure 4.1: Overview of Cases in the Pharmaceutical Value Chain. Source: Self-created

4.2 Document Analysis

The case data are derived from case descriptions: two case descriptions are made by the United Nation Development Program and two case descriptions are made be the World Resources Institute. They have given an extensive description of the four companies, what they do and how they operate. Next to the case descriptions the websites of the companies, financial statements and annual reports were consulted if they were available. These case descriptions are used to give a value to the variables. By reading the case description the researcher chose the categorical value that best suits the given description. Because research should be replicable, a reference to the page in the case study on which the researcher based his decision is placed in the text.

After the data was collected it is analysed by comparing the four cases based on variables to find an answer to the third research question: "What are the distinctive characteristics of business models of profitable BOP pharmacy companies that contribute to profitability?". If all four cases have the same value to a variable this characteristic is considered as an essential characteristic of a business model of profitable BOP pharmacy companies that contributes to profitability. If three out of four cases have the same value to a variable, this characteristic is considered as a recommended characteristic of a business model of a profitable BOP pharmacy company. If two or less cases have the same value to a variable, this characteristic is not regarded as a common characteristic of a profitable BOP pharmacy company, but only as a characteristic of this specific profitable BOP pharmacy company.

4.3 Interviews

In order to increase the validity and the completeness of this research and to get a better insight in the implications of the results an interview has been conducted

with an experts in this field. To be able to focus on specific subjects during the interview where the answer was not clear to the researcher the first time, the interview was semi-structured. An overview of the interview questions can be found in Appendix B. The questions are based on the results of the document analysis. For all the recommended characteristics that are found during the document analysis it is verified during this interview whether these characteristics are also recommended by an expert in this field. If the expert agree that the recommended characteristics should be recommended, these characteristics stay on the list of recommended characteristics. If he did not agree that a particular characteristic is recommended it is removed from that list and is not regarded as a characteristic of profitable BOP pharmacy companies in this research anymore.

The interview is held with Steve Brooke, MBA, advisor for commercialisation and corporate partnerships in PATH's[1] Technology Solutions Strategic Programme. During a ten minutes telephone interview the results of this interview have been discussed and to verify them and to see if any important results were missing.

4.4 Operationalisation

Many concepts cannot be measured directly. To be able to use the concepts of the conceptual framework the concepts need to be operationalised. This is done by introducing variables that represent the concepts, because variables can be measured in reality. Osterwalder (2004) has operationalised his theory by stating with which variables each of the nine elements can be measured. Most variables are categorical variables, so a definition of each category will be given to make it possible to measure the variables. The definitions of the categorical values are by Osterwalder (2004) and can be found in Appendix C.

To measure whether the BOP innovation principles have been applied and to measure how advanced the business model is, I have built my own operationalisation. This operationalisation is based on binary variables (*applied* versus *not applied*) to measure whether the innovation principle is applied and on an ordinal scale to measure the advancement of the business model (*Type 1–6*) as can be seen later in this chapter.

As mentioned before in the theoretical framework, the validity and reliability of the operationalisation of the conceptual framework cannot be examined, because all the four available cases are used for the research itself. However, the operationalisation of the conceptual framework can be assumed to be valid and reliable due to the fact that the operationalisation has been successfully used by many companies that would like to make their business model explicit to be able to be able to innovate it. I have adapted the standard operationalisation where it did not fit my research due to lack of data (e.g. specific financial data is not always available). Although

[1] PATH is an international nonprofit organisation that helps to improve global health by creating sustainable, culturally relevant solutions. They help to provide appropriate health technologies by collaborating with diverse public- and private-sector partners. `http://www.path.org/`

the validity and reliability of these new variables cannot be proven scientifically, I have argued why the new variables are still very useful and can be assumed to be valid and reliable.

4.4.1 Value Proposition

A *Value Proposition* is measured by using four variables: *Reasoning*, *Value Level*, *Price Level* and *Value Life Cycle*.

Reasoning

The variable *Reasoning* captures the reasoning of why the firm thinks its *Value Proposition* could be valuable to its customer. A *Value Proposition* can be valuable either through its *use*, reduction of the customer's *risk* or by making the customer's life easier because of the reduction of its *effort*s.

Value Level

This variable identifies the value level of the value proposition, compared to the value propositions of competitors. It uses a qualitative value scale to relate the value proposition to the value offered by competitors. The measurement scale consists of three levels, from *me-too* value, over *innovative imitation* and *excellence* to *innovation*.

Price Level

This variable identifies the value proposition's price level. This scale has four value, from *free*, over *economy* and *market* to *high end*.

Value Life Cycle

A *Value Proposition* can deliver value at each of the five phases of the value life cycle. It is important to measure at which phase of the cycle the particular proposition captures its value. This can be at the phase of *value creation*, *value purchase*, *value use*, *value renewal* or *value transfer*.

4.4.2 Target Customer

A company can segment its customers based on, for instance, geographical or socio-demographic properties, based on how often they buy, what they buy, how much they spend and many other criteria. It is impossible to use a scale that fits every BOP pharmacy company. Osterwalder (2004) proposes to measure this concept by describing the target customer and not by making use categorical variables. Therefore, I will assign three important characteristics per case to this variable.

4.4.3 Distribution Channel

The *Distribution Channel* building block is measured by one variable, the *Customer Buying Cycle*.

Customer Buying Cycle

The *Customer Buying Cycle* identifies in which phase of the customer buying cycle the distribution channel delivers value to the customer. The customer buying cycle consists of four phases: *awareness*, *evaluation*, *purchase* and *after-sales*.

4.4.4 Relationship

The *Relationship* element, which is concerned with the relationships a company builds with its customers, is described by two variables: *Customer Equity* and *Function*.

Customer Equity

Relationships can be classified using their *Customer Equity* goals. A *Customer Equity* goal identifies the type of relationship a company builds with its customer. Companies can build relations based on the *acquisition* of new customers, the *retention* of existing customers or on *add-on selling*.

Function

This variable describes the function of the relationship: the function can be to *personalise* the relationship, to contribute to customer *trust* or to contribute to *brand* building. These functions may overlap, but one function is identified as the main function.

4.4.5 Capability

Resources enable a company to have specific *Capabilities*. This element is therefore described using the variable variable: *Resource Type*.

Resource Type

This variable measures the resource type of the most important resources. A resource type can roughly be divided into three categories: *tangible*, *intangible* and *human resources*.

4.4.6 Value Configuration

The *Value Configuration* element is described using the variable *Configuration Type*.

Configuration Type

The configuration type distinguishes between the three main ways of configuring a company in order to create value: *value chain*, *value shop* and *value network*. This distinction is described by Osterwalder (2004), Osterwalder, Pigneur & Tucci (2005), Johnson et al. (2008) and Christensen, Grossman & Hwang (2009). The latter two describe the configuration types as three ideal types of business models, while in this research they are seen as three ways of configuring value in a business models, just like the former two researcher do (Osterwalder 2004, Osterwalder, Pigneur & Tucci 2005).

4.4.7 Partnership

The element *Partnership* is described using five variables: *Reasoning*, *Strategic Importance*, *Degree of Competition*, *Degree of Integration* and *Sustainability*.

Reasoning

There are many reasons why a company engages in a partnership with other companies. This variable describes the firm's motivation to engage in such a partnership and one can distinguish between three categories of reasons: *optimisation and economics of scale*, *reduction of risk and uncertainty* or *acquisition of resources*.
The last four variables should be measured according to Osterwalder (2004) on an ordinal scale from 0 to 5. Because this research is based on only four cases qualitative data is difficult to use. The last four variables are measured by describing the value instead of assigning a categorial answer to the variable.

Strategic Importance

The strategic importance describes how important the partnership is to the business success. If a partnership is of high strategic importance to the company, the company should keep investing in this partnership to keep it healthy and profitable, because else it may destroy the important partnership. This variable is measured using three categorical values: *not important*, *rather important* and *very important*.

Degree of Competition

The degree of competition is a variable that describes to what degree the partner firm is a competitor of the company. If two companies are very big competitors, they may not share important information and it may be difficult to stay partners. This variable is measured using three categorical values: *no competition*, *some competition* and *full competition*.

Degree of Integration

The degree of integration is a variable that describes to what degree the partnering firms are integrated. The loosest link between two companies is if the two companies

are connected through independent third-party marketplaces and the closest link between these companies is if they have tightly integrated supply chains. This variable is measured using three categorical values: *no integration*, *some integration* and *full integration*.

Substitutability

Substitutability is a variable that describes how easy it would be to find a substitute partner offering the same arrangement. If it is very easy to substitute the partner for another partner, the firm can select the cheapest or best partner very quickly. If it is very difficult to substitute partners, due to for instance a lock-in, a company should choose a partner that is maybe not the cheapest, but is very reliable. This variable is measured using three categorical values: *easy* to substitute, *not easy / not difficult* and *difficult* to substitute.

4.4.8 Revenue Model

The *Revenue Model* building block is described using two variables: *Stream Type* and *Pricing Method*.

Stream Type

This variable describes how a company generates income (a revenue stream). This can be done in multiple ways: *selling*, *lending*, *licensing*, *transaction cut* or *advertising*.

Pricing Method

This variable describes what pricing method a company uses to generate revenues. There are three main categories of pricing mechanisms: *fixed pricing*, *differential pricing* and *market pricing*.

4.4.9 Cost Structure

Osterwalder (2004) suggests to measure the cost structure by measuring every cost aspect as an absolute number (in monetary units) and as a percentage of total costs. Because often only basic financial information is shared, I will measure the cost structure with two basic financial measurements: Cost Of Goods Sold (COGS) and the Total Operating Expenses (TOE). This means that all costs, except interest and taxes are measured. Interest and taxes are not measured because they are influenced by the way a company is financed (equity or loans). By excluding them, a fair comparison of the financial status of the different companies can be given (Merchant & Van der Stede 2007).

Cost Of Goods Sold

The COGS includes the direct costs that are attributable to the production of the goods sold by the company. The COGS will be measured as a percentage of the total revenues.

Total Operating Expenses

The TOE are the other costs, that are not directly attributable to the production of the goods. The TOE will be measured as a percentage of the total revenues.

4.4.10 Innovation Principles

Next to the business model building blocks, a BOP business model is also influenced by the BOP innovation principles and therefore it needs to be known whether or nog a company applies a BOP innovation principle.

Price Performance

The *Price Performance* innovation principle states that the price performance ratio needs to be improved for the base of the pyramid. This can be done by improving the value (performance) of the value proposition, by reducing the costs or by a combination of both. This variables is measured on a binary scale: *applied* or *not applied*.

Innovation Hybrids

The second BOP innovation principle states that most advanced technologies should be combined with existing (and evolving) infrastructure. If this is done, the variable is given the value *applied* and if this is not done, the variable is given the value *not applied*.

Scale of Operations

The *Scale of Operations* innovation principle states that the company should be able to deliver the value propositions on a large scale. This variable is measured using the values *applied* and *not applied*.

Sustainable Development

This variable indicates whether or not the company focuses on sustainable and eco-friendly development. If it does, the value *applied* is assigned; if not, the value *not applied* is assigned.

Identifying Functionality

This innovation principle states that the company should recognise that the required functionality may be different in the BOP market than in the developed world. If

this is not the case, the value *applied* is assigned, else the value *not applied* is assigned.

Process Innovation

The *Process Innovation* BOP innovation principle states that process innovation is a critical step in making the value proposition available to and affordable for the poor. If this innovation principle is applied by the company, the value *applied* is assigned; if it is not applied, the value *not applied* is assigned.

Deskilling of Work

This BOP innovation principle states that work must be deskilled for the poor to be able to do the job. With the value *applied* and *not-applied* it is indicated whether this innovation principles is applied.

Education of Customers

Educating its customers is very important for BOP companies. This variable indicates wether this innovation principle is *applied* or *not applied*.

Designing for Hostile Infrastructure

The BOP innovation principles *Designing for Hostil Infrastructure* states that the products should be designed for usage in a hostile infrastructure. If the product is adapted to this infrastructure, this variable gets the value *applied*; else, it gets the value *not applied*.

Interface

To be used in the BOP market, the interface of the products has to be adapted because the consumers are often first-time users and many are illiterate. If the company adapted the interface of the product to the BOP users, this variable gets the value *applied*; else, it gets the value *not applied*.

Distribution

This variable indicates whether the *Distribution* innovation principle is applied, using the values *applied* and *not applied*.

Challenge Conventional Wisdom

This variable indicates whether conventional wisdom is challenged and new and innovative approaches are taken. Because challenges conventional wisdom is necessary to apply all the above innovation principles, the value of this variable depends on these variables. If less than four innovation principles are applied, conventional wisdom is not challenged, thus this innovation principle is *not applied*. If between

five and eight innovation principles are applied, this innovation principle is *partly applied*. If more than eight innovation principles are applied, this the conventional wisdom is challenged and this innovation principle is *applied*.

4.4.11 Continuous Business Model Innovation

To measure in what phase of advancement the business model of the companies are, the variable *Business Model Phase* is used.

Business Model Phase

This variable indicates the phase of advancement the business model is in, using the values *Type 1* to *Type 6*. The definitions of these types can be found in Appendix A.

4.5 Description of the Cases

In this section the four cases that are studied in this research are described to give some background information of these companies. The RiteMed and Aspen Pharmacare cases are examples of manufacturing companies that make a profit while delivering low-priced medicines to the poor. The other two cases, Mi Farmacita Nacional and CareShop, are examples of companies that actually sell the low-priced medicines to the poor.

4.5.1 UNILAB's RiteMed Initiative

United Laboratories, Inc. (Unilab) was established in 1945 and is the oldest, and one of the largest, pharmaceutical company in the Philippines. It delivers high-quality and affordably priced health care products to the Philippines and nine other surrounding countries, including China. After the Philippine government started a campaign to make lower-priced medicines available to the population, Unilab started RiteMed in 2002. RiteMed is a subsidiary whose task it is to manufacture and distribute generic medicines[2] to the Filipinos. By making use of economies of scale, the company is able to sell its generic medicines 20 to 75 per cent cheaper than its branded counterparts and it is still made a profit of US$ 20 million in five years.

4.5.2 Aspen Pharmacare

Aspen Pharmacare was founded in the port city of Durban, South Africa by three pharmaceutical entrepreneurs. Together they identified a number of niche opportunities for Aspen. The greatest risk they took was the hostile takeover of the underperforming heavyweight SA Druggist. *"One of the plans we had was to sell*

[2]Generic medicines are the same medicines as there branded counterparts, except that they are not patented anymore.

off the manufacturing business. But I realised we would be selling the heart and lungs." They decided to sell of the non-core operations and invest more in the pharmaceutical manufacturing division. Nowadays Aspen Pharmacare is the leading South African drug company, growing at an average rate of 40 per cent per year.

4.5.3 Mi Farmacita Nacional

Mi Farmacita Nacional, established in Tijuana, Mexico, in 2003, is a fully for-profit company that employs a franchise business structure. It is a private-sector based solution to the problem of getting affordable, certified generic medicines to low-income communities. Since its launch, Mi Farmacita is able to double the number of franchise outlets every year. Mi Farmacita is jointly owned by the owners of Grupo Farmacéutico, a major pharmaceutical distributor in Mexico, and Laboratorios Collins, a manufacturer of generic medicines and was expressly established for the two companies to be able to extend their reach into low-income markets.

4.5.4 CareShop

Ghana Social Marketing Foundation (GSMF) founded CareShop, a franchise of retailers of over-the-counter drugs, as the first project of GSMF's wholly owned for-profit subsidiary, Ghana Social Marketing Foundation Enterprises Limited (GSMFEL) in April 2002. CareShop is designed to improve the quality, accessibility, and affordability of essential medicines across Ghana on a for-profit basis. In Ghana there are many independent licensed chemical sellers (LCS) that could not supply their customers with medicines. By converting these LCSs to CareShop franchisees, CareShop offers them a better distribution network. In 2007 the network of CareShop consists of 276 franchisees that are able to operate with the profits they make. The franchisor, GSMFEL, has failed to make a profit, however. This case study is still included in this research due to the fact that the franchisees are able to make a profit and, therefore, is this case one the few examples of delivering medicines to the poor, while making a profit. Next to that, the loss GSMFEL makes is getting smaller (2005: GH¢ –119,676, 2006: GH¢ –72,575, 2007: GH¢ –22,177) and the company may be able to become profitable in the long run.

4.6 Summary

In this chapter the methodology for this research has been presented. This chapter started by describing the research design followed by elaborating on the document analysis and the interviews. In the last section the conceptual framework that was built in the previous section has been operationalised by introducing the variables that have been measured. An overview of all the variables that were used in this operationalisation can be found in Table 4.1 on page 44. This chapter ends with a small summary of the four cases.

Building Block	**Variable**
Value Proposition	Reasoning Value Level Price Level Value Life Cycle
Target Customer	Description
Distribution Channel	Customer Buying Cycle
Relationship	Customer Equity Function
Capability	Resource Type
Value Configuration	Configuration Type
Partnership	Reasoning Strategic Importance Degree of Competition Degree of Integration Substitutability
Revenue Model	Stream Type Pricing Method
Cost Structure	Cost of Goods Sold Total Operating Expenses
BOP Innovation Principles	Price Performance Innovation Hybrids Scale of Operations Sustainable Development Identifying Functionality Process Innovation Deskilling of Work Education of Customers Designing for Hostile Infrastructures Interface Distribution Challenge Conventional Wisdom
BMF Business Model Type	Type

Table 4.1: Summary of the Methodology

Chapter 5

Results

In this chapter the results of the research are published. The results are grouped per building block and innovation principle and within each building block per variable. For each variable I have argued per case, based on citations from the documents of the document analysis, which categorical value I have assigned to the variable and why I have chosen that particular value. For each variable, first the two cases from the manufacturing and distribution value chain phase, UNILAB's RiteMed Initiative and Aspen Pharmacare, are discussed. This is followed by the two cases from the marketing and sales value chain phase, Mi Farmacita Nacional and CareShop Ghana. After the results for each building block is presented, the interpretation of the results for each building block is presented. At the end of this chapter a summary is given of the results and of the interpretation of the data which leads to an overview of essential characteristics and recommended characteristics of a business model for profitable pharmacy companies at the Base of the Pyramid.

5.1 Value Proposition

5.1.1 Reasoning

RiteMed delivers value to its customers by offering generic medicines that treat diseases like diabetes or HIV/AIDS (UNDP 2007*b*, p. 6). These medicines were already available for a high price, so it is not the *use* of the product that is the reasoning behind this value proposition. By producing generic medicines and by marketing them to the consumers, health providers, and medicines distributors (UNDP 2007*b*, p. 16), RiteMed is able to make these medicines accessible to the poor, where they were not accessible or very hard to access before. The reason behind this value proposition is therefore improving access to the medicines, and this means that the reasoning behind this value proposition is based on reducing customers' *effort* to get these medicines.

The value proposition Aspen Pharmacare offers, is access to low-priced medicines for treating HIV/AIDS and other infectious and tropical diseases. These

medicines already existed, but were not available to the poor people of South Africa (UNDP 2007*a*, p. 3–4). This value proposition is about making these medicines accessible and, therefore, the reasoning behind this value proposition is about reducing customers' *effort*.

Mi Farmacita delivers all kinds of generic drugs to treat common and seasonal illnesses such as colds, flue and allergies (World Resources Institute 2007*c*, p. 22) for a low price, so these medicines are available for the low and middle income Mexican people. It distinguishes itself from other companies by only supplying generic drugs and no "similar" drugs[1]. By not delivering similar drugs the company wants to be sure it only delivers medicines that work. In addition to offering low-priced medication, Mi Farmacita wants to be "a convenient, community based provider of basic goods and medical services" (World Resources Institute 2007*c*, p. 4). It wants to be convenient by being accessible by foot for its customers base and by being located near major community centres, such as schools, churches, shopping areas, etc. Most outlets also provide filtered water, telephone access and even have a on site doctor available. In that way it becomes easier for customers to buy medicines, because they can combine a visit to the shop with other things they have planned. And if they are not sure if they need medication they can consult the doctor. The doctor and Mi Farmacita operate independently and they work with certain rules in order to stay independent, so the customer will get a fair advice by the doctor. Even if the doctor advises to take medicines, the patients are free to buy their medicines somewhere else. Most of them, however, still buy the medicines at Mi Farmacita because of convenience.

The basic value of medicines is, of course, in using the medicines. Mi Farmacita distinguishes itself by not providing "similar" drugs and focus on generic drugs. This takes away risks from customers. However, the main reason that people buy at Mi Farmacita is out of convenience. By being accessible by foot and being close to community centres, and by offering other products and services like filtered water and on site doctors, Mi Farmacita reduces customers' effort and therefore the value *effort* is assigned to this variable.

The reason why the value proposition of CareShop is valuable to the target customers is because it reduces the customer's *effort* to get their non-prescriptive medicines. Public facilities do not have in stock about 32 per cent of the essential medicines, which are out of stock 37% of the time, on average (World Resources Institute 2007*b*, p. 3). Not a single supplier could supply all the different medicines the local medicines shops needed and the they needed to go and get their medicines themselves after they had bought them. CareShop gave those shops the opportunity to become a CareShop franchise shop and now supplies its franchisers with a revolutionary value proposition: It supplies 100 per cent of each franchisers drug inventory and it delivers this directly to the franchise stores, by which the availab-

[1]Similar drugs are medicines that claim to have the same results as the branded medicines, but their bio-equivalency has not been proved. Generic medicines have been proved on bio-equivalency and this is the biggest difference between these two cheaper versions. Similar medicines may be cheaper than generic medicines but often do not work or much worse than generic drugs.

ility of the medicines dramatically increases and the transportation costs decreased by $227 a year (World Resources Institute 2007*b*, p. 8).

5.1.2 Value Level

The value level of products that RiteMed delivers, is not different from other medicines that treat diseases like diabetes or HIV/AIDS. It just does what it is meant for: treating the disease (UNDP 2007*b*, p. 6). Of course, there are differences: RiteMed uses generic medicines and, therefore, the price is much lower than for non-generic medicines (UNDP 2007*b*, p. 8, 10–11), but this price difference is reflected in the *Price Level* variable. Another difference is that RiteMed actively educates its customers by explaining why generic medicines work and how these medicines differ from regular medicines. This education is really important for the value proposition as RiteMed differs itself from its competitors by doing this. Next to educating customers and health professionals, RiteMed made these medicines available to the poor by combining education with lower prices and bigger production amounts. Therefore, the value level of this value proposition can be categorised as *innovation*.

Aspen Pharmacare makes generic medicines and manufactures voluntary licence medicines. They do not invent new medicines, they just manufacture them (UNDP 2007*a*, p. 5–7). This way they manufacture medicines that are sold with a low price compared to their competitors. There value proposition is therefore *innovative* as they make medicines available to the poor that were not available to them before.

Mi Farmacita Nacional delivers only certified generic medicines and no other medicines. This market is currently only 6 per cent of the country's total pharmaceutical market (World Resources Institute 2007*c*, p. 4). 'Similar' drugs account for the biggest share of this market. Recent legislation tries to phase out these 'similar' drugs in advantage of generics (World Resources Institute 2007*c*, p. 4). Next to this it delivers a value proposition based on reducing the customers' effort. In that way Mi Farmacita really delivers an *innovation* value proposition: delivering high quality medicines for a low price in a convenient way to an underserved market.

By being the first to offer all the medicines a franchise outlet needs and delivering them to all the franchise stores, CareShop Ghana innovated the way outlet shops get their medicines in Ghana and thus the way customers get their medicines. It could be argued that this is innovative imitation, because this is done in the developed world for a long time already. However, this approach to delivering and selling medicines was completely new to Ghana and, therefore, the value proposition is regarded to have an *innovation* value level.

5.1.3 Price Level

The price level of the medicines that RiteMed delivers is substantially lower than the prices of the regular medicines. RiteMed aims at a 50 per cent price reduction compared to the regular medicines. They have already achieved price reductions

of 14–90 per cent, with an average price reduction of 49.3 per cent (UNDP 2007*b*, p. 12). This means that the value proposition is priced at an *economy level*.

By producing generic medicines, Aspen Pharmacare offers the same medicines for a significantly lower price. This means that they use an *economic* price level.

"*The pricing for Mi Farmacita generics is extremely competitive as compared to patented drugs. The majority of Mi Farmacita medicines are sold at a price of over 50 per cent less than the prices of comparable patented, name brand medicines*" (World Resources Institute 2007*c*, p. 22). The Mi Farmacita outlets can determine their own prices (World Resources Institute 2007*c*, p. 29), so that outlets that encounter high competition on specific medicines can lower their prices for these high-competitive medicines. By buying the medicines together economies of scale help to lower the prices for the outlets and thus for the customer (World Resources Institute 2007*c*, p. 28–29). The *free* and *high-end* price levels are not valid for Mi Farmacita, due to the low prices they ask for the medicines. Due to the low prices and the big price differences with competitors, Mi Farmacita is positioned at the low-end of the price scale and thus uses an *economy* price level.

GSMFEL assumed it could get an average discount of 25 per cent on the the medicines and sell this to its franchisers with 5 per cent discount, so it would make a 20 per cent margin on the medicines (World Resources Institute 2007*b*, p. 16). However, GSMFEL was only able to get a 7-8 per cent discount on the medicines on average, ranging from -26 per cent on condoms (heavily subsidised by donors) to 17 per cent on paracetamol (World Resources Institute 2007*b*, p. 16). Because the discounts that they negotiated are very low, they cannot sell the medicines for very low prices to the franchise shops, which means that the franchisers are able to sell the medicines on a *market* price level (World Resources Institute 2007*b*, p. 16).

5.1.4 Value Life Cycle

The value proposition delivers its value just like other medicines during the *value purchase* phase in the value life cycle, because of the low price. Additionally, the education on generic medicines helps people making a better choice, what also contributes to delivering value in the purchase phase.

The value of this proposition is delivered during the purchasing phase. Due to the low costs of these medicines that have the same quality as non-generic drugs, the extra value in this proposition is that it is available to the poor people. This means that the value is delivered in the *value purchase* phase of the value life cycle.

The value proposition of Mi Farmacita delivers its value through the use of the medicines. This would account for all the pharmacy companies. Mi Farmacita distinguishes itself from its competitors by delivering the medicines for a low price and by making it convenient to buy medicines at their place. Therefore, the most important part of the value they deliver, is delivered during the *value purchase* phase.

Because CareShop's goal "*is to improve access to non-prescription drugs*" (World

Resources Institute 2007*b*, p. 5), it focuses on the *value purchase* phase in the value life cycle. By improving access to these drugs, the buying experience is improved.

5.1.5 Interpretation of the Results

In Table 5.1 an overview is given of the main results of the Value Proposition building block. The first variable measured the reasoning behind the value proposition. This reasoning was in all of the four cases based on reducing customers' effort. For all for cases the medicines to treat the diseases already existed, so they differentiated themselves by making the medicines accessible to the poor. This was in all cases done by using generic medicines and voluntary licences. Because all cases use this method, I conclude that this is an *essential characteristic* for a profitable pharmacy company at the Base of the Pyramid.

The second variable measured the value level of the value proposition. All four cases offered value propositions that are really innovative. Although the medicine itself already existed, all four companies were able to transform this product into an innovative value proposition and all companies based this innovative value proposition on making the medicines available to the poor. This is done by offering the medicines for a lower price and changes in the distribution: bigger amounts for RiteMed and Aspen, so available for more people; Mi Farmacita sells from community centres and CareShop Ghana guarantees availability. This altogether leads to the conclusion that having an innovative value proposition is an *essential characteristic*. This is also in accordance to the theory, as Prahalad (2004) repeatedly mentions that innovation is key to profitably serving the poor.

The third variable measured the price level of the value proposition. RiteMed, Aspen Pharmacare and Mi Farmacita sell their value proposition at an economy price level; only CareShop Ghana sells its value proposition at a market price level, due to the fact that they did not get the discounts they expected to get. If they would have gotten the discounts they expected to get, they would sell at an economy price level too. Although only three of the four cases really do sell at an economy price level, the fourth company wanted to do so as well. This leads to the conclusion that selling at an economy price level is a *recommended characteristic* of a business model that contributes to the profitability of a pharmacy company at the Base of the Pyramid.

The fourth variable measured in which phase of the value life cycle the value

Variable	**RiteMed**	**Aspen**	**Mi Farmacita**	**CareShop**
Value Proposition				
Reasoning	Effort	Effort	Effort	Effort
Value Level	Innovation	Innovation	Innovation	Innovation
Price Level	Economy	Economy	Economy	Market
Value Life Cycle	Value Purchase	Value Purchase	Value Purchase	Value Purchase

Table 5.1: Summary of the Results of the Value Proposition

proposition delivered its value. In all four cases, the value proposition delivered its value during the value purchase phase. Although the medicines deliver their value while using them, the value propositions deliver their value during the purchase phase as these value propositions are focused on making the medicines available or accessible to the poor. Availability and low prices are important aspects of the purchasing phase. This leads to the conclusion that focusing on the purchase phase of the value life cycle is an *essential characteristic*.

Overall it can be concluded that the value propositions of the pharmacy companies at the Base of the Pyramid have the same characteristics if we look at the above variables. Although every company has its own value proposition and modified the value proposition in such a way that it fits better to the needs of its specific customers, all companies had a value proposition with the same characteristics and, therefore, I conclude that to be a profitable pharmacy company at the base of the pyramid, the company should focus on a value proposition that reduces the customer's effort, is innovative, has an economy price level, and focuses on the purchase phase.

5.2 Target Customer

5.2.1 Characteristics of the Target Customer

The target customer of RiteMed are the *poor* people of the Philippines (35 million people, about 40 per cent of total population) that *need essential, life-saving medicines* (no life-style medicines) like anti-asthma, anti-cholesterol, anti-diabetes, anti-infectives, anti-tuberculosis, cardiovascular, cough-cold, endocrine, gastrointestinal, somatics and vitamin-minerals (UNDP 2007*b*, p. 6) that *go to small hospitals, clinics and government health facilities* (UNDP 2007*b*, p. 9).

In South Africa, five and half million people are infected with HIV/AIDS and more than 837,000 people *require* other antiretroviral *medicines. Only 21 per cent of them has access* to such treatment (UNDP 2007*a*, p. 2). Aspen Pharmacare focuses on this group of *poor people* in South Africa that need but do not have access to these medicines.

"*Mi Farmacita strives to position itself as the affordable and accessible healthcare provider for a local community. The clientele served by Mi Farmacita franchises are from middle class to very poor communities*" (World Resources Institute 2007*c*, p. 21). To be even more precise: it requires its franchises to be located these middle- to low-income areas that do not have primary care centres within walking distance from the community centre. It really focuses on the underserved markets (World Resources Institute 2007*c*, p. 5–6). Therefore, the target customer can be described as a *very poor to middle class customer* that *visits the community centre* regularly on foot.

The target customer of CareShop are the *poor* people that have *no or bad access* to *essential medicines*. In Ghana 79 per cent of 22.5 million inhabitants, live on less

than $2 a day. In this country malaria is the top killer, followed by HIV/AIDS and diarrhoeal diseases and medicines for these diseases are often out of stock (World Resources Institute 2007*b*, p. 3, 5 and 16).

5.2.2 Interpretation of the Results

In Table 5.2 on page 52 an overview is given of the main results of the Target Customer building block. All cases focus on poor people that need medicines but do not have access to it. This is not surprising, because the cases have been selected on these criteria's. This means that these characteristics are by definition essential characteristics of these kinds of companies and to prevent the "*selection threat to internal validity*" (Shadish, Cook & Campbell 2002, p. 56) these characteristics will be ignored for the rest of the analysis.

5.3 Distribution Channel

5.3.1 Customer Buying Cycle

The main focus of the distribution channel of RiteMed is on the *awareness* of customers. By educating the people they raised awareness that health is a right and that *"every Filipino has to right to access affordable health services and medicines"* (UNDP 2007*b*, p. 15). Next to that they raised awareness for generic drugs as many Filipinos did not trust generic drugs due to the myth about the inefficacy of the generic drugs. By educating people and showing that generic drugs do work and showing that quality generics meet or exceed the regulatory requirements, they improved health awareness, especially on generics.

Although it is not mentioned in the case study on Aspen Pharmacare, the company focuses on educating people on generic medicines. On their website[2] they have a main section dedicated to educating people on generic medicines. Educating people on the benefits of generic drugs is a form of raising *awareness* for generic drugs and thus for their medicines.

As mentioned before, Mi Farmacita tries to make buying medicines convenient by offering medicines for low prices and by locating itself close to community centres so people can walk to the shops. Another shop that sells low-priced medicines is Wal-Mart, but Wal-Mart is currently not viewed as a major competitor, as some customers would only go there to compare prices for generic medicines (World Resources Institute 2007*c*, p. 29). Wal-Mart is able to sell these medicines for a low price due to economies of scale, but its locations are usually accessible only by car. This shows that Mi Farmacita really focusses on the *purchase* phase of the Customer Buying Cycle.

CareShop's value proposition is based on improving access to essential medicines (World Resources Institute 2007*b*, p. 5). They deliver the medicines using their own

[2]Aspen Pharma 2010. Aspen Pharma — Home `http://www.aspenpharma.com/`. Visited: April and May 2010

Variable	RiteMed	Aspen	Mi Farmacita	CareShop
Target Customer				
Description	Poor Need essential medicines Small hospitals & clinics	Poor Need medicines Only 21% has access	Poor to middle class Visiting centre by foot	Poor Need essential non-prescriptive medicines No or bad access

Table 5.2: Summary of the Results of the Target Customer

transportation trucks and using public transport. The nearby franchisees are delivered by the trucks, whereas the franchisees that are far away are delivered using public transportation. By using these two kinds of distribution, the company makes sure that the franchise shops get their orders relatively quick, which means that the most essential medicines are available most of the time. This means that the distribution channel delivers its value during the *Purchase* phase, because the customer directly gets his medicine instead of waiting until the medicines is delivered.

5.3.2 Interpretation of the Results

Variable	RiteMed	Aspen	Mi Farmacita	CareShop
Distribution Channel				
Customer Buying Cycle	Awareness	Awareness	Purchase	Purchase

Table 5.3: Summary of the Results of the Distribution Channel

In Table 5.3 an overview is given of the main results of the Distribution Channel building block. The variable customer buying cycle identifies the phase of the customer buying cycle the company focuses on when distributing the value proposition to the customer. The two manufacturing and distributing companies focus on raising awareness for generic medicines by educating potential customers and health professionals, whereas the two marketing and sales companies focus on the purchase itself itself. This could be due to the difference in interests. The manufacturing companies have an interest in selling the generic medicines and to do that, customers and health professionals need to be educated on the benefits of generic medicines. It does not matter to them at which specific shops the customer buys these medicines as long as it are their generic medicines. The sales companies, however, need customers to buy at their shops. Therefore, they focus on attracting people to do the purchase of medicines at their specific shop and on making a purchase easier for their customers and it is less important to them whether or not their customers buy generic medicines as long as they buy medicines at their store.

5.4 Relationship

5.4.1 Customer Equity

For RiteMed no information was found regarding the customer equity.

The relationships Aspen Pharmacare builds with its customers is based on acquiring new customers. By educating people on generic medicines they try to convince new customers to buy their medicines. *Acquiring* new customers is also emphasised in the slogan on their website: *"When next you need medicine, make the choice that most South Africans make — choose an Aspen generic"*[3].

[3]Aspen Pharma 2010. Aspen Pharma — Aspen Generics. `http://www.aspenpharma.com/default.aspx?pid=6&stepid=1&oid=6`. Visited: 23 May 2010

"*Being able to provide doctor consultations and critical services, such as water filtration and telephone access, increases opportunities for franchisees to build relationships with customers*" (World Resources Institute 2007*c*, p. 29). Mi Farmacita not only sells the generic medicines, but additional products as well. By selling these additional products, Mi Farmacita can generate extra revenues and attract extra customers. This means that the main customer equity goal of Mi Farmacita can be classified as *add-on selling*.

The relationships CareShops has with its customers is primarily based on customer *retention*. The shops that converted to CareShop franchise shops already had a customer base and CareShop is now actively building its brand throughout Ghana to keep these customers connected to the shops (World Resources Institute 2007*b*, p. 25).

5.4.2 Function

Many Filipinos did not trust generics and did not know much about health in general. By educating their potential customers RiteMed created trust between the company and their customers. Because of this trust new customers bought their products, what resulted in new relationships. They built new relationships and acquired new customers by focusing on creating *trust*.

By educating the customers on generic medicines Aspen Pharmacare creates trust. The main function of the relationships Aspen Pharmacare has with its customers is, therefore, based on *trust*. If the customers do not trust Aspen or its generic medicines, they will not use the medicines.

Its brand is very important to Mi Farmacita as it helps to attract new customers (World Resources Institute 2007*c*, p. 29). However, it is not the most important function of the relationship Mi Farmacita has with its customers. The brand contributes to the trust Mi Farmacita wants to build between the customers and itself (World Resources Institute 2007*c*, p. 29). Also the fact that they are the first company to only sell the trustable generic drugs and no similar drugs contributes to *trust* building as the main function of the relationships.

By actively building its brand throughout Ghana (World Resources Institute 2007*b*, p. 25), the function of the relationship is immediately clear: *Brand* building.

5.4.3 Interpretation of the Results

Variable	**RiteMed**	**Aspen**	**Mi Farmacita**	**CareShop**
Relationship				
Customer Equity		Acquiring	Add-on selling	Retention
Function	Trust	Trust	Trust	Brand

Table 5.4: Summary of the Results of the Relationship

In Table 5.4 an overview is given of the main results of the Relationship building

block. The variable customer equity identifies the main goal of the relationship that the company has with its customers. The four companies that are studied in this research all have different relationship goals. RiteMed and CareShop focus on the retention of their current customers, Aspen focuses on acquiring new customers, whereas Mi Farmacita tries to sell many other products in their shops that are not related to medicines. All four companies successfully attract customers, so it is not possible to conclude that there is a specific characteristic for the goal of the relationships the companies have with their customers.

The second variable identifies the function of the relationships the companies have with their customers. RiteMed, Aspen and Mi Farmacita have relationships with their customers to contribute to customer trust. Only when customers trust the company and their medicines, they are willing to buy the medicines (Ford, Gadde, Håkansson & Snehota 2006). This was especially clear in the cases of RiteMed and Aspen. They both had to convince their potential customers that generic medicines do work and that they are safe. The customers that bought the generics apparently trusted the companies and therefore bought the medicines. CareShop focuses more on brand building, as they want CareShop to be a known brand throughout Ghana. By building a well-known brand, CareShop indirectly builds a form of trust with its customers as trust is important a brand (Lau & Lee 1999). Therefore, I conclude that building trust with customers is an *essential characteristic* of a business model of a pharmacy company at the BOP.

5.5 Capability

5.5.1 Resource Type

Although one can argue that the people-based skills are the most important resources of the company due to the fact that the medicines have to be discovered, this is not the case for RiteMed as UniLab, the parent company, invented the medicines. Another may argue that the tangible resources as the plants and equipment are the most important resources. I do not think this is the case as other medicine-producing companies could buy these equipments. I would like to argue that the most important resource RiteMed has is trust the customers have in this company. It took a while, but RiteMed has educated their potential customers that generics are good quality medicines and, therefore, people now buy their generic medicines. Without building trust among their customers, RiteMed would not have been where they are now (UNDP 2007*b*, p. 15). This means that *intangible assets* are the most important assets for RiteMed.

The main resource type that is needed for Aspen Pharmacare to exploit their capabilities is based on *intangible* resources. The main capability of Aspen Pharmacare is that they can produce generic medicines based on the voluntary licences. Therefore, these intangible licences are of high importance to the company.

Mi Farmacita checks whether the franchisees meet the criteria for becoming a

Mi Farmacita franchisee (walking distance to community centre, professional qualifications of franchisee) and audits how the outlets perform and if they still are compatible with the Mi Farmacita formula (cleanliness, only selling generic drugs) (World Resources Institute 2007*c*, p. 15–21). Next to its franchise formula and its brand (see Section 5.4.2 on page 54) also the voluntary licence is important. This means the most important resources are the *intangible* resources.

The most important resources of CareShop Ghana are its franchise formula and the relationships with the manufacturers of the medicines (World Resources Institute 2007*b*, p. 28–29). These *intangible* resources enable CareShop to improve access to essential medicines, educate the franchisees, lower the prices of the medicines and thus improve the health care situation in Ghana.

5.5.2 Interpretation of the Results

Variable	RiteMed	Aspen	Mi Farmacita	CareShop
Capability				
Resource Type	Intangible	Intangible	Intangible	Intangible

Table 5.5: Summary of the Results of the Capability

In Table 5.5 an overview is given of the main results of the capability building block. The variable resource type identifies the resource type of the main resource. For all four companies the main resources are their intangible assets. Again there is a difference between the manufacturing companies on the one hand and the marketing and sales companies on the other hand. The main resource of the manufacturing companies is the voluntary licence that they get from the pharmaceutical companies in the developed countries, whereas the main resource of the marketing and sales companies is their franchise formula. Previous research has also indicated that the franchise system is one of the most successful solutions at the Base of the Pyramid (Seelos & Mair 2007). Therefore, I conclude that an *essential characteristic* of a business model of a profitable pharmacy company at the base of the pyramid is that its most important resources are intangible.

5.6 Value Configuration

5.6.1 Configuration Type

RiteMed is able to produce huge quantities of low priced generic medicines. This can be seen as delivering a standard solution to a problem and thus is the value configuration a *value chain*.

By giving a voluntary licence to Aspen Pharmacare, it now produces '*a standard solution to a problem*' many times. Therefore, the value configuration is based on the *value chain*, where standard solutions to standard problems are offered.

When customers come to Mi Farmacita they already know what kind of medication they need, because they have visited a doctor or did the analysis themselves (cold/flu). Mi Farmacita then knows which medicines are needed to cure the disease. This means that Mi Farmacita transforms inputs into products and that is exactly what a *value chain* is about.

The CareShop franchise shops sell medicines. Just like in the other three cases, these medicines can be seen as pre-configured solutions to specific problems. This is a typical characteristic of a value chain and, therefore, this configuration type is seen as a *value chain*.

5.6.2 Interpretation of the Results

Variable	RiteMed	Aspen	Mi Farmacita	CareShop
Value Configuration				
Configuration Type	Value Chain	Value Chain	Value Chain	Value Chain

Table 5.6: Summary of the Results of the Value Configuration

In Table 5.6 an overview is given of the main results of the value configuration building block. The variable configuration type identifies the value creation process. All four companies use a value shop configuration, because they deliver standardised products and services to their customers. They deliver the medicines they are asked to deliver and do not diagnose the symptoms and signs of the patients. Therefore, I conclude that having a value creation process configured as a value shop is an *essential characteristic* of a business model of a pharmacy company at the Base of the Pyramid.

5.7 Partnership

All companies have several partnerships, but not all partnerships can be compared fairly. To have a fair and balanced comparison, I have chosen to discuss the partnerships with supplying companies, as for every company their is information on its relationship with a supplying company. The partnership between RiteMed and UniLab, who delivers the medicines, is analysed for the RiteMed case. Aspen Pharmacare has partnerships with different parties to get voluntary licences. One of the partnerships is with GlaxoSmithKline (UNDP 2007*b*, p. 6). GlaxoSmithKline and the other companies license different HIV/AIDS medicines to Aspen Pharmacare. The information on the partnerships for Aspen is based on the partnership Aspen has with these voluntary licences suppliers. Mi Farmacita's partnerships with distributor Grupo Farmacéutico and Laboratorios Collins, a manufacturer of generic medicines, are discussed for the Mi Farmacita case. CareShop Ghana's main partner is its founder: Ghana Social Marketing Foundation (GSMF). This partner delivers the medicines to CareShop.

5.7.1 Reasoning

The reasoning to start this partnership between UniLab and RiteMed is to *acquire* valuable resources. RiteMed needs to get the medicines, which are produced by UniLab, to exist (UNDP 2007*b*, p. 7–8). Without these medicines, RiteMed would not survive.

Aspen Pharmacare became a licensee of GlaxoSmithKline and other licence suppliers to be allowed to produce medicines. Therefore, the main reason for Aspen to participate in this partnership is to *acquire resources* (i.e. licences).

Mi Farmacita gets its generic medicines from Grupo Farmacéutico and Laboratorios Collins and thus the *acquisition of resources* is the most important reason to be in a partnership.

This partnership enables better supply and reliable distribution of the medicines and this means that the customers have better access to the medicines, because they are fewer times out of stock. This means that the reasoning for this partnership is based on *reduction of risk and uncertainty.*

5.7.2 Strategic Importance

This partnership is *very important* to RiteMed. It cannot survive without a company that delivers generic medicines.

Without partnerships with big pharmaceutical companies that supply voluntary licences to Aspen, this company would not exist, as it does not invent new medicines itself. Therefore, these partnerships are *very important* to Aspen.

These partnerships are *very important* to Mi Farmacita. Without these two partners it would not have existed in the first place and because they are the main supplier of the outlets and the only medicine supplier of the outlets, Mi Farmacita would have a big problem if these partnerships would be ended.

The partnership with GSMF is *rather important.* If they did not have this partnership, they could still sell medicines, like they did before they converted to CareShop franchisees, but they would suffer an unreliable supply.

5.7.3 Degree of Competition

UniLab and RiteMed are no direct competitors. UniLab focuses on the (high-cost) branded medicines where RiteMed focuses on the low-cost generic medicines[4]. However, both deliver their products to the Philippines, so they can be seen as competitors for customers who have the money to the branded medicines, but are in doubt if they will save money by buying the generic drugs. This research focuses on the poor people and, therefore, the companies are seen as *no competitors* in this research.

Aspen Pharmacare and its licence supplier are *no competitors.* Due to the big price differences the company deliver their medicines to totally different market

[4]UniLab (2010) UniLab Corporate Social Responsibility . `http://www.unilab.com.ph/about/corporate_responsibility.asp`. Visited on May 20, 2010

segments and are therefore no real competitors. The licence suppliers focus on delivering the non-generic medicines to North America, Europe and parts of Asia and their resource allocation is compatible with this strategy (UNDP 2007*a*, p. 7).

There is no competition between Mi Farmacita, Grupo Farmacéutico, and Laboratorios Collins. Grupo Farmacéutico distributes the generic medicines that Laboratorios Collins manufactured to the Mi Farmacita franchise shops. All three companies have another role in the pharmaceutical value chain and thus are *no competitors* of each other.

The GSMF and CareShop are *no competitors*. GSMF only sells the medicines to CareShop franchisees, not to the people itself. This means that there is no competition between the companies.

5.7.4 Degree of Integration

As a subsidiary of UniLab, RiteMed is integrated in the structure of UniLab. However, RiteMed is not fully integrated in UniLab as it is a company with its own identity. Therefore, the degree of integration is regarded as *some integration*.

The licence suppliers not only supply the licence to Aspen Pharmacare, but also backward technology transfers and assistance with respect to both the manufacturing and the distribution of the medicines. Therefore, there is some integration between the companies. The degree of integration is therefore regarded as *some integration*

Mi Farmacita and Grupo Farmacéutico together decide on discounts and marketing activities. Because Grupo Farmacéutico is the only distributor of Mi Farmacita, great cost benefits and better inventory control are achieved by adjusting the way of doing business with each other. This means that Mi Farmacita and Grupo Farmacéutico are *full integration*.

The companies are *some integration* because they depend on each other. Although CareShop franchisees are allowed to buy medicines from other suppliers as well, their main supplier is GSMF and, therefore, the way the companies operate depends on each other.

5.7.5 Substitutability

It is for RiteMed *very difficult* to find another partner to receive the medicines from for such a low price. United Lab is the biggest pharmaceutical company in the Philippines with a market share of almost 20 per cent (UNDP 2007*b*, p. 6). There are just a few companies in the world that can deliver these medicines and UniLab probably will not allow its subsidiary RiteMed to buy medicines from a competitor of UniLab.

Aspen Pharmacare could substitute, for instance, GlaxoSmithKline for a different HIV/AIDS medicine licence holder, but there are not many companies that invented a substitutable medicine that the licence holder has and are willing to

licence this for a voluntary licence price. Therefore, the options for Aspen Pharmacare are limited and thus it is *very difficult* to substitute the licence supplier.

Mi Farmacita gets the majority of the generic drugs from Laboratorios Collins, because of the better prices, but the franchise shops are allowed to order generic medicines from other suppliers too, due to unpredictable inventory delivery to the franchise shops because of limited manufacturing possibilities at the manufacturing plants of Laboratorios Collins. It is very hard for the franchise shops to find other suppliers of generic medicines that are willing to deliver the medicines for such a good price. Therefore, the distributor is not substitutable and the manufacturing is *very difficult* to substitute.

From CareShop's point of view, they could find another company that will supply them with medicines. Some franchise shops already have multiple suppliers. This means that CareShop could substitute their supplier relatively easy. However, these suppliers do not guarantee a reliable supply and this is what CareShop differentiates from its competitors. It is very hard to find another supplier that delivers the medicines for a low price and guarantees a reliable supply. Therefore, it is *very difficult* to substitute the current partner for another partner that offers the same arrangement.

5.7.6 Interpretation of the Results

Variable	RiteMed	Aspen	Mi Farmacita	CareShop
Partnership				
Reasoning	Acquisition	Acquisition	Acquisition	Reduction of Risk
Strategic Importance	Very important	Very important	Very important	Rather important
Degree of Competition	No competition	No competition	No competition	No competition
Degree of Integration	Some integration	Some integration	Full integration	Some integration
Substitutability	Very difficult	Very difficult	Very difficult	Very difficult

Table 5.7: Summary of the Results of the Partnership

In Table 5.7 an overview is given of the main results of the Partnerships building block. The first variable identifies the reasoning of the partnership. RiteMed, Aspen and Mi Farmacita have partnerships to acquire resources. For the manufacturing companies RiteMed and Aspen Pharmacare these resources are the voluntary licences and for Mi Farmacita these resources are the medicines itself. CareShop has a partnership that is based on reducing risk and uncertainty because of a better supply and a more reliable distribution of medicines. But a better distribution of medicines implies acquisition of these medicines. Therefore, I conclude that partnerships based on the acquisition of resources (voluntary licences or generic medicines) is an *recommended characteristic* of a pharmacy company at the Base of the Pyramid.

The second variable identifies how important the partnership is for the company. For RiteMed, Aspen and Mi Farmacita the partnerships are very important. They

really need this partnership to be able to produce and deliver the medicines. Only the CareShop franchisees could still deliver medicines without this partnership as they did before they became CareShop franchisers. Therefore, I conclude that a *recommended characteristic* of a business model of a profitable pharmacy company at the base of the pyramid is that have partnership with suppliers (licence supplier or medicine supplier) that are very important to to this company.

The third variable identifies to what extent the two partner companies are competitors of each other. In all four cases the partner companies were no competitors of each other. The manufacturing companies that got a voluntary licence from the pharmaceutical company discussed that they are only allowed to distribute the medicines in specific BOP countries whereas the pharmaceutical company would supply to the developed world. Therefore they are no competitors. The pharmacy companies are no competitors for manufacturing companies as the manufacturing companies do not sell the medicines directly to the consumers. Therefore, I conclude that an *essential characteristic* of business models of pharmacy companies at the base of the pyramid is that they have partners that are no competitors.

The fourth variable identifies to what degree the two partner companies have integrated their value creation processes. For three companies there is some integration with their partner firms. RiteMed is a subsidiary of its partner firm, Aspen gets all kinds of technical knowledge and assistance from its partner firm and CareShop is a subsidiary of its partner firm as well, but can determine the prices itself. Therefore, there is some integration, but no full integration. Mi Farmacita discusses prices and discounts with its partner firm and works together with its partner firm on inventory control and it fully adapted the partner firm's way of distributing. This means that Mi Farmacita is classified as full integration with its partner firm. For this variable I conclude that having a partnership with some integration is an *recommended characteristic* of pharmacy companies at the BOP.

The fifth variable identifies to what degree the pharmacy company could substitute its partner firm for a different one with the same value proposition. For all four companies it would be very hard to substitute its current partners for other partners. This is mainly due to the lack of companies that are willing and able to supply voluntary licences to the manufacturing companies and this leads to a lack of manufacturing companies that can supply to the marketing and sales companies. This leads to the conclusion that having partner firms that are very difficult to replace is an *essential characteristic* of pharmacy companies at the BOP.

Overall it can be concluded that partnerships are very important for pharmacy companies. This is also confirmed during the interview with Steve Brooke. He said that partnerships are really important for these companies and he emphasised that you cannot realise such a change on your own and that these companies really need the help of other companies. Overall it can be concluded that the characteristics of the partnerships of the pharmacy companies at the base of the pyramid with their suppliers are in conformity with each other. Although every company has its own partnership and it modified the partnership in such a way that it fits better to the

needs of that particular partnership, all companies have a partnership that share many characteristics and, therefore, I conclude that to be a profitable pharmacy company at the base of the pyramid, the company should have a partnership with a supplier that is no competitor and is very difficult to substitute. Next to this it is recommended that this partnership is based on the acquisition of resources, is very important to the company and that the two partner firms are rather integrated.

5.8 Revenue Model

5.8.1 Stream Type

RiteMed sells the medicines to hospitals and drugstores (UNDP 2007*b*, p. 11–12). This means the revenue stream type is classified as *selling*.

Aspen Pharma uses the *selling* stream type for getting their revenues as it sells its medicines to governmental hospitals, clinics and the private sector (UNDP 2007*a*, p. 10).

The Mi Farmacita frachise shops get their revenues from selling medicines and other products to the customers. This is clearly a *selling* stream type. However, the Mi Farmacita franchisor company earns it money by licensing the Mi Farmacita franchise formula and brand name to the franchise shops. By doing this it gets a starting fee of $18,300 and 3.5 per cent of the monthly revenues. This means that it uses a *licensing* stream type combined with a *transaction cut* stream type. This means that the franchise organisation earns its money using both a *licencing* and a *transaction cut* stream type.

CareShop gets revenues from the franchisers, because they pay a initiation fee of ¢15, approximately $15 (World Resources Institute 2007*b*, p. 9). Next to this they get revenues from a pricing markup on its sales to the franchise shops. This means that the main revenues come from *transaction cut* revenue streams combined with *licensing* revenue streams.

5.8.2 Pricing Method

Existing drugstores often get discounts ranging from 25 to 60 per cent. RiteMed gives drugstores discounts with a maximum of only 35 per cent (UNDP 2007*b*, p. 11). "With a maximum of" means that there are differences in the discounts each shop gets. This means that RiteMed uses a *differential* pricing method.

Prices of medicines by Aspen Pharmacare are volume-dependent. This means that the prices are based on a *differential pricing* method.

The Mi Farmacita franchise shops can determine the prices of the medicines themselves. This is because there may be competitors around that can sell specific medicines for a lower price and, to be competitive, Mi Farmacita lets the franchise shops adapt the prices to local differences. The franchise shops can also decide to give discounts to loyal customers (World Resources Institute 2007*c*, p. 24) and this means that it uses a *differential pricing* method to determine the prices.

GSMF does not regulate the retail prices (World Resources Institute 2007*b*, p. 16). They sell the medicines with volume-dependent discount to the franchise shops (World Resources Institute 2007*b*, p. 16). Although GSMF would like to have uniform prices across the different franchise shops, many franchise shops would not be able to compete with local competitors. This means that the franchise shops have different prices around the country (customer-characteristic-dependent) and that CareShop uses *differential pricing* method.

5.8.3 Interpretation of the Results

In Table 5.8 on page 64 an overview is given of the main results of the Revenue Model building block. The first variable identifies how the company gets its revenues. The revenue models of the manufacturing companies RiteMed and Aspen are based on selling mechanisms. The marketing and sales companies Mi Farmacita and CareShop have a different approach. Their revenue models are based on a combination of licensing and transaction cut mechanisms. The franchisees sell the medicines to the customers, which means that the revenue model of the shops is based on the selling model. The franchiser, however, gets its revenues by using a transaction cut and a licence fee, as is customary in the franchise system (Michael 1996). Therefore, I conclude that franchise model and corresponding revenue model is an important characteristic for the marketing and sales companies whereas a revenue model based on selling is an important characteristic for the manufacturing and distributing companies. The importance of franchise model could not be confirmed by Steve Brooke, but he could imagine that this could help companies to be successful at the base of the pyramid.

The second variable identifies the pricing method of the companies. RiteMed, Aspen Pharma, Mi Farmacita and CareShop all use some form of differential pricing. This can be volume-dependent or customer-characteristic-dependent, or both as CareShop Ghana shows. From this I conclude that differential pricing is an essential characteristic of profitable pharmacy companies at the BOP.

5.9 Cost Structure

5.9.1 Cost of Goods Sold and Total Operating Expenses

The cost of goods sold (COGS) for RiteMed are 51 per cent of total sales (UNDP 2007*b*, p. 12) and the total operating expenses (TOE) account for 19 per cent of total sales (UNDP 2007*b*, p. 12).

According to the financial results of the financial year that ended on 30 June 2009, the costs of goods sold for Aspen Pharmacare are valued at R4564,1 million ($596 million) and the total revenues are valued at R8.450,3 million ($1.117 million). The COGS therefore account for $\frac{4564,1}{8450,3} \times 100\% = 54.1\%$ of total sales. The total operating expenses are R1703,2 million and account for $\frac{1703,2}{8450,3} \times 100\% = 20.2\%$ of total sales (Aspen Holdings 2009, p. 12).

Variable	RiteMed	Aspen	Mi Farmacita	CareShop
Revenue Model				
Stream Type	Selling	Selling	Licensing & Transaction Cut	Licensing & Transaction Cut
Pricing Method	Differential Pricing	Differential Pricing	Differential Pricing	Differential Pricing

Table 5.8: Summary of the Results of the Revenue Model

For Mi Farmacita not much financial information is shared, only a monthly and yearly profit-and-loss statement for an individual franchise. If it is assumed that this profit-and-loss statement is representative for all the franchise shop, it can be calculated that the Cost of Goods Sold (including the monthly franchise fee and profit sharing with the franchise manager) is estimated on $37,700 for an individual outlet. With total revenues of $82,018, the COGS account for $\frac{37,700}{82,018} \times 100\% = 46.0\%$ of total revenues, whereas the TOE of $20,978 account for $\frac{20,978}{82,018} \times 100\% = 25.6\%$ of total revenues.

In 2007 CareShop Ghana made revenues of GH¢117,196 according to an income statement of a typical franchise shop (World Resources Institute 2007*b*, p. 30). The cost of goods sold would be GH¢101,873, or $\frac{101,873}{117,196} \times 100\% = 86.9\%$ of total revenues. The total operating expenses are GH¢37,500, or $\frac{37,500}{117,196} \times 100\% = 32,0\%$ of total revenues.

5.9.2 Interpretation of the Results

Variable	RiteMed	Aspen	Mi Farmacita	CareShop
Cost Structure				
Cost of Goods Sold	51%	54.1%	46.0%	86.9%
Total Operating Expenses	19%	20.2%	25.6%	32.0%

Table 5.9: Summary of the Results of the Cost Structure

In Table 5.9 an overview is given of the main results of the cost structure building block. The first variable identifies the part of the revenues that accounts for the cost of goods sold. The costs of goods sold of RiteMed, Aspen and Mi Farmacita account for approximately 50 per cent of the revenues, which means that these companies have gross profit of around 100 per cent on each product. The costs of goods sold of CareShop Ghana account for almost 87 per cent of the revenues, which means that this company has a gross profit on each product of only 15 per cent. From this I conclude that having your cost of goods sold around 50 per cent is a *recommended characteristic* of profitable pharmacy companies at the BOP.

The second variable identifies the part of the revenues that accounts for the total operating expenses. The total operating expenses for all four companies are under 26 per cent. Therefore, I conclude that having the total operating expenses under 26 per cent of total revenues is a *recommended characteristic* of profitable pharmacy companies at the BOP.

5.10 Application of the BOP Innovation Principles

In the previous sections the results of the four cases have been presented and by interpreting the results essential and recommended characteristics of business models of profitable pharmacy companies at the BOP have been found. This enables

the possibility to verify whether the base of the pyramid innovation principles have been applied at the companies. This will be done in this section.

5.10.1 Price Performance

The first BOP innovation principle, *Price Performance*, is clearly applied by RiteMed, Aspen Pharmacare and Mi Farmacita as they provide quality medicines for a lower price. By lowering the price and giving the same performance (same quality medicines) they have improved the price performance ratio. For these three companies the value *applied* is assigned. Only CareShop Ghana delivers its medicines at a market price level and keeps the quality of the medicines equal and therefore does not apply the *Price Performance* principle. The value assigned to this variable is thus *not applied*.

5.10.2 Innovation Hybrids

The second BOP innovation principle, *Innovation Hybrids*, which states that the best technology should be used and that the BOP cannot be satisfied with old technology, is clearly *not applied*. All companies deliver high quality generic medicines. A characteristic of generic medicines is that it are medicines that have no longer a patent on it, which means they are approximately 20 years old. Only Aspen Pharmacare that gets voluntary licences from the big pharmaceutical companies, has medicines that were invented more recently. Therefore, Aspen is the only company that *applied* this innovation principle.

5.10.3 Scale of Operations

The third innovation principle, *Scale of Operations* is *applied* by all four companies. Due to their huge manufacturing plants and the many different medicines they manufacture RiteMed and Aspen Pharmacare are able to manufacture medicines at a large scale. Mi Farmacita and CareShop are able to deliver medicines at a large scale. Due to their franchise model, they can cheaply expand their market very quickly and thus keep the costs down while operating at a large scale.

5.10.4 Sustainable Development

No information is provided on the subject of sustainable development, so it is concluded that the four companies have *not applied* the *Sustainable Development* innovation principle.

5.10.5 Identifying Functionality

The fifth BOP innovation principle, *Identifying Functionality*, is *applied* by all four companies. The manufacturing companies pack their medicines in small amounts,

one or two pills instead of a full box[5]. In this way to poor can spread the expenses, because they cannot afford to buy a whole box of pills. Another example is that the franchisees try to be located at places that are convenient for the poor, like the community centre. For the poor it is quite costly to travel far and by being located at places where they have to be often, they better suit the needs of the poor.

5.10.6 Process Innovation

Also *Process Innovation* is applied by CareShop Ghana. CareShop has innovated the process of bringing the medicines to their franchisees. By making use of public transportation the medicines are brought to the franchisees. For CareShop the value *applied* is assigned. Unfortunately there are no traces of process innovation for the other three companies and, therefore, this innovation principle is regarded as *not applied* for these three companies.

5.10.7 Deskilling of Work

In none of the cases it becomes clear whether the companies apply the seventh BOP innovation principle, *Deskilling of Work*. It is mentioned that diagnosing the symptoms is done by the doctor and not by the sales people in the Mi Farmacita franchise shops, but nothing is mentioned about deskilling the manufacturing, distribution, marketing and other aspects of sales. Therefore, it is concluded that this innovation principle is *not applied* by the companies.

5.10.8 Education of the Customers

Education of the Customers is a BOP innovation principle that is applied by all four companies. Whereas RiteMed and Aspen Pharmacare focus on educating the customers on the benefits of generic medicines, Mi Farmacita and CareShop Ghana focus on educating customers how to use the specific medicines. This means that is can be concluded that this innovation principle is *applied* for all four companies.

5.10.9 Designing for Hostile Infrastructure

From the document analysis it is not made clear that the companies have adapted their products to the hostile infrastructure. Therefore it is concluded that this BOP innovation principle is *not applied* by all four companies.

5.10.10 Interface

Neither is it mentioned whether or not the companies have changed the interface of the products to match the requirements of the customers. Therefore it is concluded that this BOP innovation principles is *not applied*.

[5]This is an example given by Steve Brooke, one of the interviewees.

5.10.11 Distribution

The eleventh innovation principle, *Distribution* is *applied* by CareShop Ghana and Mi Farmacita. CareShop, that tries to make all essential medicines available all the time, found an innovative way to distribute its medicines. By using both their own trucks and making use of public transportation, they are able to deliver the medicines to the franchise shops really quick. Mi Farmacita uses the distribution network of its founder. In that way, it can distribute its medicines relatively cheap. Unfortunately there is no information on how the other two companies applied this innovation principle, and therefore it is concluded that this is *not applied* by the other two companies. Steve Brooke emphasised the problems of distributing the medicines. He told that some companies even use people to piggyback to medicines to the shops. Therefore, this innovation principle is seen as an important characteristic of a business, although only two of the four companies have actively applied this principle

5.10.12 Challenge the Conventional Wisdom

The twelfth and last BOP innovation principle, *Challenge the Conventional Wisdom*, is used by all companies. However, according to the Base of the Pyramid innovation theory, it should be used all the time and it should be the basis of all innovations. None of the company has applied many innovation principles. As stated in the methodology chapter of this research, a company is considered to have challenged conventional wisdom when more than eight of the innovation principles are applied and it is considered to have *partly applied* this innovation principle when five to eight innovation principles have been applied. If less than five innovation principles have been applied, a company is considered to have not challenged conventional wisdom. This means that RiteMed is considered to have not challenged conventional wisdom whereas the other three companies have challenged the conventional wisdom partly.

5.10.13 Interpretation of the Results

In Table 5.10 an overview is given of the main results of the application of the innovation principles. From this overview it can be concluded that *Scale of Operations*, *Identifying Functionality* and *Education of Customers* are applied by all companies and are therefore considered as a *essential characteristic* for profitable pharmacy companies at the BOP. The innovation principles *Price Performance*, *Distribution*[6] and *Challenge Conventional Wisdom* are applied by three of the four companies and are therefore considered as *recommended characteristic* for profitable companies at the BOP.

[6]Because this turns out in the interview to be important it is also considered as a recommended characteristic.

Variable	RiteMed	Aspen	Mi Farmacita	CareShop
Innovation Principles				
Price Performance	Applied	Applied	Applied	Not applied
Innovation Hybrids	Not applied	Applied	Not applied	Not applied
Scale of Operations	Applied	Applied	Applied	Applied
Sustainable Development	Not applied	Not applied	Not applied	Not applied
Identifying Functionality	Applied	Applied	Applied	Applied
Process Innovation	Not applied	Not applied	Not applied	Applied
Deskilling of Work	Not applied	Not applied	Not applied	Not applied
Education of Customers	Applied	Applied	Applied	Applied
Design for Hostile Infrastr.	Not applied	Not applied	Not applied	Not applied
Interface	Not applied	Not applied	Not applied	Not applied
Distribution	Not applied	Not applied	Applied	Applied
Challenge Wisdom	Not applied	Partly applied	Partly applied	Partly applied

Table 5.10: Summary of the Results of the Innovation Principles

5.11 Business Model Framework

5.11.1 Business Model Phase

The four companies all have an undifferentiated business model that competes on price and availability. It could be argued that Mi Farmacita has a *Type 2* business model as this company has decided to sell no "similar medicines". This is a kind of differentiation, which would assume a *Type 2* business model. However, it still sells both generics and branded medicines, which means that the company still competes on price and availability. Therefore, it is concluded that all four companies have a *Type 1* business model.

5.11.2 Interpretation of the Results

The four companies in this research already have a *Type 1* business model and should to move on to a *Type 2* business model to advance further. This means that it should try to find segments and niches that it could serve. To do this, it should take its *Type 1* business model as a starting point and try to find out how it could serve a more specific group, or multiple specific groups, so it could specialise on serving these customers and fulfil their needs better.

5.12 Summary

In the previous sections the results of the four cases have been presented. A summary of the results can be found in Table 5.11 on page 71. Next to presenting the results, also an interpretation of the results has been given. From this interpretation the essential characteristics and the recommended characteristics have been derived. In this last section a small summary is given of the results by presenting Figure 5.1. In this figure the full coloured building blocks and the non-dashed

coloured innovation principles contain the essential characteristics for profitable pharmacy companies at the BOP. The non-full coloured building blocks and the coloured innovation principles with a dashed-line contain the recommended characteristics for profitable pharmacy companies at the BOP. In the middle of the figure it can be seen that the business models of such companies are in a *Type 1* stage of advancement. In this way a business model for profitable pharmacy companies at the BOP is displayed

Now the results from this research are known, a conclusion can be made and recommendations can be given. This will be done in the following chapter.

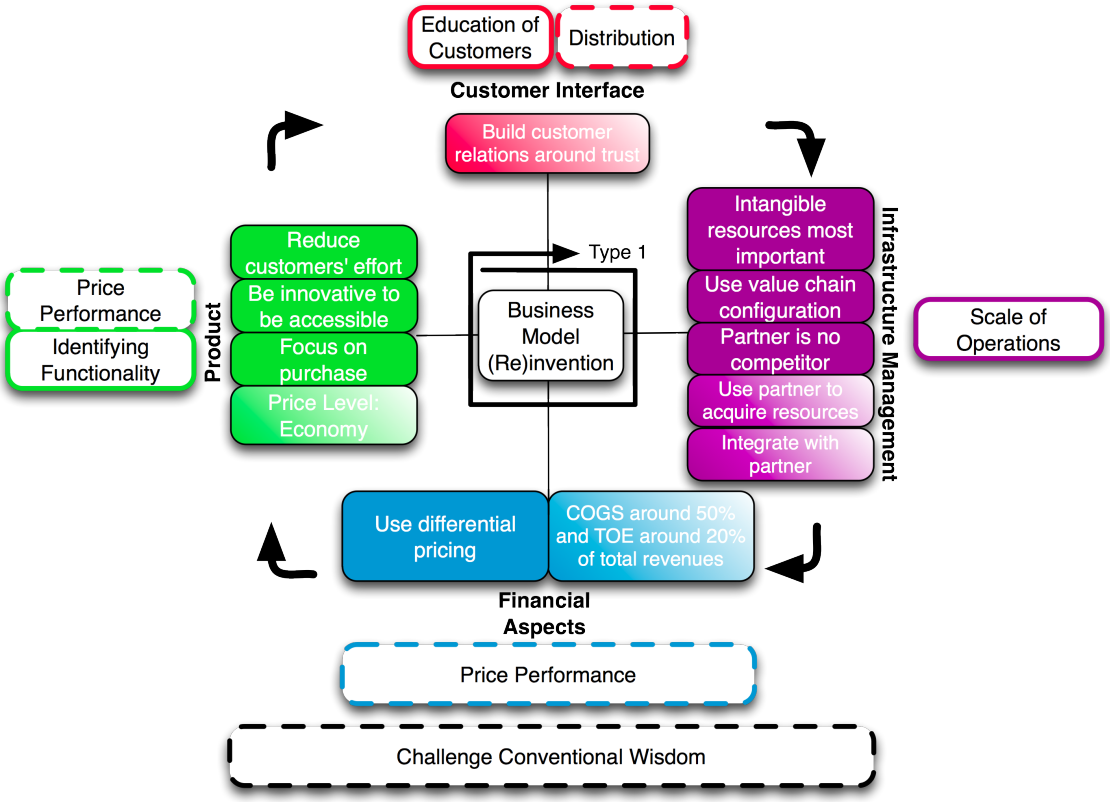

Figure 5.1: Overview of the results

Variable	RiteMed	Aspen	Mi Farmacita	CareShop
Value Proposition				
Reasoning	Effort	Effort	Effort	Effort
Value Level	Innovation	Innovation	Innovation	Innovation
Price Level	Economy	Economy	Economy	Market
Value Life Cycle	Value Purchase	Value Purchase	Value Purchase	Value Purchase
Target Customer				
Description	Poor	Poor	Poor to middle class	Poor
	Need essential medicines	Need medicines	Visiting centre by foot	Need essential medicines
	Small hospitals & clinics	Only 21% has access		No or bad access
Distribution Channel				
Customer Buying Cycle	Awareness	Awareness	Purchase	Purchase
Relationship				
Customer Equity		Acquiring	Add-on selling	Retention
Function	Trust	Trust	Trust	Brand
Capability				
Resource Type	Intangible	Intangible	Intangible	Intangible
Value Configuration				
Configuration Type	Value Chain	Value Chain	Value Chain	Value Chain
Partnership				
Reasoning	Acquisition of Resources	Acquisition of Resources	Acquisition of Resources	Reduction of Risk and Uncertainty
Strategic Importance	Very important	Very important	Very important	Rather important
Degree of Competition	No competition	No competition	No competition	No competition
Degree of Integration	Rather integrated	Rather integrated	Very tight	Rather integrated
Substitutability	Very difficult	Very difficult	Very difficult	Very difficult
Revenue Model				
Stream Type	Selling	Selling	Licensing & Transaction Cut	Transaction Cut
Pricing Method	Differential Pricing	Differential Pricing	Differential Pricing	Differential Pricing
Cost Structure				
Cost of Goods Sold	51%	54.1%	46.0%	86.9%
Total Operating Expenses	19%	20.2%	25.6%	32.0%
Innovation Principles				
Price Performance	Applied	Applied	Applied	Not applied
Innovation Hybrids	Not applied	Applied	Not applied	Not applied
Scale of Operations	Applied	Applied	Applied	Applied
Sustainable Development	Not applied	Not applied	Not applied	Not applied
Identifying Functionality	Applied	Applied	Applied	Applied
Process Innovation	Not applied	Not applied	Not applied	Applied
Deskilling of Work	Not applied	Not applied	Not applied	Not applied
Education of Customers	Applied	Applied	Applied	Applied
Design for Hostile Infrastr.	Not applied	Not applied	Not applied	Not applied
Interface	Not applied	Not applied	Not applied	Not applied
Distribution	Not applied	Not applied	Applied	Applied
Challenge Wisdom	Not applied	Partly applied	Partly applied	Partly applied

Table 5.11: Summary of the Results

Chapter 6

Conclusion

In this last chapter the conclusion of this research will be presented in Section 6.1, by answering the research question. After the research question has been answered, the recommendations from this research will be presented in Section 6.2. In Section 6.3 the scientific contribution of this research is presented and in Section 6.4 the limitations of this research are discussed. In last section, Section 6.5 some suggestions for further research are made.

6.1 Answer to the Research Question

In this section an answer to the research question is given. This master thesis gives an answer to the following research question:

> What are the main characteristics of business models of profitable pharmacy companies at the Base of the Pyramid and which ones contribute to profitability?

From the theoretical framework it can be concluded that business models of pharmacy companies at the base of the pyramid can be conceptualised by four main pillars: *value proposition*, *target customer*, *infrastructure management* and *financial aspects*. These pillars consist of nine building blocks as has been shown in Chapter 3. These four pillars consisting of nine building blocks together form the business model. To use the business model at the base of the pyramid the twelve BOP innovation principles need to be taken into account.

In Chapter 4 this conceptual framework has been operationalised. From this chapter it can be concluded that a business model can be measured using the 32 variables as is shown in Table 4.1 on page 44. Each variable measures a different part of the building blocks or BOP innovation principles.

The conceptual framework is used to identify the business model of four profitable pharmacy companies and from this analysis it can be concluded that profitable pharmacy companies have eight essential characteristics that contribute to the profitability of such companies:

No.	Recommended Characteristics
1	Price Level: Economy
2	Relationship Function: Trust
3	Reasoning: Acquisition of Resources
4	Strategic importance: Very important
5	Degree of integration: Rather tight
6	Substitutability: Difficult
7	Cost of Goods Sold: 50% of Revenues
8	Total Operating Expenses: 20% of Revenues

Table 6.1: Overview of the Recommended Characteristics

1. The reasoning of the value proposition is based on reducing the customers' effort;
2. The value proposition is innovative;
3. The value life cycle of the value proposition is based on the value purchase phase;
4. The most important resources of the companies are intangible;
5. The configuration type of companies are based on a value chain configuration;
6. The supplier is no competitor of the company;
7. The companies use a differential pricing method;
8. The customers are educated to teach them the benefits of the products;
9. The company operates at a large scale to keep the costs down;
10. The company should suit the needs and wants by identifying the functionalities the customers expect from the company, and,
11. The business models have a *Type 1* advancement phase, which means that they focus on price and availability.

Next to these essential characteristics, other characteristics have been identified that are recommended to have. These can be found in Table 6.1.

6.2 Recommendations

In the introduction chapter three groups benefit from this research: the pharmacy companies at the base of the pyramid, the pharmaceutical companies in the developed world and researchers in the fields of (pharmacy) base of the pyramid innovation and business model innovation. The recommendations for this last group can be found in Section 6.5 where some suggestions for further research are given.

6.2.1 Recommendations to BOP Pharmacy Companies

Base of the pyramid pharmacy companies can learn from this research that business models are very important for their companies. By explicitly stating their business model, these companies can realise their strengths and competitive advantage, and can improve their existing business model to improve their success even more. To do this, the following recommendations are given:

1. Base of the pyramid pharmacy companies should be aware of their business model and if they are not already, do so by using the conceptual framework as presented in this research.

2. Base of the pyramid pharmacy companies should be aware that they continuously should try to improve their business model as technology, customers and other aspects in the environment are changing.

3. Base of the pyramid pharmacy companies should improve their business model using the *Wheel of Business Model Re(invention)* and keep in mind the eight essential and seven recommended characteristics, as these characteristics contribute to profitability.

6.2.2 Recommendations to Pharmaceutical Companies in the Developed World

Pharmaceutical companies in the developed world should realise that there is an enormous profitable market at the base of the pyramid. By realising that the *Dominant Logic* as presented by Prahalad (2004) is not true, they can become aware of this potential market and try to serve it. To do this the following recommendations are given:

1. Pharmaceutical companies in the developed world should be aware that there is an enormous potential at the base of the pyramid and that the *Dominant Logic* they may have is not true.

2. Pharmaceutical companies in the developed world should try to access this market as there is an enormous potential and many lives can be saved. They can do this themselves by setting up a subsidiary that should use a business model based on the eight essential and seven recommended characteristics and keep innovating the business model using the *Wheel of Business Model (Re)invention*. Another way to do this, is by licensing voluntary licences to pharmacy companies at the base of the pyramid. In this way the parental company can focus on the high-margin medicines in the developed world and the subsidiary at the base of the pyramid can focus on the low-margin generic drugs.

3. Initiatives like *The Tropical Disease Initiative* are recommended to supply their new found medicines via base of the pyramid companies. In this research

two manufacturing and distributing companies and two marketing and sales companies have been studied that successfully bring low-priced medicines to these people. By supplying their new medicines via such companies, costs can be saved, which means that the prices of the medicines can be kept low.

6.2.3 Recommendations to Governments of Developing Countries

Governments of developing countries can use the results of this research to improve the policies they have on improving accessibility and affordability of essential medicines. All these governments have their own specific situations and, therefore, cannot implement the same policies on these issues. However, the results of this research may give them an insight in the aspects that are important to the companies that manufacture and sell the medicines, so they can make policies that can help these companies to do this even better.

1. Governments can educate people on the benefits of generic medicines. When governments, as an objective, neutral party educates the people on the benefits of generic medicines, the people may believe this quicker than when a for-profit organisation this does, because of the interests of the company. Next to this, this could save the companies much money that could be spend on improving the accessibility and availability of medicines.

2. Steve Brooke emphasised the importance of creating an equal playground for the companies. Some companies get benefits from their founding firms while others do not and some companies are heavily subsidised by charity funds. The government is the only party that can create an equal playground for these companies, so they can compete in a fair way. This, however, may not result in a decrease in accessibility and availability.

6.3 Scientific Contribution

This research has contributed to scientific knowledge in the fields of business model innovation and base of the pyramid innovation in the following way:

1. By building on existing literature in these fields and combining different conceptual frameworks, this research has presented a conceptual framework that can identify business models of pharmacy companies at the base of the pyramid. Other researchers can use this model to capture the business model of other companies at the base of the pyramid and study the specific challenges and opportunities of those companies.

2. By researching these four pharmacy companies from a business point of view, the importance of business in the BOP health market is stressed. Where many researchers focus on the health and policy sides of these issues the business

side may not be forgotten to create a sustainable health market at the base of the pyramid.

3. This research contributed to science by identifying eight essential and seven recommended characteristics of business models of pharmacy companies at the base of the pyramid that contribute to their profitability. These characteristics can be seen as a starting point for business model research at the base of the pyramid. With more follow-up research this list may change, so an even better understanding is created of how profitable business models at the BOP look like, but a starting point has been made.

6.4 Limitations of the Research

No research comes without limitations and these limitations should be made explicit to the readers, so they can understand and interpret the results and conclusions of this research.

1. Readers should realise that business models are not the only factor contributing to profitability. Although a good and solid business model is a key factor for profitability, its implementation and limitations from the external environment, for instance, are very important and should not be undervalued.

2. This research only looked at companies in the last two phases of the pharmaceutical value chain: manufacturing & distribution and marketing & sales. Although most medicines are still invented in the developed world, not a full overview of business model innovation in the pharmaceutical value chain is obtained.

3. This research only looked at four companies in-depth and these companies are from different kind of BOP-countries and share many equal characteristics. However, this are still four companies and this may limit the validity of the results and conclusions.

4. The last limitation concerns the generalisability of the results. This research only looked at pharmacy companies and it is unknown whether the characteristics are valid for other kind of base of the pyramid companies. One should be careful when implementing the essential and recommended characteristics in business models of non-pharmacy base of the pyramid companies.

6.5 Suggestions for Further Research

To overcome some of the limitations, further research could be conducted. Therefore, some suggestions for further research are presented:

1. A first suggestion for further research is to verify whether the essential and recommended characteristics are valid for other pharmacy companies at the

base of the pyramid too. By gathering data from many pharmacy companies, statistical correlation between these characteristics and profitability may be proven.

2. A second suggestion is to research whether these characteristics are valid for non-pharmacy base of the pyramid companies too. Prahalad (2004) has developed BOP innovation principles that can be used for all kind of BOP businesses and it would be interesting to see whether this is true for these business model characteristics too.

3. A third suggestion for further research would be to research what the limitations of implementing these results are. In this research a method is presented to innovate the business model, but companies may have difficulties to use this method. It would be interesting to see how this method performs in practice.

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Appendix A

The Business Model Framework

In this appendix the different types of business model stages of the Business Model Framework are discussed. These descriptions are based on Chesbrough (2007, p. 13–15).

Type 1 – Company has an undifferentiated business model. The vast majority of companies operating today do not articulate a distinct business model, and lack a process for managing it. These companies are operating with Type 1 business models. A business using the undifferentiated model competes on price and availability, and serves customers who buy on those criteria. In a word, firms utilising Type 1 business models are selling commodities, and are doing so in ways that are no different from many, many other firms. They often are caught in the commodity trap. Think of restaurants and barber shops as examples of this commodity model.

Type 2 – Company has some differentiation in its business model. In companies using Type 2 business models, the company has created some degree of differentiation in its products or services. This differentiation can also lead to a different business model from that of the Type 1 company, allowing the company to target a customer other than those that buy simply upon price and availability (such as a performance-oriented customer). This allows the Type 2 company to serve a different and less congested market segment from that served by its Type 1 counterpart.

The Type 2 company may lack the resources and staying power to invest in the supporting innovations to sustain its differentiated position. This gives rise to the pattern of so-called one hit wonders, where a company or inventor has a successful first product, but is unable to follow up this success with additional products of similar success. Many technology startup companies fall into this type.

Type 3 – Company develops a segmented business model. The company now can compete in different segments simultaneously. More of the market is thus served, and more profit is extracted from the market as well. The price sensitive segment provides the volume base for high volume, low cost production. The performance segment supplies high margins for the business. Other niches can now be addressed, creating a stronger presence in the distribution channels. The firms business model now is more distinctive and profitable, which supports the firms ability to plan for its future via product and technology roadmaps.

While its greater level of planning helps the Type 3 company avert the one-hit wonder syndrome, problems still remain. The Type 3 firm remains vulnerable to any major new technical shift beyond the scope of their current business and innovation activities, and also to major shifts in the market. Think of a mature, vertically integrated industrial company, as an example of this kind of model. Or in the IT space, think of an ERP system that is deeply connected to business processes, but has few ways to link in other software on top of its own code.

Type 4 – Company has an externally aware business model. In this business model, the company has started to open itself to external ideas and technologies in the development and execution of the business. This unlocks a significantly greater set of resources available to such a company.

The roadmaps of the Type 4 firm provide a shopping list of needs within the firm for external ideas and technologies. Relationships with outsiders help identify external projects that fulfil some of these needs. This reduces the cost of serving the business, reduces the time it takes to get new offerings to market, and shares the risks of new products and processes with external parties.

Internal roadmaps are now shared with suppliers and customers on a frequent basis. This enables the firm to make much more systematic use of innovative ideas from suppliers and from customers. It also allows suppliers and customers to plan their own activities in concert with the innovative activities of the firm. Companies that make it a practice to share real-time information with their suppliers exemplify this approach.

Type 5 – Company integrates its innovation process with its business model. In a Type 5 model, the companys business model now plays a key integrative role within the company. Suppliers and customers now enjoy formalised institutional access to the firms innovation process, and this access is now reciprocated by the suppliers and customers. Customers and suppliers now share their own roadmaps with the company, giving the company much better visibility into the customers future requirements.

In this stage, companies begin to experiment more directly with the business

model itself. Type 5 companies now take the time to understand the supply chain all the way back to the basic raw materials, as they look for major technical shifts or cost reduction opportunities. Type 5 companies also invest substantial resources to study the customers customer to learn about the deeper unmet needs and opportunities in the market. Some experimentation is conducted on alternative distribution channels, and indeed, upon alternative configurations of the business model. Companies that are moving from offering products to offering services, and are bringing in external technologies to support this new approach are examples of Type 5 models.

Type 6 – Companys business model is an adaptive platform. The Type 6 business model is an even more open and adaptive model than types 4 or 5. This ability to adapt requires a commitment to experimentation with one or more business model variants. This experimentation can take a number of different forms. Some companies utilise corporate venture capital as a means to explore alternative business models in small startup companies. Some utilise spin-offs and joint ventures as means to commercialise technologies outside of their own current business model. Some have created internal incubators to cultivate promising ideas that are not yet ready for high volume commercialisation.

In Type 6 firms, key suppliers and customers become business partners, entering into relationships in which both technical and business risk may be shared. The business models of suppliers are now integrated into the planning processes of the company. The company in turn has integrated its business model into the business model of its key customers. Intel, Microsoft and Wal-Mart are examples here.

One important capability that enables this integration of business models throughout a value chain is the ability of the company to establish its technologies as the basis for a platform of innovation for that value chain. In this way, the company can attract other companies to invest their resources, expanding the value of the platform without consuming extra investment by the platform maker. For example, anyone making software for PCs, accessories for iPods, or games for cell phones is indirectly contributing to the value of each of these platforms[2].

Appendix B

Interview Questions

In this appendix an overview of the interview questions is given. The interview questions are based on the results of the document analysis.

1. What are in your opinion the most important characteristics of the value proposition for a pharmacy company at the Base of the Pyramid?
2. What are in your opinion the most important characteristics of a distribution channel for such a company?
3. Do you agree that partnerships are very important for these companies and what are in your opinion the most important characteristics of such partnerships?
4. Do you agree that education of the customers is important for these pharmacy companies?
5. What other aspects are important for the successfulness of such companies?
6. How can governments in your opinion support these companies?

Appendix C

Definitions of Variables

In this appendix all the definitions of the categorical values of the variables are given. The definitions are based upon the work by Osterwalder (2004).

Acquisition The most obvious goal of a relationship for a company is to acquire new customers. Every company loses customers, even the ones with high retention rates, so to keep the amount of customers at the same level, or to improve it, every company must acquire new customers.

Acquisition of Resources Other partnerships are formed in order to acquire specific resources. Often companies form a partnership with companies in foreign markets to acquire access to these markets. Other acquisition possibilities are, for instance, knowledge, data or customer access.

Add-on selling The goal of add-on selling is to sell additional products and services to current customers, for instance, accessories to the standard, basic products.

Advertising Other companies get money for advertising a product or message from another company. Free newspapers are an example of products by companies that generate revenues income from advertisements.

After-sales After-sales services can greatly contribute to a value proposition by assisting him using the product after the purchase. This can embrace implementation, use, training, maintenance, monitoring, troubleshooting and reverse logistics.

Awareness In this phase the customer identifies the value proposition that might match his or her needs. A company tries to reach as many possible customers by using advertisements and other promotional tools

Brand Brands are very important for relationship building. A brand can be a valuable asset for a company and it is influenced by every interaction with a customer. The function of some relationships can be to emphasise and to market the brand to a group of potential customers.

Differential Pricing Differential pricing mechanisms produce prices that are volume-dependant or based on customer characteristics, but not based on real-time market conditions. Getting a discount based on the amount of products you buy (volume-dependant) or getting a discount because you are a student (customer characteristics) are examples of differential pricing mechanisms

Economy An economy price level refers to the price scale where a company offers a product for a lower price than its competitors. Often this goes together with a lower value level, but this is not necessarily the case. To be able to offer a value proposition at an attractive price over a substantial period of time, a firm needs to streamline other elements in its business model as well. Only when all the elements fit together well, a lower price may be possible.

Effort Another way a company can deliver value to its customer is by making the life of its customers easier. This can be done by selling products that require less maintenance or training or require less search, evaluation and acquisition costs.

Evaluation In the evaluation phase a customer evaluates the different value propositions that he or she identified in the previous phase.

Excellence When the value level of a company can be described as excellence, then it pushes the value it offers to the extremes. It can offer a product that is the best in its class. This type of offering often comes with a very high price.

Fixed Pricing Fixed pricing mechanisms produce prices that are not volume-dependant, not based on market conditions and are not based on customer characteristics. Pay-per-use and subscriptions are examples of this price mechanism.

Free Some companies offer a *Value Proposition* to the customer without asking for a financial compensation. This is done because they have a business model that is based on other sources of income, such as advertisement.

High-end The high-end price level represents the upper boundary of the price level. Many luxury goods can be found at this price level, due to more, for example, expensive materials, better quality and brand image.

Human In some firms people-based skills are of crucial value. In knowledge-intensive companies like consultancies, hospitals and pharmaceutics the skills that are possessed by the employees are very important.

Innovation "*Innovation* means that a firm introduces either a completely new product or service or a revolutionary combination of products and services" (Osterwalder 2004, p. 52). Research has shown that consumers highly valuate innovation and are willing to pay for new value propositions (Nunes &

Johnson 2002). At some point an innovative proposition will not be innovative anymore due to, for instance, commoditisation or the introduction of a superior technology.

Innovative imitation This means that a company imitates an existing *Value Proposition* but improves its value by adding one or more innovative elements.

Intangible This group has gained importance over the last decades. For instance, patents and brands can be of great value to the company, but it is difficult to put a value to them on a balance sheet.

Lending A company can lend the product, by giving it away for a period of time in exchange for money, expecting it to be given back. An important characteristic of lending in which it differentiates itself from licensing is that the object that is lend cannot be used by the company or another customer during the time it is lend.

Licensing A company can license the offering, by giving someone an official permission to do or have something for a period of time and getting money in return for this permission. Licensing is often used with patents or copyright. A company that holds a patent can for instance license another company or multiple companies to make or sell a product. Franchising is also a form of licensing, because the franchisor licenses the trade name, brand and business models to a company.

Market When a company has its price at a market level, it means that there are small price differences between the company's value proposition and other competitors' value propositions. A value proposition priced at a market price level can still be attractive if it offers more value to the customer than competitors at the same price level.

Market (Dynamic) Pricing Market pricing mechanisms produce prices based on real-time market conditions. Gasoline, gold and stocks are examples of products of which the prices change real-time or at least really fast.

Me-too A *me-too* value level simply means that there is no difference in the value to the customer of the product that a firm offers from the product a competitor offers. It is important to note that differentiation still may take place through a lower price, which is captured in the *Price Level* variable.

Optimisation and Economics of Scale Many companies start a partnership to be able to optimise their operations. By outsourcing a part of the production process to a partner firm, a company can make use of the economies of scale of the partner firm and deliver a value proposition quicker/cheaper/better than it could have done when it would have done this part of the production process itself.

Personalisation In the past, many small companies knew their customers personally: they knew their needs and habits. Nowadays with the big multinational companies with thousands of employees that change jobs quickly these one-on-one relationships are not possible anymore. Technology makes it possible to gather information about customers and make customer profiles, which can be used to customise the information (e.g. marketing materials) a company sends to the specific customer(s).

Purchase In the purchase phase the actual transaction takes place. Negotiation, decision, contract, order, tracking, billing, payment en fulfilment are actions that are done during this phase. Technology can streamline these actions and in that way the distribution channel can better suit the wishes of the customer.

Reduction of Risk and Uncertainty In competitive environments, which are characterised by high risk and uncertainty, many companies form partnerships to share the risks and uncertainties. In this way it is possible to keep investing in, for instance, research and development activities, without bearing the high risks and uncertainties associated with these investments.

Retention The goal of retention is to keep customers connected to the company so they will purchase new products from your company. Because retention on average is cheaper than acquisition, it makes sense to try to keep a customer instead of losing it and then trying to get him/her back.

Risk Customers face several risks when buying a product. One such risk might be that the price of a purchased good will go down in the future or that the price of good purchased through a long-term contract might go up. Another risk may be that a product does not function in a way the customer expected it to do. A product that takes away such risks is for instance an insurance.

Selling A company can sell the offering, by giving away certain aspects of ownership of a good or service in exchange for money.

Tangible Tangible resources are the most conventional ones. One can think of buildings, equipment and raw materials.

Transaction Cut Some companies intermediate between other companies. They organise, facilitate or perform the deal between these companies. For doing this they get a transaction cut or a commission. This is a fee that is paid to company that intermediates.

Trust Trust is important for business transactions. In a business environment that has become global, these transactions are often virtual and the parties often do not know each other. New mechanisms like online payments can be made extra safe using all kinds of verification and fraud protection programmes. By making use of such mechanisms company help customers to trust them.

Use The bulk of value usually derives from the actual use of a bundle of products and services and is created when product attributes (e.g. features, design, value-added services, support) correspond to customer needs. In other words value is produced when assumed customer value matches perceived customer value after the consumption of a *Value Proposition*.

Value Chain The value chain contains the different activities a firm performs to deliver low-cost or differentiated products. A value chain company is a company that found a solution to a problem and tries to sell this solution to all its customers (if needed with small modifications).

Value Creation When a product or service can be personalised for a specific customer, this value proposition may deliver more value to the customer during the creation phase.

Value Network A company that can be seen as a value network company is a company that links different companies together in order to deliver a solution to the customer. The company itself is then a intermediary in this process and focusses on network promotion, contract management, service provisioning and infrastructure operations.

Value Purchase Value can also be created during the purchase by making the purchase easier and improving the buying experience of the customer.

Value Renewal Value renewal takes place when the value a product or service delivers is used up (e.g. an empty bottle), expires (e.g. a subscription), becomes obsolescent (e.g. outdated technology) or is dysfunctional (e.g. need for a repair).

Value Shop Companies that are structured to diagnose and solve unstructured problems can be seen as value shops, where one can buy a fully custom made solution. Value shops often come up with new solutions for every customer by diagnosing every problem first and then finding a solution, instead of delivering the standard solution all the time as a value chain company does.

Value Transfer Value can also be created when a customer wants to get rid of a product or service. Some companies offer customers the possibility to return their used products so they will be recycled or offer the possibility to sell the product as a secondhand product.

Value Use Most products and services deliver value by their use. This means that the actual consumption of a product or service offers the value the customer buys.