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Pharmaceutical companies and ambidexterity in base of the pyramid markets

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ABSTRACT

The challenges that face MNPCs in making healthcare more affordable is a topic that is being increasingly researched. These companies face challenges such as pressure from governments around the world to lower their prices, stagnant growth in developed markets and the failing blockbuster business model. Turning to new markets, such as emerging markets, for growth will necessitate innovations in their business models. The aim of this research was to understand what business models will work in low-income patient markets, specifically in the South African base of the pyramid context.

The investigation of four MNPCs through a case study methodology, allowed the exploration of their current business models and ambidexterity level. Two of the four MNPCs exhibited a purely exploitative business model and as such had very little penetration into the BOP segment. One of the four MNPCs demonstrated a few characteristics of ambidexterity, but applied mainly an exploitative model and had limited access to the BOP segment. One of the four companies implemented all of the characteristics of business models that are successful in entering BOP markets as well as a high level of correlation to the characteristics of ambidexterity. The result of this MNPC described was a successful entrance in the BOP segment.

The review of the literature and the findings of this research show that MNPCs can adopt profitable business models to enter low-income markets that not only serve consumers at the base of the pyramid but also provide sustained business benefits to the MNPCs. The research study successfully achieved the research objectives and provides insights to stakeholders as to which strategies are effective when entering a low-income patient market and what are the elements that are missing from business models that are not successful. The research also highlighted institutional voids and barriers that are unique to the South African state health care system.

KEYWORDS

Multinational pharmaceutical companies, ambidexterity, business model innovation, low-income markets, base of the pyramid.

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree Masters of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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CHAPTER 1: PROBLEM DEFINITION

1.1 Introduction to Research Problem:

Three of the 8 Millennium Development Goals (MDGs) for development and poverty eradication as set out by the United Nations in 2000 (Assembly, 2000) focus on health care in low-income countries. Reaching the MDG 2015 health targets is unlikely and little progress has been made since their inception (Travis et al., 2004). Some of the reasons for this limited progress can be attributed to the health systems in these poor countries that are unable to deliver the services needed, especially as the medicines provided through the public healthcare system are many times unavailable (Cameron, Ewen, Ross-Degnan, Ball, & Laing, 2008). Further hindrances such as shortages in drug supply and financial constraints have been identified (Travis et al., 2004).

Treatment of illnesses consist of a variety of costs such as diagnostics, physician consultations, transportation costs to the clinic, and lost work time (Niëns et al., 2010). Studies have investigated the impoverishing effects of expensive medicines on populations in low-and middle-income countries. A high percentage (up to 86%) of these populations would be reduced to a level below an income of US\$ 1.25 or US \$2 per day because the medicine is highly priced in relation to the population's income (Niëns et al., 2010). In developing countries up to 90% of the medicines purchased are done as out-of-pocket payments and accounts for the second largest expenditure in such a household (WHO, 2004).

To put this into perspective, high-income countries, in contrast, spend 10% - 20% of their healthcare on pharmaceuticals, whereas the poorer countries (low-income countries) spend 20% - 60% on pharmaceuticals (WHO, 2004). Patients in these low-income countries can pay 34% - 44% more than the international reference price of generic medicines making medicines unaffordable and a burden on government budgets (Cameron et al., 2008).

Despite forming part of the lowest-income group in the world, these patients also pay more for medical services including high costs of medicine (figure 1) compared to the middle-class consumer (Prahalad & Hammond, 2002). The data provided in figure 1

below is from India and demonstrates the disparity that exists between the poor and rich communities within Mumbai (Prahalad & Hammond, 2002).

Table 1: Cost disparities in India

Cost	Dharavi (shanty town of 1 million inhabitants in Mumbai)	Warden Road (upper-class community in a good Mumbai suburb)	Poverty Premium
credit (annual interest)	600% - 1,000%	12% - 18%	53 times
municipal-grade water (per cubic meter)	\$1.12	\$0.03	37 times
diarrhea medication	\$20	\$2	10 times

Adapted from Prahalad & Hammond, 2002.

Improving the affordability of medicines in these markets has been identified as an opportunity to increase the availability of medicines to this segment (Cameron et al., 2008). Large multinational companies have entered developing countries, but mostly focus on selling to the upper-middle-class segments within these markets (Prahalad & Hammond, 2002). The big multinational pharmaceutical companies (MNPCs) derive most of their profits from developed countries and pricing their products accordingly to secure patients in emerging markets is becoming a harder task (Looney, 2013).

Companies who target the low-income sector of developing countries will have access to millions of new customers with a collective purchasing power close to billions of US dollars (Prahalad & Hammond, 2002). The challenge with this market is, as pointed out, that this sector cannot afford expensive medicines. The standard solution for MNPCs is to offer a lower price to low-income markets. However, this is not an acceptable strategy due to the risk of the impact on international reference pricing and this strategy doesn't allow the MNPCs to recapture research and development (R&D) profits (Danzon & Towse, 2003). This situation leads to the question: can the MNPCs adopt profitable business models to enter low-income markets that not only serve consumers at the base of the pyramid but also provide sustained business benefits to the MNPCs? The analysis of various answers to this question will form the core objective of this study.

To summarise the main variables that form the research problem:

- I. There are 4 billion people who make-up low-income markets and do not have access to proper medical care.
- II. The healthcare systems in these countries are unable to deliver the services needed.
- III. The blockbuster drugs that could help to offer better medical care are unaffordable to people in this sector and the cost of these drugs will further impoverish this sector.
- IV. Large multinational pharmaceutical companies are unable to lower the price of their drugs to a level where it will be affordable to at least a large portion of these people.
- V. Different strategies need to be identified to enable MNPCs to enter this market sector.

Variables IV and V above clearly identify the need for further research on this problem.

1.2 Research Motivation

1.2.1 Low-income markets and the opportunity

As pointed out, large companies have ignored low-income markets due to poor, or non-existent infrastructure in these developing markets which is confounded by the requirement for non-traditional marketing approaches (Hammond & Prahalad, 2004). Products or services used as an alternative by this segment are charged at a premium and may even be of inferior quality. This situation creates an opportunity for companies who can innovate to provide good-quality products that are convenient and more affordable (Rangan, Chu, & Petkoski, 2011). As mentioned above, multinational companies that innovate in this space with an intent to provide value can, in turn, find BOP markets to be new sources of growth (Hammond & Prahalad, 2004).

The analysis of the question how MNPCs can develop profitable business models to enter low-income markets must be seen against the background of the general problems facing the pharmaceutical industry such as a declining number of blockbuster drugs launching into the market; increasing international pressure on

reducing the prices of medicines and the challenges of operating in new growth markets, such as emerging markets. These challenges are discussed in detail below.

The MNPC patents its innovative pharmaceutical product to protect against the entrance of copy products (generics) and thereby recuperates the R&D costs for future investment (Danzon & Towse, 2003). The scope of this research does not cover loss of patent protection strategies as this does not apply to strategies to enter low-income markets. Loss of patent protection has been covered in previous dissertations (Barron, 2013) and it is one of the factors that negatively impacts pharmaceutical companies' revenues.

Only those challenges that are pertinent to the topic under discussion will be discussed in the next section. Thus, competition from other MNPCs is certainly a challenge, but it will not be discussed in this research as it does not affect the domain in which this study operates.

1.2.2 Multinational pharmaceutical companies & the challenges they face

The previous section identified some of the numerous challenges that impact the current and future profitability of multinational pharmaceutical companies. The two most serious challenges are the fact that novel therapeutic agents that reach blockbuster status are becoming fewer and governments and regulators around the globe are actively reducing what they will pay for medicines. These two challenges are discussed below.

1.2.2.1. *A declining number of blockbuster medicines: a dilemma for MNPCs*

Drug discovery occurs (in most countries other than the USA) within the in-house laboratories of large pharmaceutical companies. These discoveries are focussed on drugs that can provide substantial revenues and not necessarily on ones that cater to unmet medical needs (Kneller, 2010). Recent events regarding the failure of MNPCs to invest in treatment for the Ebola virus illustrates this point as pointed out by Oxfam's senior health-policy adviser, Mohga Kamal-Yanni, who said: "large companies will not invest in research and development for rare and neglected diseases, due to the limited scope for profit," ("Ebola virus: What price for a miracle

cure?," 2015). Heavy investment in R&D due to the blockbuster business model, drives these companies to turn their attention to drugs that have the opportunity to generate US\$ 1 billion annual market potential and beyond (Bennani, 2011).

However, the number of new blockbuster drugs launching into the market every year is diminishing: the 2013 US Food and Drug Administration (FDA)'s Centre for Drug Evaluation and Research (CDER) approved fewer small molecules and biologics compared to the previous year. There was a 31% decline in approvals and the CDER was also presented with fewer molecules to review (Mullard, 2014). Although the number of approvals have declined since 2012, nearly half of the new approvals (48%) are forecasted to reach the \$ 1 billion annual sales mark in 5 years with 22% of these reaching multibillion dollar sales in revenues (Mullard, 2014). Even with these predicted revenues, the number of new molecules in the pharmaceutical R&D pipeline are inadequate to substitute the revenues generated from drugs losing their patent protection and being replaced by generics (Kneller, 2010).

1.2.2.2. *Worldwide price reduction efforts add further pressures*

The second serious challenge facing the large pharmaceutical companies is the worldwide attempt to force these companies to lower their prices. In an effort to reduce the prices of pharmaceuticals, some countries have introduced price controls. In countries where price controls are enforced, lower drug prices are instituted compared to those countries without the controls (Danzon & Chao, 2000). Price controls (or regulation) refers to a cap on the ex-manufacturer price or the amount that is paid by the national health service for the pharmaceutical product (Kyle, 2007).

The price of a pharmaceutical product in one country can affect the price in another country (referred to as international reference pricing), which is another form of a price control. This is because most developed countries, including Italy, Spain, the Netherlands, Canada, and Japan, make use of international price comparisons in their regulation of prices for individual drugs (Danzon & Chao, 2000). These countries monitor drug prices worldwide to ensure they are not paying more for the same product. A lower price in one market, for instance a low-income market, can negatively impact the international reference price (Danzon & Towse, 2003) and developed countries could in turn pressure the MNPC into providing them with the same low price.

Reference pricing impacts firms to such an extent that a product will first be launched in the country where the company is free to set the price thereby allowing it to make profits from high prices and maximising the net present value of its future earnings (Gregson, Sparrowhawk, Mauskopf, & Paul, 2005). The company will subsequently launch as late as possible in low-price markets, where parallel imports can disrupt the sales in the higher-priced markets (Kyle, 2007; Looney, 2013). The action of international reference pricing which has the intention to negotiate for lower product prices in a country may lead to the reverse of its intended outcome with an increase of drug prices as the company will seek to first launch in countries that will afford the higher pricing structure upon launch (Verniers, Stremersch, & Croux, 2011).

1.2.3. The challenge of differential pricing versus the opportunity in low-income markets versus pricing

When attempting to operate in low-income countries, multinational pharmaceutical companies are faced with two additional challenges. First, the sheer size of the low-income markets in Africa, Asia, Eastern Europe, Latin America and the Caribbean of US \$ 5 trillion (Hammond, Kramer, Katz, Tran, & Walker, 2007) represents an opportunity of millions of potential new customers (London & Hart, 2004; Prahalad & Hammond, 2002). Second, the MNPC's products require a different pricing structure in low-income markets which is coupled with the perceived ratio of the market's risk-to-benefit ratio for the MNPC as well (Wrona & Trąpczyński, 2012). The strategic decision of an MNPC to enter specifically an emerging market is based on the differential between the risks that market demonstrates such as reimbursement policies; protection of the patent and registration procedures, weighted against the financial potential of that market (Wrona & Trąpczyński, 2012).

Previous research on emerging markets determined that a developing country could attract foreign direct investment from MNCs by adjusting to Western practices (Hoskisson, Eden, Lau, & Wright, 2000) and that global competencies originally designed for top tier market segments will be applicable to all markets (London & Hart, 2004). This "imperialistic" type mind-set prevails within MNCs operating in emerging markets, and when their existing Western business models are applied in a developing country, it results in nominal growth (Prahalad & Lieberthal, 1998).

Differential pricing and business models to enter low-income markets are connected and are challenges for MNPCs when entering emerging markets. These concepts are explored in this research paper and specifically how MNPCs can operate in developed markets as well as emerging markets successfully.

1.2.4. The South African healthcare market

The South African healthcare market is rather unique in that it is not a homogenous market. Although there is a constitutional obligation to the right to access health services, the South African health care system can be divided into two sectors: the rich people are covered by voluntary private insurance and those who cannot afford private cover rely on a poorly resourced public (state) sector service (Marten et al., 2014).

There are massive inequalities between the two sectors in terms of health expenditure: the private sector spends 55% - 60% of total health expenditure on less than 15% of the country's population (Chopra et al., 2009). The private sector also has a disproportionate amount of doctors and nurses compared to the state sector. Government expenditure on healthcare in the state sector has been stagnant for many years (Chopra et al., 2009). The private sector consists of high-income patients, much like those in developed countries. Although the private sector is small (made up of about 15% of the total population) it is a very profitable sector for pharmaceutical companies ("Industry Trend Analysis - Pharmaceutical Market Forecast Revised.," 2013).

In South Africa, the pricing structure for pharmaceutical drugs was re-established by the Department of Health (DOH) in 2003 with the introduction of the single exit pricing model. The regulations enforced on the pharmaceutical companies were to ensure that all patients (outside of the state hospitals) paid the same price for medicines. The responsibility lay on the manufacturer or importer to set the price, which could only be increased once a year upon approval. According to a letter posted by the then Minister of Health Dr Manto Tshabalala-Msimang, the rationale for this new transparent system was due to research the DOH conducted which uncovered that the pharmaceutical companies had inflated the listed Manufacturer Net Price of medicines which had been done to allow for the impact of a complex system of bonuses, rebates and other incentive schemes within the pharmaceutical industry.

There were reports where the incentive system of bonuses and rebates would allow hospital groups and pharmacy groups to obtain medicines at prices up to 50% less than the listed price. This price was not necessarily passed onto the patient and the regulation of single exit pricing was to reduce the price of medicines (Tshabalala-Msimang, 2003).

1.2.5. The concept of a dual strategy to explore new markets and exploit current markets

The challenges discussed above and especially the decline in the number of new blockbuster drugs lead to the prediction that it is unlikely that Western MNPCs will remain competitive for long periods unless they source new markets for growth and enter developing markets on a deeper level (Khanna, Palepu, & Sinha, 2005; London & Hart, 2004). Various authors have identified one strategy that shows a great deal of promise in enabling companies to successfully operate in two markets at the same time. This strategy is known as ambidexterity. This study will look at the applicability of ambidexterity in the South African context and thus a brief description of this topic is necessary at this point.

Ambidexterity was first defined by March in 1991 as the ability of a firm to use its existing assets and positions to produce profits (exploitation) as well as to reconfigure organisational resources to seize existing and new opportunities (exploration of new technologies and markets) (March, 1991). The simultaneous balancing of these abilities, referred to as ambidexterity, results in a firm's long-run survival (March, 1991). This ability to balance exploration with exploitation requires managers to sense environment opportunities and to allocate resources to new challenges and act on those opportunities (O'Reilly & Tushman, 2011). Exploration and exploitation are very different constructs both competing for the same resources of the firm. However, an inability to balance the requirements of the two constructs results in a firm's reduced level of success in the marketplace and a negative sales growth rate (He & Wong, 2004).

The ability of an organisation to be ambidextrous allows the company to simultaneously operate in two opposing markets (He & Wong, 2004; McCarthy & Gordon, 2011) :

- I. An exploitative strategy is associated with stable markets, path dependence, short-term time horizons, efficiency, reliability and refinement.
- II. An explorative strategy is associated with emerging markets and technologies, path-breaking, long-term time horizons, search, experimentation, innovation and adaptability.

Ambidexterity, if successfully implemented, could result in MNPCs being able to operate in developed markets using exploitative capabilities while simultaneously operating in emerging markets with explorative capabilities.

1.3 Research Problem & Objectives

The relationship between corporate ambidexterity and the ability to enter low-income markets has not been studied extensively (Pillay, 2012) and most of the research cumulates industries across sectors when analysing pure ambidexterity. By their nature of searching for new drugs pharmaceutical companies are able to exploit one product strategy and also explore future strategies. However, research on this aspect of pharmaceutical companies has been conducted only within established markets. In the research reported here, the frameworks and theory of ambidexterity as well as business model innovation in low-income markets is reviewed so as to identify proven business model(s) that could lead to success in achieving corporate ambidexterity to enter low-income market segments (refer to figure 1, appendices).

The research problem is, therefore, as identified in paragraph 1.1 above: can the MNPCs adopt profitable business models to enter low-income markets that not only serve consumers in these markets but also provide sustained business benefits to the MNPC? To be able to answer this question this research needs to test the variables which the MNPCs exhibit in approaching low-income markets. The objective is to correlate if the variables that MNPCs exhibit meet the required characteristics outlined in the theory of organisational abilities and business model innovation in exploiting current business models and exploring new markets simultaneously.

The study will specifically look at MNPCs in South Africa, as affiliates of large MNPCs based in an emerging market (*The GIBS Dynamic Market Index*, 2014), and their suitability and ability to adopt an ambidextrous strategy to enter low-income markets. The study further aims to be of benefit to South Africa MNPC affiliates who

follow a global MNPC strategy within an emerging environment. The outcomes of this study should also provide benefit to the headquarters of global MNPCs in terms of understanding what organisational characteristics are necessary to adopt so as to successfully enter the low-income market segments other than current differential pricing strategies (tiered pricing), which are employed for these markets.

1.4 Research Scope

The scope of this research is limited to evaluating the management strategies of a sample of ethical multinational pharmaceutical companies operating in South Africa as affiliates of the MNPCs. The research is confined to investigating the organisations' ambidexterity in terms of entering low-income markets and not around innovation ambidexterity to enter new therapeutic markets (such that would lead to a shift in portfolio structure within the developed market segment). The cost of medicine is one aspect in the accessibility of medicines; this research does not cover solutions for infrastructural voids, healthcare practitioners or government policies on healthcare.

1.5. Conclusion

This introduction identified four factors that could influence the future of pharmaceutical companies:

- I. The billions of people who form the low-income markets and who are effectively without access to sophisticated modern drugs.
- II. The decline in the number of blockbuster drugs that MNPCs are producing leading to a reduction in their income.
- III. Pressures on MNPCs to lower the price of their products.
- IV. The failure of existing strategies such as lowering of their prices or introducing a tiered pricing structure to enable MNPCs to enter the low-income market segment.

It was postulated that it should be possible for MNPCs to enter the low-income market segment thereby offering modern drugs at affordable prices to this segment and at the same time create new markets that would help to keep these companies functioning as viable entities. It was pointed out that the existing strategy of price lowering and the mutations of this strategy, namely tiered pricing, is not always effective and in some cases even counterproductive. This failure of existing

strategies points to the need to develop new and creative strategies. One such strategy that holds a lot of promise is ambidexterity.

This leads to the aim of this study which is: to test the variables which the MNPCs exhibit to approach low-income markets and to correlate if these variables meet the required capabilities outlined in the theory of ambidexterity and business model innovation.

The following chapter provides an overview of the literature on strategies that a variety of MNCs use to operate in emerging markets. The low-income market segment is defined and the literature on business model innovation corporate ambidexterity is reviewed.

CHAPTER 2: THEORY AND LITERATURE REVIEW

2.1 Introduction

To understand the context of MNPCs operating in emerging markets and the strategies companies use to access low-income markets, the literature that discusses business model innovation within this market is reviewed. It is important to define the low-income and base of the pyramid segment, the opportunities within this segment and infrastructural voids that are not lacking in developed markets. To understand how companies can operate in both developed and developing markets simultaneously, corporate ambidexterity will be reviewed. The purpose of this literature review is to establish a firm theoretical base from which the strategies companies use to approach low-income markets can be identified. This theoretical base can then be used to determine if these strategic approaches meet the requirements outlined in the review of the theory of ambidexterity and business model innovation.

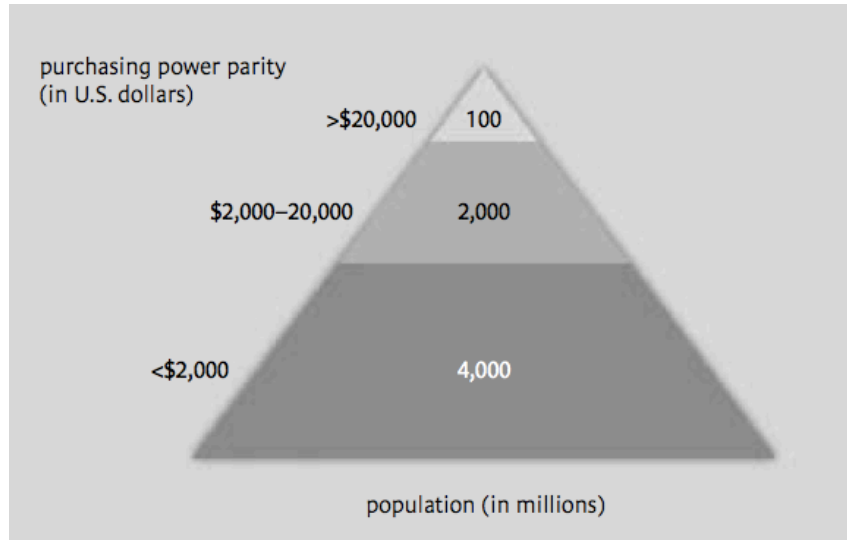
2.2 Emerging Markets and Low-Income Consumers

Consumers from around the world have been segmented into 4 tiers (figure 2), distinguishing the affluent from the lower-income people. The more wealthy consumers, typically made up of middle- and upper-income people, are from developed countries with a small number of elect rich from developing countries referred to as tier 1 (Prahalad & Hart, 2002). The “poor” (tiers 2 and 3) consist of poor people in developed countries and a middle class in developing countries, and the final segment (tier 4) consists of the “base of the pyramid” (BOP) (Prahalad & Hammond, 2002; *World Development Report 2014: Risk and Opportunity - Managing Risk for Development*, 2014).

The 4 billion that make up the BOP segment consist of low-income (living on \$3 - \$5 per day); subsistence (living on \$1 - \$3 per day) and finally extreme poverty stricken people (living below \$1 per day) who lack basic necessities and are excluded from the market economy as consumers or producers (Rangan et al., 2011). This expansive sized segment of people constitutes the majority of the world’s population and it has been, for the most part, overlooked by the large Western MNCs (Prahalad

& Hart, 2002). Figure 2 below graphically illustrates this segmentation with the 4 billion forming the base of the pyramid.

Figure 1: The World Pyramid



Source: Prahalad & Hammond, 2002.

The BOP customers consist of urban and rural poor, with the latter representing a large untapped opportunity for companies (Prahalad & Hammond, 2002). Often these consumers are physically and economically isolated, distribution access is an important barrier to doing business and not necessarily the buying power of the rural poor (Prahalad & Hammond, 2002).

Four characteristics summarise BOP customers:

- I. They have an extremely low income level (Prahalad & Hammond, 2002)
- II. Their income is irregular and cannot be predicted, even in the short-term (Dawar & Chattopadhyay, 2002).
- III. They are geographically either dispersed as the rural poor or concentrated in urban slums (Rangan et al., 2011).
- IV. There is an absence of important products, services and institutional arrangements (Seelos & Mair, 2007).

Why should companies enter these markets? Because it allows MNCs that are currently operating in markets where growth opportunities are becoming increasingly saturated to not only enter exciting growth markets of the future but to satisfy social and environmental needs of this segment as well (Hart & Christensen, 2002). For

companies to identify the business opportunities and develop business models in the low-income markets it is important to start with an empirical characterisation of the market, to understand the market size and the willingness-to-pay of these consumers (Hammond et al., 2007).

There are 4 characteristics of models that work well to reach and serve BOP customers (Hammond et al., 2007):

- I. Businesses that learn to understand and respect the BOP as a market in its own right and can deliver unique products or services in novel ways.
- II. Businesses that make use of local franchises or vendor ecosystems. This approach adds value to the BOP community by redefining what a customer is rather than exploiting the BOP. In later sections of this research this concept is characterised as social embeddedness and the strategy of building of local capacity (London & Hart, 2004) which looks at turning the poor into consumers and fighting poverty (Seelos & Mair, 2007) is further analysed.
- III. To serve the BOP sector, businesses need to develop strategies that will allow the consumers access to their offerings. This can be achieved through size / cost calculations, financing schemes or by bringing the product to the customer and not the other way around.
- IV. Success in this sector ultimately demands that the business creates partnerships often ones that are deemed as unconventional, such as partnerships with non-profit organisations, community groups and public entities. It is vital that the business uses these partnerships to learn from and engage with the community it aims to serve. This ability is defined as “collaboration with non-traditional partners” later on in this study. Collaboration of this nature allows the business to co-invent custom solutions with their consumers (London & Hart, 2004).

There are opportunities to be highly profitable within the BOP market, but this requires a mindset change of managers who need to recognise that in this sector profits are driven by large-scale volumes and efficiencies in capital (Prahalad & Hart, 2002). Furthermore managers need to recognise that investment in the “aspiring poor” not only includes a benefit to the MNC, but helps this segment rise above their desperate situation (Prahalad & Hart, 2002).

The people within this market would embrace new technological innovations as their needs are currently unmet (Hart & Christensen, 2002). New innovations would need

to include higher quality products at lower prices (Prahalad & Hammond, 2002) that offer more convenience than the products that are currently being used in this segment (Rangan et al., 2011).

All of these factors point to the need for a different mindset and different business models from those traditionally found in the large MNCs. To achieve these changes, MNCs will need to build new business models and organisational structures that include governance, partnerships with local communities and local companies and nongovernmental organisations (Hart & Christensen, 2002).

2.3 Business Model Innovation in Low-Income Markets

“Selecting, adjusting and/or improving business models is a complex art”
(Teece, 2010).

Business models are the blueprint of how a business creates and delivers value to customers and by meeting customer needs it creates a source of competitive advantage (Teece, 2010). Unless technology is delivered through a suitable business model, little value will be obtained by the firm and therefore the concept of innovating an organisation’s business model becomes vital for profitability (Chesbrough, 2010).

Many MNCs enter the emerging markets with an imported Western business model; they may adapt their model with minor modifications such as a price reduction on their offering (Eyring, Johnson, & Nair, 2011). Companies who grapple with entrance to this segment may present with the following:

- I. the correct product offering but the wrong business model to deliver it or,
- II. the existing product offering is presented without identifying the unmet needs of the new market

Distinctly different strategies are required for the low and high-income market segments. The change in the MNC’s business models requires that the organisation’s review their resource activity as well as what new resources and capabilities they need to acquire (Seelos & Mair, 2007).

Different conditions in BOP markets such as level of infrastructure and the level of resources the consumer has access to, may require MNCS to apply different approaches (Mohr, Sengupta, & Slater, 2012). The acquisition of new company

resources could take the form of a partnership or alliance as discussed further under section 2.5.3.3. Companies are typically unsure of what new resources and capabilities need to be built and this translates into delayed future cash flows due to the building new resources before they can commence with offering their product or service. This potentially leads to low net present values of BOP business models (Seelos & Mair, 2007). This perception is one reason why MNCs are reluctant to enter low-income markets.

When operating in an emerging market, MNCs use the previously effective global strategy for the top-of-the-pyramid customers and because this strategy is not applicable to the BOP market, it excludes the majority of the population, (London & Hart, 2004). By relying on global efficiencies and world-wide learning to operate in BOP markets, the result is a negative impact on performance (London & Hart, 2004). If the rudimentary operating business models and profit formulas remain unchanged when Western companies operate in low-income markets, it will remit them to mainly penetrate high-income tiers, thereby missing the large-scale opportunity (Eyring et al., 2011).

The design of a new business model requires information from customers, competitors, suppliers and creativity and insight (Teece, 2010). The right business model may not be easily envisioned from the start and thus it is necessary for companies to undergo a process of learning and adjustment to understand the impact on the customers, society and the cost structure of the business (Teece, 2010). With that said, MNCs can draw upon their global resource base and superior technology and it is because of this that these companies are deemed to be the best positioned to develop BOP markets (Seelos & Mair, 2007). Thus, MNCs are the most favourably equipped to face the dual challenge of selling to the poor and fighting poverty at the same time (Prahalad & Hart, 2002).

Explorative business models that enter low-income markets are successful when innovation occurs within that market, in particular with local partnerships and resources (Sanchez & Ricart, 2010). As the previous section alluded, successful low-income market strategies are those that do not try to overcome the weaknesses or voids of the emerging market environment but rather include building local capacity; formulate solutions that are created jointly; collaborate and work with non-traditional partners, and the identification, leveraging and building of social infrastructure (London & Hart, 2004).

Apart from the external challenges mentioned above that the MNCs face when entering BOP markets, internal organisational barriers can affect the implementation of BOP strategies (Olsen & Boxenbaum, 2009). These barriers could include:

- I. Cognitive barriers where different mindsets create conflict: those in the organisation who see BOP strategies as a cost to the company and not as a potential source of revenue.
- II. Process-related barriers of radical change to routines: employees view the BOP project as being misaligned to their existing work processes.
- III. The valuation criteria to determine economic value: many employees believe that the economic value in BOP projects is virtually non-existent.

Two types of business models have been identified that demonstrate two different entry patterns into low-income markets (Sanchez & Ricart, 2010). The characteristics and environment where these models are best suited, and the consequences of these business models, are presented in table 1 below:

Table 2: The differences between isolated and interactive business models

BUSINESS MODEL	CHARACTERISTICS	ENVIRONMENT NEEDED TO BE MORE EFFECTIVE	CONSEQUENCES
ISOLATED BUSINESS MODEL: efficiency seekers (Exploitation strategy)	<p>In an emerging market the firm replicates and extends its traditional business model.</p> <p>The company uses its own resources and capabilities to operate in the market (which are sufficient).</p> <p>The company replicates its traditional business model and adapts to its ecosystem with aim of achieving highest possible efficiencies in operations.</p>	<ol style="list-style-type: none"> 1. Environment must have high levels of available resources 2. There must be a low level of market uncertainty 	<ul style="list-style-type: none"> • Firm can replicate its regular operations • Low market uncertainty allows firm to predict consequences of business model choices
INTERACTIVE BUSINESS MODEL: learning and innovation (Exploration strategy)	<p>When the firm has the right combination and governance of its resources and capabilities with those of the environment – it has a competitive advantage</p> <p>The company leverages on external resources and fosters learning and innovation processes. Relational capabilities are important.</p> <p>New sources of revenue are created through innovations in business models and products while simultaneously contributing to the living conditions of the poor.</p>	<ol style="list-style-type: none"> 1. Business model requires development of new ecosystem – viability of business model depends on the company’s actions and on the actions of partners. 2. Partnerships and mutual commitment is vital for ecosystem construction 3. Network of alliances to co-manage value chains 	<ul style="list-style-type: none"> • Correct combination of firm resources with ecosystems capabilities results in competitive advantage • New sources of revenue through innovative products • Model contributes to enhancing the living conditions of the poor • Consequences are less clear

The choice of which of the models above to use depend on an assessment of the company’s own capabilities and the resources of the ecosystem in which it plans to operate (Sanchez & Ricart, 2010).

2.4 Differential pricing models to enter low-income markets

Affordability in low-income markets is viewed from the perspective that this consumer’s cash-flow is not that of a developed market segment and the product

therefore needs to be at such a price-point to ensure the BOP segment can afford these products (Anderson & Billou, 2007).

Current suggestions of enforcing international price policies to lower the cost of medicines (Niëns et al., 2010) in low-income countries leads to differential pricing. Differential pricing is where the company sells the same medicine at different prices in different markets, depending on the market's conditions (Danzon & Towse, 2003). Thus poor-income markets sell the medicines at a lower price, higher prices are charged in richer countries (Goroff & Reich, 2010).

There are two problems associated with this strategy. The first problem is that differential pricing only allows for the affluent segment of a developing market to gain access to the medicine (Danzon & Towse, 2003; Goroff & Reich, 2010) because the lower price is still not at an affordable price point for low-income patients. Seen from the perspective of the pharmaceutical company, price lowering for emerging markets will not lead to a successful business strategy to penetrate the low-income patient segment (Goroff & Reich, 2010). The second problem is that the product that is priced lower in another country can be imported back into the high-income countries thereby disrupting sales in the higher-priced markets (Kyle 2007). This is known as parallel imports (Danzon & Towse, 2003).

Although a tiered pricing structure (differential pricing between developed and developing countries) is positively viewed amongst policy makers and the pharmaceutical industry, this does not result in the lowest prices of medicines for those who cannot afford high prices. There is also no international procedure to successfully conduct tiered pricing; R&D costs are not allocated appropriately to the developing countries and the responsibility of implementation lies with MNPC (Moon, Lambert, Childs, & von Schoen-Angerer, 2011). This final point results in MNPCs deciding against launching new therapies into developing markets where the product price is expected to generate low profit margins.

Despite these challenges, the low-income market segment is viewed as an exciting opportunity for future growth. As pointed out above, companies cannot rely on replicating their business models that were applicable in richer countries or rely on price lowering (London & Hart, 2004; Seelos & Mair, 2007). Entering the low-income market will require new business models and structures suited to reach these customers (Hart & Christensen, 2002) and this is discussed in the next section.

2.5 Ambidexterity

Ambidexterity is the simultaneous “exploration of new possibilities and the exploitation of old certainties” (March, 1991).

The need for exploration into new markets or segments stems from the decreasing margins due to competition in those markets where existing competencies and capabilities satisfied customers efficiently (O’Reilly & Tushman, 2011). If implemented correctly, ambidexterity, although complex in its design, is associated with a sustained competitive advantage (O’Reilly & Tushman, 2008).

How ambidexterity is achieved (He & Wong, 2004), how it is managed (Turner, Swart, & Maylor, 2013; Wei, Yi, & Guo, 2013), the role of a decentralized organisation (Jansen, Simsek, & Cao, 2012), how ambidexterity impacts new product development (Wei et al., 2013) and the higher-order construct that forms an ambidextrous organisational culture (Wang & Rafiq, 2014) have been investigated. The purpose of this research is to understand what capabilities are needed to become successful in simultaneously exploiting and exploring as well as the antecedents leading up to ambidexterity, what mechanisms are needed and what ways in which a firm can “acquire” ambidexterity. These topics are discussed in detail below.

2.5.1 Dynamic capabilities

The field of ambidexterity aims to understand how some organisations manage to maintain their competitive advantage and others do not when faced with environmental changes (O’Reilly & Tushman, 2008). The dynamic capabilities of an organisation are firm-specific capabilities (internal or external) whereby organisational skills and resources are adapted, reconfigured and integrated to adapt to a changing environment (Teece, Pisano, & Shuen, 1997). How senior managers seize opportunities and co-ordinate new and existing assets as the environment changes is at the epicentre of dynamic capabilities (O’Reilly & Tushman, 2008). The capabilities that are associated with effective ambidexterity (to explore and to exploit) and allow organisations to sense and seize new opportunities as markets evolve are described below (O’Reilly & Tushman, 2011, 2008):

- I. A strategic intent justifying the rationale and importance of exploitative and exploratory strategies.
- II. A common vision shared across both explorative and exploitative units.
- III. Endless communication of the ambidextrous strategy. An accountable executive team whose members are responsible for both the exploration and the exploitative strategy of the organisation.
- IV. A separate organisational structure (business models, incentives, metrics, cultures and structures) for the exploratory and exploitative units, although aligned and integrated at the senior and tactical level, to ensure the organisation's assets are leveraged accordingly.
- V. A strong leadership team to manage the tensions from the separate strategies.

These five elements, when present in an organisation, indicate whether the organisation is geared to adapt to new opportunities and threats. However, if these elements are lacking, the firm will focus only on the exploitative aspect of the business (O'Reilly & Tushman, 2011).

2.5.2 Precursors and consequences of ambidexterity

The previous section discussed capabilities that are linked to effective ambidexterity; this section will briefly highlight precursors that result in ambidexterity capability. In high-tech companies, three distinct capabilities, also referred to as precursors, have been identified that lead to organisational ambidexterity competency. Although company performance (higher sales growth) has been discovered to be a consequence of ambidexterity (He & Wong, 2004), performance will only occur after a competency has been developed (Chandrasekaran, Linderman, & Schroeder, 2012). The three antecedents that affect ambidexterity competency and therefore influence business unit performance are (Chandrasekaran et al., 2012):

I. **Decision risk – a strategic level capability**

This measures the senior managers' ability to recognise and assess risk when making decisions regarding exploration or exploitation opportunities. This capability allows managers to resolve contradictions and tensions in strategy when deciding on portfolios.

II. Structural differentiation – a project level capability

Structural differentiation is the non-spatial differentiation between explorative and exploitative projects. On a project level this capability maintains systems for reporting, metrics and processes and allows exploration and exploitation projects to co-exist (Chandrasekaran et al., 2012). Although structural separation of exploitation and exploitation units are one way to implement ambidexterity, the structures must be reinforced with incentives and practical routines (Turner et al., 2013).

III. Contextual alignment between strategic and project levels

This is the ability of the organisation to align strategic level decisions with project level decisions and the synchronisation of projects with organisational goals (Chandrasekaran et al., 2012). It is however, important to note that the senior management team should ensure there is coordination between structurally separated explore and exploit units through a strong and compelling shared vision (Turner et al., 2013).

The three antecedents above relate to capabilities at different organisational levels (Chandrasekaran et al., 2012) whereas the five characteristics outlined by O'Reilly and Tushman provide leaders with concrete sets of actions in order to be successful in managing ambidexterity and propose conditions that, if present, will lead to a higher success rate of achieving ambidexterity (O'Reilly & Tushman, 2011). There is overlap between the two: both require structural separation between the explore and exploit units and both require a strong senior management team to coordinate the two units.

The rapid growth of emerging economies has stimulated companies to explore new international ventures (Han & Celly, 2008). Companies that develop strategic ambidexterity as a dynamic capability early on achieve success in terms of competitive advantage and superior performance (Han & Celly, 2008). The correct design and selection of a business model is a pillar of foundation of dynamic capabilities and allows the company not only to survive but to adapt to changing markets (Teece, 2010).

2.5.3 Mechanisms for achieving ambidexterity

2.5.3.1. *Intellectual capital required for organisational ambidexterity*

The studies on ambidexterity do not provide the specific micro-mechanisms that a manager must have to not only implement an ambidextrous strategy but to operate one as well (O'Reilly & Tushman, 2011; Turner et al., 2013). In an effort to understand these specific mechanisms for achieving ambidexterity, Turner et al. (2013) defined ambidexterity as an “ability” to use existing knowledge (exploitation) whilst also creating new knowledge with the purpose of overcoming knowledge deficiencies (exploration). Their work looked at the mechanisms of ambidexterity at three levels: the organisation, the group and the individual (Turner et al., 2013). Only the mechanisms for organisational ambidexterity will be presented. The authors identified three intellectual capital resources (human capital, social capital and organisational capital) that are used within each mechanism. The mechanisms for the organisation to achieve ambidexterity therefore requires resources to be categorised as follows (Turner et al., 2013):

- I. **Organisational capital:** explore and exploit units should be separated structurally with co-existence of formal and informal structures. Inter-organisational relationships should be developed and maintained.
- II. **Social capital:** there should be knowledge-sharing relationships with new and existing partners in a firm's network of alliances. Human resources should exhibit practices that are supportive of ambidexterity.
- III. **Human capital:** Senior management teams should be able to reconfigure organisational assets and competencies to adapt to changing environments. The senior management team should ensure that there is coordination between the structurally separated explore and exploit teams to ensure that the organisation's strategy is executed.

2.5.3.2. *Scenario planning as a tool for ambidexterity*

Scenario planning has also been described as one tool that could enable organisations to observe new opportunities while simultaneously continuing the focus on current operations (Bodwell & Chermack, 2010). Scenario planning is the process whereby the organisation incorporates multiple scenarios of different possible futures thereby allowing managers to consider the organisation's situation in different possible alternatives (Wack, 1985). In scenario planning the organisation can make use of the three dynamic capabilities of ambidexterity (Teece et al., 1997) to

constantly read the external environment (sensing); to act upon opportunities that were identified (seizing) and finally to recombine the organisation's assets to shift resources (reconfiguring) (Bodwell & Chermack, 2010). Theoretically, by incorporating these elements of ambidexterity into scenario planning, the organisation is better positioned to adapt to changing environments.

2.5.3.3. Formation of alliances and acquisitions to achieve ambidexterity

A firm may select an exploration or exploitation strategy depending on the level of uncertainty of the environment in which it operates (Lin, Yang, & Demirkan, 2007). When the environment is unstable, in order to survive, firms increase the rate of innovation which in turn demands high investments in exploration (Rowley, Behrens, & Krackhardt, 2000). However, other research has found that a high level of environmental uncertainty results in firms allocating more dependence on the exploitation of their existing resources and relations (Podolny, 1994). The context in which a firm chooses to adopt an alliance partnership therefore matters. By forming alliances a firm can attain ambidexterity and economic benefits. However, this strategy is more applicable to larger firms and not applicable in stable environments (Lin et al., 2007). Uncertain environments demand both efficiency and flexibility and an ambidextrous approach helps firms in this regard (Lin et al., 2007).

The specific nature of an alliance and acquisition to provide the balance between exploration and exploitation has been studied in U.S. based software firms. Organisations benefit more if they acquire firms with distinct knowledge (exploration) and rely on their own internally established knowledge to refine existing products (exploitation) (Stettner & Lavie, 2014). This point allows us to understand that a firm can be ambidextrous through alternative modes of operation (acquisitions and alliances) (Stettner & Lavie, 2014) and not necessarily only through internal organisation of skills to explore and exploit (He & Wong, 2004). As discussed before under section 2.3, because there is resource scarcity in BOP markets, it is imperative for companies to build partnerships and strategic alliances help solve this problem (Seelos & Mair, 2007).

2.6. Conclusion

In this chapter the term 'low-income markets' has been further refined and a new term 'base of pyramid' was introduced to identify the potential market that MNPCs

have largely ignored. The various strategies that companies use to enter low-income countries were analysed and their shortcomings were identified. Since existing strategies used to attempt to enter this segment of the market have failed, a new strategy, namely ambidexterity was introduced. The five capabilities that are associated with effective ambidexterity were described; the antecedents that affect ambidexterity competency were outlined and the mechanisms that organisations can use to achieve ambidexterity described. Business models to enter low-income markets as well as the strategy of tiered pricing were discussed. Combined, these factors provided the capabilities and concrete sets of actions that are needed to be successful in ambidexterity and entering low-income markets. This will form the basis on which to refine the research questions in the next chapter.

CHAPTER 3: RESEARCH QUESTIONS

The previous chapter looked at the capabilities and business models needed to enter low-income markets. It was shown that in order for MNCs to enter the BOP market, they need to undertake significant changes to their current approach and re-evaluate their entire supply chains in detail (Seelos & Mair, 2007). To do this, they need new resources (Seelos & Mair, 2007), dynamic capabilities which lend the organisation to operate in both mature and emerging markets (O'Reilly & Tushman, 2008) and strategic alliances with local partners (Seelos & Mair, 2007).

This discussion forms the base from which the South African MNPCs can be analysed. This analysis of the South African MNPCs will be conducted in terms of the following three research objectives regarding the level of knowledge and capabilities to operate in BOP markets; the limitations to their business models and lastly their level of ambidexterity. These research objectives should provide guidelines how South African MNPCs could re-develop their business models:

RESEARCH OBJECTIVE 1: Do MNPCs have the right knowledge and capabilities to reach low-income markets?

- I. When operating in emerging markets, do MNPC's strategically intend to enter the BOP segment, or do they solely cater to the middle- and high-income emerging market segment?
- II. Do the MNPCs exhibit elements of proven business strategies to enter low income markets (London & Hart, 2004)?
- III. Are these organisations able to reconfigure existing capabilities to serve a new business model (Seelos & Mair, 2007)? What are the strategies they adopt?
- IV. Are the MNPCs aware of the necessary social objective that is strategically important in determining the success of the entrance into the BOP segment (Seelos & Mair, 2007)?

RESEARCH OBJECTIVE 2: What is holding the MNPCs back from entering low-income markets?

- I. What are the limitations to their business model? (Sanchez & Ricart, 2010).

RESEARCH OBJECTIVE 3: Do the MNPCs exhibit the correct ambidexterity characteristics?

- I. If they are ambidextrous, can these organisations implement multiple strategies aimed at different income levels (developed market strategy versus developing market strategy)? (Sanchez & Ricart, 2010)?

The following chapter discusses the methods by which the answers to these questions can be obtained.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Research Methodology

After identifying ambidexterity as a possible solution of the problem facing MNPCs, the question formulated in paragraph 1.3 can now be further refined to include the strategy of ambidexterity that MNPCs need to adopt to enter the BOP segment. The objective of the study is thus to explore multinational pharmaceutical companies' behaviours in terms of their ability to be ambidextrous to successfully conduct two strategies simultaneously and operate in established markets and enter low-income markets.

Ambidextrous companies should be able to exhibit two different sets of strategies:

- I. Explorative strategies, whereby the firm or business unit is characterised by a loose organic structure; it explores emerging markets; exhibits path breaking and improvisation.
- II. Exploitative strategies that utilise current capabilities, where the firm or business unit exhibits path dependence, tightly controlled systems, operates in established markets; stable performance and control and bureaucracy (He & Wong, 2004).

Previous studies in measuring ambidexterity with the purpose of gaining clarity around how the balance of these two dual strategies function within an organisation, have made use of a variety of methods. Either qualitative or quantitative or a combination of both have been applied, such as

- I. survey interviews (He & Wong, 2004; Jansen et al., 2012; Lin, McDonough, Lin, & Lin, 2013; Wang & Rafiq, 2014; Wei et al., 2013);
- II. interviews and frameworks (McCarthy & Gordon, 2011) and
- III. case study analysis with triangulation of data (London & Hart, 2004).

Qualitative research methodology focuses on understanding and interpreting the topic under investigation, whereas quantitative research describes, explains and predicts the situation (Cooper & Schindler, 2014). This study made use of qualitative case study methodology as it is considered as a strategy of inquiry, bounded by time and place (Yin, 2009) with the intent to understand a particular issue (Creswell, 2013).

4.1.1 Rationale for qualitative research methodology

To explore implicit assumptions and to examine relationships, abstract concepts and operational definitions, qualitative research has been noted as useful (London & Hart, 2004). The link between ambidexterity and low-income markets in pharmaceutical companies has not been extensively studied, thus qualitative research allowed for an in-depth understanding of a situation (Cooper and Schindler, 2014, p. 144).

The methodology of case study analysis was used to understand the dynamics in a single setting, with the use of multiple cases (Eisenhardt, 1989). Data was triangulated, as multiple data sources provide a stronger substantiation for the constructs and hypotheses (Eisenhardt, 1989) and provide an in-depth understanding (Creswell, 2013). The case study methodology allowed for the phenomena to be described within a certain parameter and multiple cases allowed for comparison and an understanding of the specific issue being studied (Creswell, 2013).

4.1.2 Population

The individual or objective that is being measured is considered as the population element (i.e. the unit of study) and by selecting some of the elements of the population (the sample) conclusions may be drawn (Cooper & Schindler, 2014).

The population of the study included any multinational pharmaceutical company involved in research and development of innovative products with an affiliate based in South Africa. In South Africa, there are companies that operate as distribution companies, multinational ethical companies (MNPC affiliates), multinational generic companies and medical device companies. Companies to include in the study were chosen from the list of the 20 largest global MNPCs that conduct research and development. This was because these companies develop and manufacture life-saving products and are important stakeholders in patients gaining access to medicines (*The Access to Medicine Index 2014*, 2014).

The unit of analysis was the level of ambidextrous characteristics each company exhibited to successfully enter and operate in low-income patient markets.

4.1.3 Sampling Method

For qualitative studies, purposeful sampling is used to adequately inform the researcher about the problem at hand rather than make assumptions of a population which is done with a probability sample (Creswell, 2013). Specific companies and individuals were selected purposefully to gain an understanding of the phenomena of ambidexterity and business model innovation in the low-income markets. Senior managers were interviewed and were identified to be best suited to respond to the research questions based on their seniority within the company and experience within low-income patient markets. Such homogenous sampling provides focus and simplicity in a qualitative enquiry (Creswell, 2013).

To minimize variables that could influence the outcome, the characteristics of the participants were matched (Creswell, 2003). In this study the type of the MNPC only included those companies who conducted research and development and operated in low-income markets. The respondent interviewed held a senior position within the organisation (such as director of marketing, market access manager and or general manager).

For case study research, Creswell (2013) recommends studying 4-5 cases in a single study in order to identify themes of cases and allowance for cross-case theme analysis. Five companies were identified to study.

4.2 Data Collection Process

4.2.1 Research Instrument: semi-structured interviews

To determine the opinions, beliefs and attitudes of affiliate MNPCs in terms of their organisations' appropriate level of organisational ambidexterity for low-income markets, semi-structured interviews were conducted with senior managers within each of the pharmaceutical companies identified. A semi-structured face-to-face interview allows for the flexibility of the respondent to provide detailed answers and new insights into the research question (Saunders and Lewis, 2012). The goal of the interviews was to generate a detailed understanding of what leadership actions are associated with ambidexterity and if certain characteristics for successful ambidexterity were present (O'Reilly & Tushman, 2011) and what limitations or strengths their business model(s) demonstrated (London & Hart, 2004; Sanchez & Ricart, 2010).

An interview matrix was constructed and used to guide the semi-structured face-to-face interview and ensured that the relevant topics were covered (Appendix 2). The matrix consisted of questions and probes to help prompt detail on the various ambidextrous and business model characteristics. Questions and probes were determined from key themes in the literature. There were five sections to the interview:

Section 1: What is the company's presence in low-income markets and what organisational structures have been adopted (London & Hart, 2004)? These questions were used to set the context of the interview.

Section 2: Does the company exhibit dynamic capabilities and make use of existing capabilities when exploring new capabilities? This section questioned how do the MNPCs grapple with a simultaneous strategy; the exploitation of current products and processes versus exploration of new products and processes.

Section 3: What is preventing the MNPC from successfully entering low-income markets? This question was to gain insights into the MNPC's current business model and to determine any limitations and if so the source of the limitations.

Section 4: Do the MNPCs exhibit the right knowledge and capabilities to reach low-income markets? This question was to test if the MNPCs made use of collaboration with non-traditional partners; the building of local capacity and the co-invention of custom solutions (London & Hart, 2004) to successfully enter low-income markets.

Section 5: Exploration of the level of common identity across the exploratory and exploitative units. This section inquired how the organisation managed the trade-offs of resources between the units.

4.2.2 Additional data sources and collection approaches:

Case study data collection requires a broad arrangement of data collection procedures (Creswell, 2013). In this study additional data was collected by a means of semi-structured interviews that were conducted with two individuals who could provide further insight into the bounded system and supplied more detailed insights into the research problem from a healthcare perspective but not from within that of an MNPC organisation. Other forms of qualitative, secondary data such as reports and documents about the accessibility of medicines in emerging markets were analysed

to provide a more in-depth understanding of the issues studied (Creswell, 2013; Eisenhardt, 1989).

4.2.2 Pretesting the interview questions

The aim of the pilot test phase is to discover any errors in the design of the interview as well as to identify if the content and timing of the interviews are appropriate (Cooper & Schindler, 2014). A pilot interview was conducted to test the comprehension of the questions for the interviews and to determine the appropriate order of the questions. Following the pilot interview the order of the questions was amended which provided a better flow to the questioning. To ensure the respondent understood the definition of a low-income patient, a more comprehensive and simplified introduction to the study was added to the start of the interview.

4.2.3 Data collection

Interviews with respondents were conducted face-to-face at their respective offices without interruption. All interviews were personally conducted by the researcher, which allowed open-ended questioning and clarification of the questions. The letter of informed consent was provided and discussed prior to the start of the interview questions. The research topic was explained and the consent letter was signed and collected by the researcher once the interview was conducted to afford the respondent the opportunity to withdraw from the research if they felt uncomfortable with the discussion or decided to withdraw their participation from the study.

All interviews were electronically recorded and transcribed. The interviews lasted between 17 minutes – 60 minutes. Notes of the meeting and impressions over and above the interview were captured on the same day as the interview, in line with the “24 hour rule” (Yin, 2009). Field notes were taken and impressions about the differences between the companies were noted. The process of writing down impressions and reacting to them versus sifting out what may seem important is to guide the researcher to uncover learnings and differences between the cases (Eisenhardt, 1989).

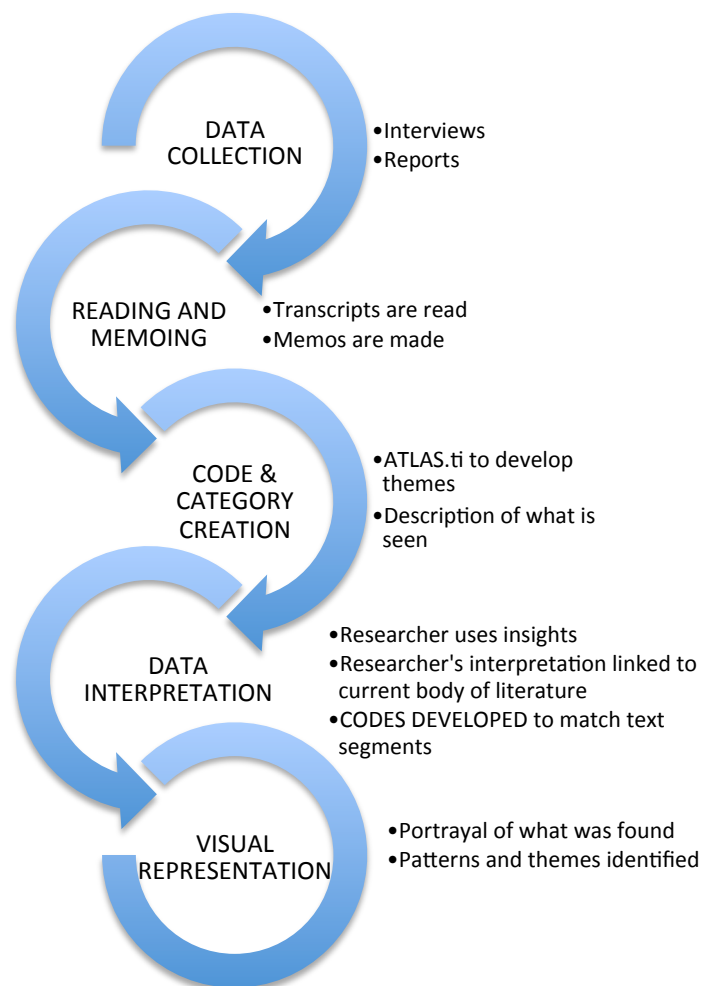
4.3 Data Analysis

In qualitative research the data analysis consists of a process of preparing and organising the data and then reducing that data into themes. Themes are created

through a process of coding the data whereby the data is reduced into segments that are meaningful and then named. The codes are condensed and combined to make comparisons with the use of tables and graphs (Creswell, 2013). The data was analysed in a circular manner (refer to figure 2) with the aim of establishing patterns and correspondences between cases.

To organise the data into codes and categories, axial coding of the data was performed with the use of the qualitative data analysis software programme ATLAS.ti (<http://www.atlasti.com>), which facilitated the separation of various components into core themes. Once the data had been organised and assembled, the reduced data was displayed for conclusions to be made. Memos and codes were categorised into conceptual clusters. Themes that emerged were compared to the theoretical constructs from the ambidexterity, business model innovation and BOP literature.

Figure 2: Data analysis spiral



Adapted from Creswell, 2013

4.2.4 Data confidentiality

The nature of the discussion with each MNPC was deemed as confidential. As per medical ethical clearance requirements, all company names, drug names and names of individuals were therefore not published. To prevent identification of companies, drugs and respondents, names have been coded and the data have been presented as an aggregate.

4.3 Potential Research Limitations

There are potential limitations and challenges to this research that include the following:

- For the purposes of this study the sources of data were the MNPCs based in South Africa. The following problem for this study derives from this restriction. It is likely that the company strategy is designed in the headquarters of the MNPC (Europe or USA) and thus the South African affiliates may not have in-depth, detailed knowledge of the strategy outside of the South African market and in particular of low-income market entry strategies.
- The study of more than one case does not provide the same depth which a single case provides and may diminish the overall analysis (Creswell, 2013).
- The number of cases to choose becomes an issue in qualitative case study analysis. The recommended number for multiple cases is four to five.
- The adequate selection of boundaries to clearly define a starting and ending point of the cases is a challenging process.
- The researcher has a background in working for pharmaceutical companies and may carry researcher bias.

4.4. Conclusion

The objective of this study was refined to include an analysis of multinational pharmaceutical companies' behaviours in terms of their ability to be ambidextrous to successfully conduct two strategies simultaneously and operate in established markets and enter low-income markets. The two business models, explorative and exploitative, that a company should exhibit, were identified.

Two research methodologies were described and the reasons why this study would make use of one, the qualitative case study methodology, were set out. As the role of ambidexterity in pharmaceutical companies operating in low-income markets has not been extensively studied, qualitative research would allow for an in-depth understanding of the problem.

The population of the study was restricted to multinational pharmaceutical companies involved in research and development of innovative products with an affiliate based in South Africa. The unit of analysis was the level of ambidextrous characteristics each company exhibited to successfully enter and operate in low-income markets.

CHAPTER 5: RESULTS

The previous chapter described the methodology of how the study was conducted. This chapter presents the most prominent results from the face-to-face interviews with the respondents and data from the public domain to provide a holistic representation of the cases, as discussed in chapter four. The data is presented according to the research questions that were raised in chapter three (appendix 2). Themes that emerged from the questionnaire are presented as well as additional themes that emerged but were not necessarily intentionally explored in the interview questionnaire matrix. The words “state”, “government” and “public sector” were used interchangeably by the respondents when referring to the South African state hospitals.

5.1 Sample characteristics

Five companies were selected, one company declined to participate. The names of the four companies that participated were coded to protect their identity as per the ethical requirements. In two of the companies multiple interviews were conducted and included participants from a variety of functional levels. Two respondents, not directly affiliated with a MNPC, provided an external perspective on providing health care to low-income markets. All four of the MNPCs interviewed were affiliates of the head office organisation, which is stationed abroad (either in Europe, United Kingdom or the United States of America). Each affiliate had a general manager responsible for running the company from within South Africa and reported directly to the head office of the MNPC, which may or may not have been in the organisation’s originating country. An overview of the MNPC’s characteristics and responses to the question if they are actively pursuing low-income markets is presented in table 3.

The four companies researched showed varying degrees of success in terms of ambidexterity characteristics, entrance into low-income markets, limitations to their current business model and ability to implement multiple strategies for different patient income levels. This is discussed in detail in subsequent sections.

Each interview respondent was coded (from P1 – P9), each pharmaceutical company was coded as MNPC (1, 2, 3 and 4). The respondents varied in level of seniority, but all held senior management positions and were responsible either for

strategy design or input into strategy design for entering low-income patient markets. All respondents (except for P4 and P7) dealt with Sub-Saharan markets outside of South Africa as well as operating in South Africa.

Table 3: Sample characteristics

MNPC	HEAD OFFICE REGION	LEVEL OF RESPONDENT IN ORGANISATION	ACTIVE PURSUIT OF LOW INCOME MARKETS	WHERE ARE THE LOW-INCOME PATIENTS ACCESSED	DEDICATED UNIT OR PROJECT FOR LIM
MNPC 1	Europe	Marketing Manager for Sub Sahara Africa	P1: "not actively"	In the state hospitals	"the company is getting there"
MNPC 1	Europe	Head of Market Access: Emerging Markets	P3: "yes"	Depends on which country in which the organisation operates	Not in SA
MNPC 1	Europe	Business Unit Manager	P4: "yes"	In the state hospitals	No
MNPC 2	United Kingdom/ Europe	Vice President of Marketing for SA & SSA	P8: "yes"	In the state hospitals	No dedicated unit. Have a dedicated project for LIM
MNPC 2	United Kingdom/ Europe	Senior Manager: Market Access & Pricing for SSA	P6: "yes"	In the state hospitals in SA, differs in rest of Africa	Dedicated project for LIM
MNPC 3	Europe	General Manager	P9: "yes"	In the state hospitals and with self-medication products (OTC)	Yes
MNPC 4	USA	General Manager	P2: "Yes"	In the state hospitals	No
P5	South Africa Based	Consultant to pharmaceutical companies. Ex-Business Unit Manager	P5: Assists companies with strategy to enter state	Some patients access the state hospitals, but not all of them do.	N/A
P7	South Africa Based	CEO of non-profit private clinics	P7: clinics are only set up to access LIM	More urban rural areas	Yes

Abbreviations used in the table: LIM: Low-Income Market. MNC: Multinational Pharmaceutical Company. SSA: Sub-Saharan Africa. SA: South Africa. CEO: Chief Executive Officer. OTC: Over The Counter

All respondents (except for P1 from MNPC 1) said that their company was actively pursuing low-income markets. Respondent P1 differed from other MNPC 1 managers because this manager was responsible for marketing the company's products in Sub-Saharan Africa and felt that the company was "forced" to enter low-income markets for political reasons:

"I think they are forced to do that because the low-income markets are strategically important in terms of government acceptance and buy-in to the company's presence in this country..."

When asked where the MNPC gains access to low-income patients, all respondents mentioned the state hospitals in South Africa. One respondent (P9) explained that the public hospital contained 80% of BOP patients:

"...the public sector, which would be the bottom of the pyramid. Because you have got to think in SA the public sector gives you huge access to the bottom of the pyramid."

The two interviewees who were not affiliated to a MNPC mentioned that not all low-income patients have access to state hospitals, specifically poor patients in rural areas who are geographically far from large state hospitals. The respondent from MNPC 3 noted that some BOP patients self medicate with products that are available over the counter in a pharmacy (like cough mixtures and nasal sprays). These patients may therefore not willingly access the state hospital for certain illnesses. Over the counter medication was not part of the scope of this research.

Only one of the companies (MNPC 3) said that they had a dedicated structure within the organisation to deal with low-income markets, namely the state hospitals. Both multinational pharmaceutical companies MNPC 1 and MNPC 4 did not have a dedicated structure, but MNPC 1 mentioned that they are in the process of initiating specific projects for low-income markets in South Africa. Multinational pharmaceutical company MNPC 2 did not have a dedicated structure but they initiate and work on specific projects for low-income markets.

5.2 Strategies to penetrate low-income markets

Objective 1: do MNPCs have the right knowledge and capabilities to reach low-income markets?

Respondents were asked about strategies that their organisation had implemented that lead to successful entrance into low-income markets. The question was open-ended, but the research objective was to ascertain if the strategies mentioned included any of the proven business strategies that are successful in low-income markets as outlined by London & Hart (2004). These strategies included:

- I. The development of relationships/ collaboration with non-traditional partners
- II. The co-invention of custom solutions
- III. The building of local capacity
- IV. The development of social embeddedness

There was a weak correlation between all the MNPC's business strategies and the business strategies outlined above. Some companies displayed only one of the characteristics, partial characteristics or none of the characteristics. Table 4 depicts the companies and their level of implementation of these business model characteristics and an example of how that characteristic manifested.

Table 4: Characteristics of proven successful business strategies for LIM compared to those implemented by MNPCs

SUCCESSFUL STRATEGIES FOR LIM	DESCRIPTION	LEVEL OF IMPLEMENTATION	EXAMPLE
Collaboration with non-traditional partners	Establish relationships with non-traditional partners such as NGO's, local community groups, non-profit organisations to rely on for expertise on social infrastructure and missing resources	Not applied by any of the MNPCs in South Africa. MNPC 2 applied this to a specific project in Africa.	<ul style="list-style-type: none"> MNPC 2 initiated a project in an African country to create education and awareness; offered training to doctors and nurses and ensured that their medicines were affordable. Multiple non-traditional partnerships were created.
Co-invention of custom solutions	Company allows for product and business design to be co-evolved. Encouragement of local distribution entrepreneurs to deliver final product/ service	Not applied by any of the MNPCs in South Africa. MNPC 2 applied this to a specific project in Africa.	<ul style="list-style-type: none"> MNPC 2 (outside of SA) empowered local (rural) HCPs to diagnose and treat patients – thereby giving BOP patients access to their medicines.
Building local capacity	Providing training to local entrepreneurs and other partners. Sharing of firm resources outside the firm boundaries.	Only one company provided training (MNPC 4). Only one company shared the license to its patented drugs to be made locally and therefore more cheaply (MNPC 3)	<ul style="list-style-type: none"> Provided the licence to manufacture the drug to a local generics company (P5, MNPC 3) Set up a local manufacturing company in SA (MNPC 3) Offered extensive training programmes for state doctors and nurses (MNPC 4)
Social embeddedness	The leveraging of social development to improve the firm's economic performance. Leveraging and building of social infrastructure.	Not applied by any of the MNPCs in South Africa. MNPC 2 implemented this in Africa with a specific project.	<ul style="list-style-type: none"> MNPC 2 trained HCPs in remote and rural areas

Abbreviations used in the table: LIM: Low-income Market. MNC: Multinational Pharmaceutical Company. NGO: Non-Governmental Organisation. HCP: Health Care Provider (a doctor, nurse, etc.).

When discussing various strategies to enter low-income markets many respondents mentioned the links between the type of strategy employed and the limitations that the South African policies had on the implementation of a desired strategy. Although these barriers are mentioned in table 5, this is discussed in more detail under the

section 5.3. All of the companies noted that the price of the drug determined the level of use and access to low-income patients. The various strategies to enter low-income markets that emerged are discussed under separate headings below. These include price-lowering strategies and acquiring government tenders.

5.2.1 Price lowering and government tenders

To access state hospital patients, MNPCs lower the price of their drug by offering the state a price that is only applicable for government use. When the government calls for a tender in a specific therapeutic area, the MNPCs would apply for the tender. Price lowering and government tender strategies are linked; and most respondents noted that the drug price is the main deciding factor when the government awards a tender to a company. For the purposes of this research, both strategies are presented separately in the following two sections.

5.2.1.1 Price-lowering strategies

All companies noted that in order to enter low-income patient markets, their drug(s) needed to be offered to the state hospitals at a much lower price compared to the price the same drug is offered to the privately insured market. The following quote from a senior manager in MNPC 1 illustrates this point:

“I think price is your number one. I think the lower the better and the government will negotiate every single avenue to get the best price”

Table 5 provides an overview of each company and how successful they are in South Africa in terms of penetrating low-income patient markets through a price lowering strategy. The level of penetration in low-income markets came from the data provided by the respondent during the interview. This was correlated against the MNPC's international ranking according to the Access to Medicines 2014 report. The table provides information regarding the ranking of the MNPC with respect to pricing policies in all emerging markets compared to what is happening specifically in South Africa. It is important to look at (all) the companies' global ratings in emerging markets as many of the successful strategies implemented in other emerging markets could not be implemented in South Africa due to local legislation. These and other issues raised are discussed further in following sections.

The pricing scale from the 2014 Access to Medicines report is ranked out of a total of five, where a score of five out of five represents the highest score. The score is made up of evaluations of the MNPC's pricing policies such as:

- Level of equitable pricing schemes: the level at which the company discloses target prices for the lower tiers and how these prices are determined.
- Equitable pricing strategies: determines if the company takes into account needs, based on affordability, when making pricing decisions for products targeted at the poorest population.
- The company's level of commitment to apply intra-country equitable pricing.

Table 5: MNPCs level of access into low-income markets

MNPC	PRICING RANK (Access to Medicines Report)	LEVEL OF PENETRATION INTO SOUTH AFRICAN LIM	REASON FOR SUCCESS OR LIMITED SUCCESS
MNPC 2	1.3 out of 5	Low level of penetration into LIM	<ul style="list-style-type: none"> • Unsuccessful because generics are priced better and they cannot compete (P6, P8) • Not sustainable for company to supply products to LIM at low/ zero margins (P8) • Strategy is not to differentiate products on price (P8) • Recently initiated projects to enter LIM in SSA (P8, P6) but not in South Africa
MNPC 1	2.9 out of 5	Limited: LIM is viewed as non-profitable due the price the MNPC has to offer the state sector	<ul style="list-style-type: none"> • Public sector has limited funds to spend on medicines (P4) • South Africa's legislation prevents special pricing programmes (P4, P3) • International reference pricing impacts markets in other countries (P3, P1) • Management is mindful of the MNPC in the global market and the impact that South Africa's prices has on the rest of the world (P3, P1, P4)
MNPC 4	3.4 out of 5	Limited although their HIV business has high penetration into state hospitals	<ul style="list-style-type: none"> • Limited success due to South Africa's legislation preventing special pricing programmes (P2) • BOP patients operate in an uncontrolled ecosystem: they don't have access to infrastructure and monitoring needed when receiving this MNPC's drugs (P2) • The company is bound by the global company's mandate and is prevented from changing to a more relevant product portfolio (P2).
MNPC 3	3.0 out of 5	High level of penetration into LIM	<ul style="list-style-type: none"> • Successful because this MNPC has clear strategies to enter LIMs (P9). • Company partnered with an Indian generics company to make their medicines more affordable to LIM (P9). • Acquired local manufacturing plant (P9) • They have a team dedicated to state hospitals (P9). • The company has a large level of autonomy from global head office. They acquired a local company that had more "relevant" products for LIMs (P9).

Abbreviations used in the table: **LIM:** low-income market. **MNPC:** Multinational Pharmaceutical Company. **SSA:** Sub-Saharan Africa

The company with the highest level of success in penetrating the low-income market was MNPC 3. This company applied a few unique strategies:

- I. The company obtained permission from the global head office to partner with an Indian generic company who could manufacture HIV drugs cheaply. Respondent P9 felt this was a more relevant product to sell in the South African market.

- II. The company acquired a local manufacturing company and established a separate generic company in South Africa. This allowed them to lower the price of drugs whose patents had expired and make these products available to low-income patients. The respondent from MNPC 3 had this to say regarding the success of the strategy:

“...the jury is still out, it is only four or five years in, the generics in particular are performing exceptionally well, we are growing about 25% above the Americans so our entry into generics has surprised us in terms of level of success, being that not many multinationals end up being successful in generics because it is kind of totally different philosophies and cultures...”

- III. The company has a dedicated structure and team in place to cater to the state hospital business.

“We are one of the few multinationals we have got a whole dedicated head of business unit, we have a strategic manager, we have key accounts, we have sales forces, sales managers, product managers, and dedicated OPEX [operational expenditure] for the public sector.”

The respondent noted that their state team is separate from their team who sells to the privately insured market and this structure allows them to implement strategies specifically tailored for the BOP segment.

The company with the lowest level of penetration into the state hospitals was MNPC 2. Until recently, this company manufactured three of the ten worldwide blockbuster drugs. The patent rights on these drugs have expired and generic companies are manufacturing and competing with this company on those three products. Both respondents from MNPC 2 noted that their company could not compete with the prices that the generic companies offer for the same drug:

“...it’s absolutely price. I just think we cannot compete with the Indian generics.”

Despite the low level of success in South Africa, this company has initiated a project to actively enter BOP patient segments in an African country. The directive comes from global head office, but the South African affiliate has been given the mandate to implement the project (only outside of South Africa).

A pharmaceutical company that is mid-way between successful and non-successful with a pricing strategy is MNPC 4. Out of its total portfolio, this company has been successful in providing South Africa with the lowest priced HIV medication in the world consistently for the last few years. When the respondent from MNPC 4 was asked how they managed to achieve this, the respondent answered that the reduction in price was due to two elements: firstly there was social pressure to lower the price on HIV medication and secondly, the MNPC saw the opportunity because of the high volumes demanded:

“Well I think it is different models, when the social responsibility piece is there it can be seen in a different light and when the volume upside is there, the volume then offsets the manufacturing overhead that you run at manufacturing plants. So obviously there is a volume upside and then they calculate the price point where at least you know that is a feasible kind of proposition to government or tenders and stuff. So there is a fine mix on calculating that.”

The 2014 Access to Medicines report mentioned this achievement, but also noted that MNPC 4 could “expand this approach to a much greater proportion of its portfolio” and not just apply this strategy to their HIV portfolio.

Multinational pharmaceutical company 1 cited global head office policies as one of the reasons why they could not lower their price adequately. There were other strategies that they would be allowed to use to make their drugs more affordable (such as a bonus system and discounting of their medicines). However the South African legislation was cited as the reason for not being able to implement this strategy. This is discussed in more detail under section 5.2.3.

5.2.1.2 Government tenders

All of the MNPCs said that their company submits a proposal for their drugs when the government calls for a tender in various therapeutic areas for the state hospitals. There were varying degrees of success of being awarded a tender. The main reason for success was offering the state a favourable price for their drug. The second reason was if the company had the relevant product portfolio to apply for a tender. Finally the company's broad based black economic empowerment rating (BBBEE) was mentioned as a relevant factor when applying for a tender. However, one company (MNPC 2) noted that the price would always dictate if the company was to be awarded a tender. Price was viewed a more important factor in obtaining a tender than a good BBBEE scorecard rating.

The pattern that was seen with companies that were successful with pricing was also seen with companies successfully being awarded a tender. The ability to lower the price of a drug logically speaks to the ability to successfully apply for a government tender (which sources the lowest price). The companies that were unsuccessful with a price-lowering strategy were also unsuccessful in winning a tender. Table 6 ranks the companies in terms of their level of success with government tenders and the reasons they mentioned for success or lack of success.

Table 6: Ranking of MNPCs and success with government tenders

COMPANY	TENDER SUCCESS	REASONS WHY
MNPC 2	Not successful.	<ul style="list-style-type: none"> • “Other drugs” cater for that market. Their business model is to target the private sector • The high price of their drugs – they are unable to compete with generic prices
MNPC 4	Somewhat successful.	<ul style="list-style-type: none"> • Their BBBEE rating is against them • The pricing model they would like to offer is not allowed in SA due to legislation • “Sophisticated drugs” such as theirs need a developed infrastructure which is not available in the state hospitals
MNPC 1	Limited success.	<ul style="list-style-type: none"> • If awarded a tender the DOH caps the number of patients who can receive the drug • The global headquarter’s pricing inflexibility • The pricing model they would like to offer is not allowed in SA due to legislation • Success is possible if you have a niche drug for a niche market
MNPC 3	Successful: just under half of their products are on tender.	<ul style="list-style-type: none"> • Dedicated business unit to work with state hospitals • Local manufacturing facility which gives them low cost of drugs and it is a factor that the government takes into consideration when evaluating a tender • A portfolio that “matches the disease burden of the country”

Abbreviations used in the table: DOH: Department of Health. MNPC: Multinational Pharmaceutical Company. SA: South Africa. BBBEE: Broad Based Black Economic Empowerment.

Multinational pharmaceutical company 2 cited two reasons why they are unable to win government tenders. The first reason was that the tender process is “completely broken” and that it was the government’s choice not to select their drugs. They also mentioned that the government’s needs are being taken care of by the generic drugs, and that relinquished them from the responsibility of making their product available to the state patients.

“...that is the government’s choice because we are not on tender. So not our drugs, no. And here as well.... you have got to look at which is our business, our business is a private sector - that is where our business is. Are there other drugs servicing that end of the market, and the answer is ‘yes’.”

The third reason MNPC 2 listed as to why they could not be awarded government tenders was their inability to offer the lowest price and thus the generic companies have the price advantage:

“we have competed for tenders, but in terms of the influx of generics, I mean the government sector is becoming primarily a generic market and it is not even.... there is not even an opportunity, even so where multinationals [multinational pharmaceutical companies] are willing to bring their pricing to a good, reasonable level, it is still going to get undercut by a generic and at the end of the day whether that generic is a well-tested generic or not, it is just driven by price. So even the whole BEE story, I mean yes the BEE plays a role, but you know what, in the midst of price it doesn't matter what your BEE score is.”

As mentioned previously, MNPC 2 has a large project outside of South Africa, whereby they have multiple partnerships (including NGO's) to create awareness of a particular disease, provide training to health care practitioners and make their medicines more affordable and accessible to BOP patients. When asked why this project could not be implemented in South Africa, respondent P8 felt that there were three reasons for not implementing this project in South Africa versus in the rest of Africa:

- I. The South African state hospitals already provide BOP patients access to medicines whereas in the African country where the project will be launched, there is a huge unmet need for their medicines.
- II. Generic companies are not entering the African markets (outside of South Africa), so there is less competition for them in this market.
- III. In the South African market, if the company lowers its price, they need to lower the price for both privately insured patients as well as state patients and the risk is that the volume uptake may not be sufficient to generate the desired profits.

Both MNPC 4 and MNPC 1 cited that the strategy that they would like to employ (tiered pricing) is not possible in South Africa due to the legislation (this is discussed under section 5.3.2). Both companies said that there were external barriers to them being awarded a tender and the issue of the level of affordability of the government to pay for innovative medicines was a factor. Respondent P4 from MNPC 1 had this

to say about affordability for one of their drugs which they managed to get on tender, but the number of patients who could be treated with the drug was capped:

“I think if you identify a very niche market and you don’t go for the broad population, so you look at a small number of patients where the state can afford medicine for those few patients.”

Respondent P5 who had worked with MNPC 1 to gain access to state tenders said that in the instance where they had “limited success” with government tenders, the company was prepared to lower the price of the drug only when the state had put a guarantee in place for specific volumes:

“...that state must guarantee a certain amount and then they [the MNPC] will drop their pricing and then second a little more and drop the amount”.

As with the price-lowering strategy, MNPC 3 was again the most successful for the same reasons as those reasons mentioned under section 5.2.1.1. This company made use of their generic company to access the state hospitals, this strategy consisted of releasing to the generic company the licence to manufacture the MNPCs drugs at a lower price, to package them in a differently labelled box and sell them under a different brand and company name (although the company was owned by the MNPC). The generic version is essentially the same product but because this generic was sold under a different name it did not impact the global referencing price of the original drug, which was a concern for the other MNPCs and is discussed in section 5.3.3.

One respondent (P5) explained the rationale for a company releasing the manufacturing licence of a product to a generic company as such:

“Technology transfer to some degree is probably a safeguard against losing your patent, so by giving the license to somebody else to develop you effectively retain your patent in your developed markets and you are saying in specific markets I will give you technology but his product is very different from my product.”

This strategy allowed the MNPC to effectively operate in two markets: the branded original product is sold to the private insurance market and the lower priced generic product is sold to the state hospitals.

5.3 What is holding the MNPCs back from entering low-income markets?

Objective 2: What are the limitations to the MNPC's current business models?

To explore this objective, respondents were asked what are the limitations to their current business model (refer to interview matrix, appendix 2). This was an open-ended question and it was the first question that made the link between the organisation's business model and the adoption of either an explorative or exploitative strategy in low-income markets. Table 7 provides an overview of the two business models; explorative and exploitative and the characteristics of both types of models with examples of which ones the MNPCs implemented.

Although the research objective was to uncover the specifics of the MNPC's business model design in relation to either of the characteristics mentioned in table 5, the companies attributed their poor level of penetration into low-income markets to factors, which they considered to be outside of their control (mentioned in tables 5 and 6). Chapter 6 discusses why this behaviour manifests as well as potential solutions. The following section presents the barriers that the MNPCs mentioned.

Table 7: The characteristics of business models used to enter low-income markets: isolated and interactive business models (Sanchez & Ricart, 2010)

BUSINESS MODEL	CHARACTERISTICS	EXAMPLES IN INTERVIEWED MNPCs
<p>ISOLATED BUSINESS MODEL (Exploitation strategy)</p>	<p>In an emerging market the firm replicates and extends its traditional business model.</p> <p>The company uses its own resources and capabilities</p> <p>The company adapts to its ecosystem with aim of achieving highest possible efficiencies in operations.</p> <p>The model is effective when it operates in a market with predictable effects</p>	<p>MNPCs look at emerging markets as opportunities to increase existing sales.</p> <ul style="list-style-type: none"> • MNPC 1,2 & 4 wanted to implement pricing strategies that have worked in global markets and blame the SA government for barriers to implementation (P4, P3, P1, P5, P2 & P8) • MNPCs target the top tier within an emerging market (P6 & P8) • MNPCs enter a low-income market with existing portfolio of products (all MNPCs)
<p>INTERACTIVE BUSINESS MODEL (Exploration strategy)</p>	<p>When the firm has the right combination and governance of its resources and capabilities with those of the environment – it has a competitive advantage</p> <p>The company leverages on external resources and fosters learning and innovation processes. Relational capabilities are important.</p> <p>New sources of revenue are created through innovations in business models and products while simultaneously contributing to the living conditions of the poor.</p>	<ul style="list-style-type: none"> • MNPC 3 learned the market needs and then changed their traditional business model by: <ul style="list-style-type: none"> ○ Partnering with an Indian generics company to get a product relevant for the market ○ Setting up a local manufacturing facility to lower the prices of their existing portfolio ○ Acquiring a local company for a different product portfolio.

All of the companies (except MNPC 3) followed an isolated business model approach to low-income patient markets. The traditional pricing, marketing and distribution processes that are used in developed markets were implemented locally in the privately insured market as well as in the state’s low-income patient market. The MNPCs demonstrated little to no innovation in their business models, with minor adaptation to the external environment, which was through adapting to the governments system of state tenders.

Out of the five main reasons the respondents gave for what could be holding them back from entering low-income markets, three of the reasons were due to environmental factors these were: the government's limited funds available to procure medicines in the state sector; South Africa's legislation on tiered pricing and a lack of infrastructure to deliver the highly technologically advanced products to patients in state hospitals. The companies acknowledged two factors that were self-inflicted limitations. Firstly, their type of product portfolio and the relevance of these drugs to emerging markets and, secondly, the limitations from the global head offices on how low they could price their drugs. The barriers which they emphasised were, however, more on the external environment than their choice of business model.

5.3.1 Limited funds available in the government hospitals

“And then also if you look at it from the hospital or the government's point of view, you know even if I dropped the price to the lowest possible price, it still means there is a 60% increase from moving from an Indian generic to my price. So I can't expect the government to have that extra 60% in their pocket to spend on my medicines.”

In this statement, respondent P6 was referring not only to the generic companies that are able to price their drugs cheaper than the MNPC, but also to the limited funds the state hospitals have available to procure medicines. If the government is faced with a choice between two drugs, they will invariably choose the cheapest option to treat patients. Respondents in MNPC 1, 2 and 4 felt that there was not enough money to fund innovative drugs in the state hospitals and that this was a problem of low-income countries:

“....invariably low income countries do not prioritize healthcare, in fact they prioritize virtually every other thing over healthcare, and do not invest substantially to a level that allows products such as we have to be accessed by the majority of the population.”

The state health budgets need to treat as many patients as possible. However, if the state spends its money on premium priced innovative drugs, the state is unable to treat as many patients as it could if it went with a cheaper alternative (which may or may

not necessarily be as effective as a newer innovative drug). One respondent spoke about the choices that had to be made when they presented their expensive oncology drug to the state:

“...it really did boil down to price and affordability because they have these limited budgets and can only treat so many patients and treat 100 patients with that [generic drug] or two patients with that [innovative drug] and they have got to make that decision. So what they tend to move towards is ‘let’s rather treat the 100’.”

The MNPCs saw that there was a disconnect between the government’s objectives of providing healthcare to the uninsured population and the amount the government invests in healthcare. The health departments work with limited budgets to procure medicines and the MNPCs are viewed as selling their products at a premium price, which the state hospitals are unable to afford:

“So you have got these governments under-investing and then maybe being pushed by pharma [pharmaceutical companies] to pay for premium, what is perceived as premium for product – you are never going to find meeting of minds, it is very difficult to do that. So you have got to get to a point where government says ‘I am willing to put more money behind it, but in the process we need to come back and talk pricing’.”

Respondent P5 explained that the problem of making drugs accessible to the low-income patients in the state hospitals must be seen from the perspective of both parties; the MNPCs and the government:

“There is no meeting of minds and pharma [pharmaceutical companies] saying ‘I need this product to be administered to people in Africa, but I am prepared to drop my price’ and government saying ‘I am actually prepared to pay something, your premium’.... It is challenging.”

The factors that contribute to the reluctance of MNPCs to lower their prices is presented in section 5.3.3.

5.3.2 South Africa's legislation on pricing of medicines

The South African legislation on single exit pricing is seen as a barrier for MNPCs to introduce a strategy of a multiple tiered pricing structure. Although companies are allowed to have a special lower price for the state, with a tiered pricing structure, the same product would be offered at a variety of different price points in the state and not just one price point. The access to the various price points would depend on the level of affordability of the patient segment.

The MNPCs mentioned another strategy that is used in other countries (including developed nations) namely to offer free stock when a certain volume has been purchased. For example, for every ten boxes that are purchased, the company gives the buyer four boxes for free. This is not reflected on the price list and therefore the international community does not see the actual discounts offered. This price innovation has been successfully implemented in some countries as the respondents from MNPC 1 explained:

"I mean I think the big question for most companies is: if you want to be successful in these markets you have to be able to meet the ability to pay, of the particular segment, and I mean different companies have been successful on their ability to introduce differential pricing models. SA unfortunately is not a great example, because of our pricing legislation which doesn't allow you to offer some kind of innovation in terms of your pricing for market access, that allows you to offer patients at the lowest level of affordability at a different price. But I mean I have seen examples where for public segment, patients are either offered a much lower price, or a second or dual brand." (P3)

"....because the single exit price came in and it was a good thing, but it has actually been a bad thing now, because it doesn't allow you to bonus, give compassionate use, 10 plus 2 in that setting so that you don't touch your price, but you give vials [units] and that actually reduces that fee that they are paying indirectly, without touching price. So that is a really good way. Risk-sharing models are not allowed...." (P4)

For many MNPCs the concept of tiered pricing makes sense, due to the economic variations of the patients in this country. The respondent from MNPC 3 explained:

“I mean we have it here in SA, we have had it for 30, 40, 50 years, in the sense of the private sector price and a public sector price. I think it is a lovely source of precedent, you know because the precedent is set in South Africa by the tax people – I earn more, I pay more than you – you are less, you pay less. And then why wouldn’t it be the same in terms of pharmaceutical pricing as well? People in the private sector which are generally more economically empowered, pay more and people in the public sector pay less.”

With that said about tiered pricing, not all MNPCs made use of the different price structure that is allowed between the private and state health care markets in South Africa. One respondent from MNPC 1 spoke about the fact that their drugs are either too expensive for them to lower the price to make the product more accessible in low-income markets or that it is unattractive for the MNPC to lower the price due to the impact on the global price of the drug (this is discussed in section 5.3.3 in more detail):

“But then also I think it is not for all our products, I think some of our newer products will never be profitable in those markets, regardless of the volumes that you get, just because of the costs that need to be recouped and the costs involved in bringing those products to market..... Most of our products are biologics and genetically engineered products so there are high costs involved in those products, and obviously they can’t be accessible to everyone.”

There was a mixed response to this concept of tiered pricing as many MNPCs lowered their price on a particular drug within their portfolio to access the state sector but did not apply this strategy to their entire portfolio, especially not with their newer drugs. Most respondents were concerned about a loss of margins and profits when they lowered their prices and felt that the volumes that they received from the state in return was not sufficient to justify a reduction in price.

5.3.3 Limitations from the MNPC’s global headquarters and the mindsets

Three concepts emerged with regards to the MNPCs and their global head office and how the local affiliates conducted themselves. The first challenge was in terms of how the MNPC behaves as part of a global company with respect to their pricing

strategy and the impact that the low pricing in South Africa has on the global community. If the price of the drug is lowered by too much compared to the rest of the world, the first-world countries will put the MNPC under pressure to lower the price in the developed markets, thereby eroding profit margins. Respondent P5 had this to say:

“...but if you told them [MNPC 1] ‘I can get you millions of people in Africa, they would say ‘no’, because it is not as profitable as the rest of the world and the benchmarking process will create questions around the model elsewhere.”

The second challenge that emerged was the mindset of the global company headquarters as well as that of the South African affiliate with regards to accessing BOP patients on a large scale. In most instances the business case to lower the price of the drug and therefore the profit margin was not a suitable option for the company as the MNPC had set criteria on what profit margins were expected.

Lastly the relevance of the MNPC’s product portfolio for low-income markets came under question. Some companies said that their products were too sophisticated for low-income markets. Respondents from MNPC 1 noted that because low-income patients typically have low levels of education they presented at the end stage of their disease, where the products were no longer as effective. Finally the disease burden of the majority patients in the low-income country may be “significantly different” to the products the MNPC produces.

These three challenges are linked and speak to the isolated business model that the MNPCs applied in a dynamic market because in most cases the mindset of the global MNPC dictated what strategies the affiliate could implement. Table 8 (split in two parts – A and B) highlights some of these challenges and restrictions from the global headquarters across the various companies.

Table 8 (part A): Global headquarter mandates and the impact on MNPCs in South Africa's low-income markets

MULTINATIONAL PHARMACEUTICAL COMPANY	GLOBAL PRICE TOO COSTLY FOR LIM?	REASON GLOBAL HQ WILL NOT PERMIT A LOWER PRICE FOR SA LIM	MIND SET OF MNPC
MNPC 1	Yes.	<ul style="list-style-type: none"> Global HQ is fearful of parallel imports from LIM into developed markets A significantly lower price provided to a LIM would disrupt the global price of that product leading to demands for lower prices in other markets (P4). If the SA MNPC lowers the price, the global HQ will be questioned why that price was not made available from the time the product was launched into the market (P1) 	<ul style="list-style-type: none"> MNPC 1 “couldn’t get their mind around the pricing” structure for LIMs (P5) Does not see the LIM in SA as profitable as the rest of the world (P5). SA’s combination of private and state healthcare market is unique (P3)
MNPC 2	Yes. Manufacturing plants in UK, USA and Europe – in process of opening plants in India and China to address this.	<ul style="list-style-type: none"> Global HQ requires very large volumes in exchange for lower priced drugs and reduced margins (P6, P8) SA affiliate is bound by the specific profit margin the global HQ requires on each product (P8). Strategy is not to differentiate products on price (P8). 	<ul style="list-style-type: none"> Obligation to behave according to global HQ’s business model (P8) Global HQ “does not understand” what it means to compete in the LIM (P6).

Abbreviations used in the table: LIM: Low-Income Market. MNPC: Multinational Pharmaceutical Company. HQ: Headquarters. SA: South Africa

Table 8 (part B): Global headquarter mandates and the impact on MNPCs in South Africa's low-income markets

MULTINATIONAL PHARMACEUTICAL COMPANY	GLOBAL PRICE TOO COSTLY FOR LIM?	REASON GLOBAL HQ WILL NOT PERMIT A LOWER PRICE FOR SA LIM	MIND SET OF MNPC
MNPC 3	Yes but they have acquired a local manufacturing company to achieve low cost manufacturing.	Not deemed applicable – MNPC 3 is “serious about the emerging market” and is flexible in their pricing (P9).	<ul style="list-style-type: none"> • Become relevant in a LIM by providing the right products to “match the disease burden of that country” (P9) • Aim to get “critical mass” in a LIM through acquisitions, organic growth and partnerships (P9) • Global HQ leadership has a desire to continue role in emerging markets. (P9)
MNPC 4	Yes. But the exception is their HIV portfolio which was made affordable.	<ul style="list-style-type: none"> • Global HQ “subsidises” LIM by charging higher premiums in the developed countries – this allows them, in certain portfolios, to have a lower price for a LIM. • Global HQ recognises that it is an interconnected world in terms of price. 	<ul style="list-style-type: none"> • Global dictates what the intent is – affiliates must represent their mandate (P2) • Source of business dictates where the company will spend money on capability building (P2)

Abbreviations used in the table: LIM: Low-Income Market. MNPC: Multinational Pharmaceutical Company. HQ: Headquarters. SA: South Africa

5.3.4 Lack of infrastructure in the state hospitals affects access to BOP patients

The availability and quality of the infrastructure that supports a patient in receiving medication was listed as a barrier for MNPCs to gain access with their medicines to low-income patients. The MNPCs determined that the site where they access BOP patients was in the state hospitals (refer to table 3). However, if the patients did not have access to the state hospital infrastructure, the MNPCs could not get their products to these patients. Respondent P5 provided this explanation:

“.....but if there is healthcare available, structure in the state hospital, and poor people can go to state hospitals, it then becomes a viable market – because then you have got a funder, so you just follow the trajectory: you have got access to your indigent patient.....”

“I am saying you have got to look at the other side of the matrix which is healthcare infrastructure and no healthcare infrastructure. And from there you are starting to plan now which ones are viable. So in my mind if you have healthcare infrastructure you become viable for low income as well as base of pyramid. If you don't have healthcare infrastructure your base of pyramid no longer becomes viable”

Although the state hospitals are seen as a vehicle to access BOP patients, the companies said that there was a lack of resources within these hospitals such as not enough doctors and lack of access to budgets to treat patients. These infrastructural voids exacerbated the problem of gaining access to BOP patients. A respondent from MNPC 1 has seen this challenge in other emerging markets as well as in South Africa:

“I don't think access is only related to price. I mean access, we have got examples in countries where even if we had to reduce the price to virtually zero, access would still not be open, and I mean there are barriers related to infrastructure, you know, both in terms of human resources, in terms of bricks and mortar, in terms of logistical set-ups in country, you know, populations living in rural areas. I think there are significant barriers to patient access in terms of regulatory barriers, you know.... So it is far more than just price. Having said that, price is still a major barrier”.

One company (MNPC 4) recognised the need to specifically address the infrastructural challenges specifically as this company offers highly specialized medicines that require well-trained professionals to administer the products. Challenges exist with administering the drug safely and there should be adequate systems in place to control the use of the medicine and the patient compliance. In such a circumstance the MNPC felt that companies should behave with responsibility and not provide their drug unless the infrastructure is in place:

“So when you don’t have that controlled ecosystem you can’t go and fool around with drugs in that system. So everywhere where there can be control, where a patient is monitored, and there is enabling services and infrastructure, then you can go and play with sophisticated drugs. I am just saying, there are barriers to that.”

Multinational pharmaceutical company 4 said to partly address this issue they have a higher compliment of medical staff working for them compared to the other MNPCs because they need to supply this ecosystem with trained professionals, in order for their products to be used.

5.4 Ambidexterity characteristics of the MNPCs

Objective 3: Do the MNPCs exhibit the correct characteristics of ambidexterity?

In section 5.3 (table 7) the data for the MNPC’s business model (exploitative or explorative) is presented. This section compares the leadership characteristics that are associated with successful ambidexterity as outlined in research question IV, in chapter 3 with the ones the MNPCs exhibited. Only one company (MNPC 3) demonstrated all five characteristics.

Table 9: Correlation of ambidextrous characteristics with each MNPC

	CHARACTERISTIC 1: Strategic intent justifying an ambidextrous strategy	CHARACTERISTIC 2: Common vision & values provide a common identity across explore & exploit units	CHARACTERISTIC 3: A senior team responsible for ambidextrous strategy	CHARACTERISTIC 4: Separate but aligned units	CHARACTERISTIC 5: Ability of senior leaders to tolerate & resolve tensions from 2 separate units
MNPC 1	No	No	No	No	No
MNPC 2	Yes	Yes	Yes	No	No
MNPC 3	Yes	Yes	Yes	Yes	Yes
MNPC 4	Yes	No	No	No	No

5.4 Conclusion

This chapter presented the results from the nine semi-structured interviews conducted to explore the purpose of this research. Dominant themes that emerged for MNPCs operating in low-income markets were

- I. An inability to lower the price of the drugs to an acceptable price point for this market
- II. Infrastructural voids and lack of government funding in the entire state hospital health care system that prevented the MNPCs from accessing BOP patients
- III. The application of an exploitative business model for most MNPCs in a low-income market which prevented innovation of their business models
- IV. A limited understanding of the BOP market and business models required to operate and be profitable in this environment

The following chapter will compare the results with the literature that was presented in chapter 2 to draw inferences from the research questions raised in chapter 3.

CHAPTER 6: DISCUSSION OF RESULTS

It has been pointed out in chapter 2 that entrance into low-income markets is a vital strategy for MNPCs to find new sources of growth. The objective of this research was to evaluate if MNPCs exhibited the correct business models and characteristics to enter low-income markets. The literature reviewed in chapter 2 provided insight into proven business models and capabilities for companies to enter the BOP segment successfully. Chapter 3 provided the characteristics that would be used to assess the South African MNPCs. This chapter provides a discussion of the results obtained from the semi-structured interviews and compares it to the concepts presented in chapter 2.

Research Objective 1: Do MNPCs have the right capabilities and knowledge to reach low-income markets?

Level of adherence to proven business strategies to enter low-income markets

The South African MNPCs demonstrated limited success with entering low-income markets. Apart from MNPC 3, entrance into the state segment was either on a project or product basis and never applied across the entire portfolio. Products under social pressure (such as HIV medication), products where the volume up-take was guaranteed (as in a tender or where a high burden of disease was present) and products that were unique (niche products) and were the only therapeutic agents to treat a particular disease, were successful. All of these examples mentioned were not as a result of the intentional implementation of business models that will lead to success in low-income markets but rather due to opportunities that arose (or were forced upon the companies as in the case of the HIV medication).

Table 4 presented the results of the MNPCs and the level of implementation of factors that are proven to be successful in BOP markets. There was a very low level of adoption of these strategies, this could be because multinational companies are familiar with operating with tier 1 consumers and almost dismiss BOP customers because they have viewed this market as inappropriate based on the low income levels and seem to accept that these customers cannot afford newer technology or they have no use for it (Prahalad & Hart, 2002).

A central theme that emerged from an analysis of the results was that MNPCs showed a lack of understanding of the BOP market and their needs. When compared to the other MNPCs studied in this research, MNPC 3 demonstrated a more thorough understanding of the requirements of the low-income market. More specifically this company understood how to access these patients and what products would be more relevant to them (for example self-medication products). However, MNPC 3 also fell short of adopting most of the characteristics outlined in table 4. Operating in tier 4 requires MNCs to look at the BOP segment from the perspective of “inclusive capitalism” and the use of commercial development must be applied to bring these people out of poverty (Prahalad & Hart, 2002). The rewards of this approach not only benefit society but there is benefit to the MNC as well because these markets are new sources of growth opportunities (Prahalad & Hammond, 2002).

Multinational pharmaceutical companies cannot only produce products for consumption by the tier 1 consumers if they want to thrive in the 21st century. By nurturing local markets and cultures and leveraging local solutions (not just replicating Western systems) they can produce wealth in emerging markets rather than extract wealth (Prahalad & Hart, 2002). The results of this study showed that the concepts of wealth generation and co-inventing solutions specifically for this market was not part of the MNPC’s intent when entering the BOP market. Rather the MNPCs saw a price-lowering strategy as the only route to access BOP patients. Partnerships, co-invention of solutions and the building of social infrastructure were not even considered as part of the MNPCs strategies.

In chapter 2 the problems of operating in low-income markets were highlighted. Because people in these markets cannot afford even the cheapest of the high-end alternatives (Eyring et al., 2011) their needs are often poorly met with low-end solutions. It was pointed out that when operating in low-income markets, multinationals cut their margins or only operate in the higher-tier customer segments. It was shown that neither of these strategies will generate sufficient returns (Eyring et al., 2011).

There seem to be two possible reasons why the MNPCs to apply only price-lowering strategies and disregard the operating strategies that are particular to enter low-income markets:

- I. As mentioned above, there is an incorrect perception of the BOP market and little intention to fully understand this market and therefore the innovative business models that are required to enter this market on a deep level.
- II. The mindset of the organisation (global and the local affiliate) that expensive drugs will never be affordable and profitable if sold in low-income markets.

Multinational pharmaceutical companies seem to view the BOP opportunity through a pricing lens, which leads to an almost singular perspective of this market. This perspective results in MNPCs to operate in such a manner that they minimize any potential for loss of optimal earnings such as if they had to apply either minimal margins on products or a price reduction that would lead to a revolt by their lucrative top tier markets. The volume value trade-off is only marginally recognized but perceived to be largely unobtainable due to the South African legislation restrictions, infrastructural voids and competition from generic companies who offer the products at an affordable price point for this market. This topic is further discussed under research objective 2.

Research Objective 2: What is holding the MNPCs back from entering low-income markets?

Emergent themes from the respondents suggested resistance by MNPCs to consider alternative business models, such as an explorative model, for their innovations to be more broadly accessible. The exploitative business model has clearly demonstrated success for the MNPCs in the privately insured patient market. However, it seems as if these firms do not see any benefit to change that which has been working for them and they thus continue using the exploitative business model. Although the BOP segment is attractive from a volume perspective, it carries the risk and difficulties of operating in an unpredictable new market that is studded with a complexity of multiple interfaces and policy frameworks.

Business models for low-income markets

One of the reasons why isolated (or exploitative) business models fail in low-income markets is because the emerging market does not have the necessary resources in place for the business model to be replicated (Sanchez & Ricart, 2010). The infrastructural voids were blamed for the barriers MNPCs experienced when trying to enter the BOP segment. These voids consisted of:

- I. Lack of government investing sufficiently in healthcare and therefore the inability of the health budgets to afford the MNPC's medicines.
- II. Lack of infrastructure within the state hospitals such as a shortage of doctors and nurses to administer the drugs as well as logistical barriers to reach patients in rural areas.

Companies hope to have an increased volume with a smaller profit margin when operating in emerging markets, but they fail to address these voids in the infrastructure-poor environment. Consequently, the costs to serve remote customers become too high (Eyring et al., 2011). The company must therefore adopt different choices in order to be successful. In examples of companies that have succeeded in low-income markets there was an alignment of objectives between all of the actors involved which facilitated the development of partnerships and mutual commitment between the parties (Sanchez & Ricart, 2010) to generate solutions to these problems.

Limitations from the global MNPC's headquarters and the mindsets

The global mindset of not understanding the growth potential in the low-income markets and viewing the BOP as more of a segment filled with risk rather than opportunity was illustrated by the local MNPCs (apart from MNPC 3). This observation speaks to the "imperialistic mindset" that was raised earlier as well as internal organisational barriers that result in the use of the typical valuation criteria to determine economic value and shows that the company perceives virtually no value in these markets (Olsen & Boxenbaum, 2009). Respondents noted that the global headquarters do not understand what business models are required to operate in the South African state hospital sector. This observation leads the research to question how it was possible for MNPC 3 to obtain autonomy to adopt the successful business models? Was the mindset of the headquarter MNPC aligned or were they convinced by the South African affiliate? From tables 5 and 8 (part B) it becomes evident that the South African leadership team as well as the global senior leadership team were convicted to operate and lead in emerging markets. This speaks to one of the first requirements of capabilities to adopt an ambidextrous strategy (O'Reilly & Tushman, 2011) and is discussed under research objective 3.

South African pricing legislation

As presented in section 5.3.2 MNPCs listed the South African legislation as a barrier to implementing innovative price-discount strategies that do not impact the international reference price. But this perception is not entirely accurate, as the government does allow for a tiered price structure: a lower price that is only applicable to the state sector is permitted. It seems more likely that the ramifications of this open and transparent state price is what the MNPCs struggled with. In other markets the discount was not published, therefore global markets could not pressurise the MNPCs to provide them with the same low price. In South Africa the price is listed for all of South Africa (and the rest of the world) to see. The perception was that the benefit of lowering the price in the state was far too low for the risks such lowering would generate on a global scale.

Research Objective 3: Do the MNPCs exhibit the correct level of ambidexterity dynamic capabilities?

There was little alignment with most MNPCs and the characteristics outlined in section 2.5 in terms of exhibiting dynamic capabilities or precursors to ambidexterity. The anecdotal reports of MNPCs adopting an ambidextrous strategy were limited to a product or project. This statement is illustrated by MNPC 4 and the success of their HIV portfolio in reaching BOP patients and by the fact that this strategy was not applied to their entire product portfolio.

In MNPCs that are successful with an ambidextrous strategy, all five dynamic capabilities (as outlined in section 2.5.1) are present. Only MNPC 3 demonstrated all capabilities and in turn was the only company to successfully operate in established (privately insured patients) and the BOP (state) markets. The most important precursor to ambidexterity is to have a strategic intention to operate in two markets. Multinational company 3 showed determination to not only operate in BOP markets and design appropriate strategies to enter, but this company was also clear about succeeding in this market.

Ambidexterity characteristic 1

The very first characteristic of organisations that implement ambidexterity successfully is a strategic intent that justifies the rationale for both explorative and exploitative strategies (O'Reilly & Tushman, 2011) and also leads to the ability to

make decisions regarding opportunities in both strategies (Chandrasekaran et al., 2012). Three of the four MNPCs studied in this research clearly noted that while they have been exploiting their international business model for top tiered patients they needed to enter lowered tiered markets as well (table 9).

Multinational pharmaceutical company 1 mentioned the potential opportunities that existed in the low-income market, but they lacked the strategic intent to enter BOP markets. There could be two reasons for this. Firstly, MNPC 1 does not truly understand how operating in the BOP markets could translate into a profitable business model. This point was illustrated by many respondents who noted that they could never reach sufficient volumes in this market. Secondly, in MNPC 1 the higher tiered markets take preference, on a global scale and within a country as could be seen by their reluctance to allow the South African affiliate the requested price for state hospitals and the level of penetration in to the state sector. This could be linked to the inability of the senior managers to resolve contradictions and tensions when deciding on the strategy to pursue low-income markets (Chandrasekaran et al., 2012). Managers over-estimate current threats far more than being sensitive to opportunities, this is because they fail to adjust their mindsets to explore new business models (O'Reilly & Tushman, 2008). If the direction from the senior leadership team is not in place, an ambidextrous strategy cannot be conceived.

Ambidexterity characteristic 2

The common identity and values that are shared across both explorative and exploitative units are linked to a strategic intent. This strategic intent was present in MNPCs 2 and 3 but not in MNPCs 1 and 4. There was a strong global headquarter strategy influence in both these companies (MNPC 1 and 4). It seems that operating in emerging markets was not part of the company's vision. This impression was confirmed when respondents from both companies noted that the product portfolio provided by their respective headquarters was not always relevant for a low-income market. However, not all the blame can be laid on the global company as it became clear that the South African affiliates do not have a comprehensive understanding of the BOP market and their needs. This links back to section 2.2 when it was noted that one of the very first requirements of a company to operate in a BOP market that is to start with an empirical characterisation of this market (Hammond et al., 2007).

Why would these companies not recognise the growth opportunities in the BOP segment? One explanation could be found in the characteristics of internal organisational barriers (Olsen & Boxenbaum, 2009) as outlined in section 2.3. In this case, the MNPCs could view market strategies to enter BOP segments as a cost to the company rather than as a profitable business option. Respondents from MNPC 1 and 4 both commented on the mindset change that needs to happen in order for them to develop strategies successful for low-income markets.

Ambidexterity characteristic 3

Following the intent to pursue an ambidextrous strategy and the vision and values that promote a shared identity, the senior team should be subjected to a “common-fate reward” system to ensure that the team understands the importance of the dual strategy and takes responsibility for the strategy (O’Reilly & Tushman, 2011). The responses for this characteristic were the same as for characteristic 2: MNPC 1 and 4 did not have an executive team responsible for the exploitation and exploration strategies. It is logical that this characteristic was missing, because if there is no intent and vision to enter a new market, the senior team will be implementing an exploitative strategy applicable for established markets only. Multinational pharmaceutical companies 2 and 3 demonstrated a high level of consensus amongst the senior management team.

Ambidexterity characteristic 4

Only MNPC 3 exhibited the characteristic of separate but aligned explore and exploit units. Previous research showed that all companies that failed in their ambidexterity strategy did not have separate architectures (O’Reilly & Tushman, 2011). This is because they failed to see the value of separating the teams and leveraging common resources across the teams. Other MNPCs felt that the revenue generated from the state hospitals did not justify an investment for a separate team. This lead managers to prioritise their efforts in the private higher tiered markets and thus to starve the exploratory strategies of resources. This situation is not uncommon, as discussed in section 2.3, managers adopt the same business model for established markets to the low-income markets resulting in failure (Eyring et al., 2011). In order for MNPCs to sense opportunities and threats it requires a separate exploration unit that scans and searches (O’Reilly & Tushman, 2008).

Ambidexterity characteristic 5

The ability of senior managers to resolve tensions that arise from resource allocation across the explore and exploit units and to make definitive resource allocation decisions (O'Reilly & Tushman, 2011) was found only in MNPC 3. This was the only company to have structurally separated and dedicated explore and exploit units. Conflict within the other MNPCs manifested when they wanted to enter the BOP market (mostly with a price lowering strategy) and the global headquarter or local senior management team deemed the risks to be unacceptable and the consequences of disrupting profits in established markets too high.

The ambidexterity characteristics may very well be present in other countries where the MNPCs operate. Apart from the lack of strategic intent and understanding of the BOP market, one possible cause for this is that the MNPCs think that they are generating sufficient profits from the privately insured patient segment in South Africa.

So why then, if MNPC 2 demonstrated three of the five ambidexterity characteristics, were they unsuccessful in penetrating the South African BOP market? The answer to this question can be found in two areas. Firstly there is a lack of understanding of particularly the South African BOP market. These managers could not visualise the possible solutions that would work in the South African market (such as the ones implemented by MNPC 3). Secondly the global headquarters did not provide them the autonomy to explore different business models. These managers could follow business model innovation for BOP markets outside of South Africa as a project, but could not change the model sufficiently to operate within South Africa. This observation leads again to question whether these companies fully understand the intricacies and dynamics that are present across all emerging markets. They need to understand that the same business model applied in one low-income market may not be applicable for South Africa.

The solution to this problem is to have a senior leadership team which facilitates learning, challenges the status quo, accepts failure and provides for knowledge integration and transfer (O'Reilly & Tushman, 2008).

CHAPTER 7: CONCLUSION

This chapter discusses the major findings of the research study and presents insights and recommendations to stakeholders based on the findings. The chapter concludes with identifying recommendations for future research.

7.1. Summary of research objectives

This research study investigated MNPCs in South Africa and their ability to change their business models to enter low-income markets. The research investigated if the MNPCs exhibited characteristics that would allow them to explore new markets while simultaneously exploiting their current capabilities in established markets. Four companies were investigated and their practices were compared to the literature and in particular to that of business model innovation for the BOP segment.

The investigation of the concepts were conducted around the following research questions:

- I. RESEARCH OBJECTIVE 1: Do MNPCs have the right knowledge and capabilities to enter low-income markets?
- II. RESEARCH OBJECTIVE 2: What is holding the MNPCs back from entering low-income markets?
- III. RESEARCH OBJECTIVE 3: Do the MNPCs exhibit the correct ambidexterity characteristics?

7.2. Research findings

The four MNPCs varied in their success to enter low-income markets. One MNPC (MNPC 3) demonstrated a high correlation of proven business model innovations and ambidexterity characteristics. Multinational company 3 was also the only company that had high levels of success in the BOP market. When analysing the companies from the perspective of their knowledge and capabilities to enter low-income markets, most companies fell short of implementing strategies required to operate in these markets. The first explanation provided for this was that MNPCs have not fully characterised the BOP market and therefore do not understand it. As such the MNPCs spend their resources and efforts on the profitable, but much smaller, tier 1 market. Second, the MNPCs have a perception that the solutions that

are implemented in other emerging markets are impossible to implement in South Africa because of the legislation on pricing. This inability to innovate their business model was again attributed to a gap in their understanding that not all BOP markets are the same and that solutions for this market should be tailored or even re-created per market. The MNPCs only looked at one part of their business model, which was the pricing structure of their drugs and tried to modify that to be able to reach a suitable price point for the BOP market. This strategy disregarded all of the other complicated elements that have been described in the literature on business model innovation for low-income markets. A price-modification strategy alone will not result in success as evident by three of the MNPCs.

Typically the low-income markets do not exhibit the necessary resources to replicate the MNC's traditional business model (Sanchez & Ricart, 2010). When companies apply an isolated (exploitative) strategy in such a market, the model ceases to be profitable as was the case with three of the four MNPCs studied who applied an isolated business model. Interestingly, one company (MNPC 2) had applied an interactive (explorative) business model to a project outside of South Africa. However, the mindset of the organisation could not envisage that such a strategy could be applied within the South African market.

The healthcare market in South African is not homogenous as it is in developed countries. This unique setting of a separate privately insured market from a state market is actually the ideal environment to apply a truly ambidextrous strategy. Companies who were unsuccessful did not have a clear strategic intent to operate in BOP markets and did not have a structural separation of an explore and exploit unit.

The impact that the global headquarters has on the strategy was noted by three of the four MNPCs. There was a concern of the impact that their local actions would disrupt the MNPCs global sales, especially of those in wealthier markets. The mindset of the MNPCs that were cognisant of the protection of wealthier markets was a stark contrast to MNPC 3 who had a global mindset to enter BOP markets and lead in those markets.

7.3. Recommendations to stakeholders

The findings of this study showed that the mindset of managers within the South African MNPC as well as the mindset of the global headquarters, can affect the

entrance into BOP markets. Although based on a small sample, it was demonstrated that companies that did not have a thorough understanding of the BOP market as well as a clear strategic intent to enter that market with an integrated business model, were unsuccessful. Therefore, the first recommendation is for MNPCs to change their mindset regarding these markets. This change in mindset of MNPCs implies that, amongst other steps, they need to establish a structurally separate explore unit that will enable them to implement a different and thus more relevant business model for these markets.

The second recommendation is that managers will need to revisit the traditional business metrics. The focus on high gross margins, must be replaced with understanding that low profit margins on individual units result in very large volumes. The companies must aim to obtain high returns on capital employed (ROCE). This objective is achieved with low capital needs; a focused distribution and high volumes at very low margins. Price-reduction alone will not lead to success because the entire business model needs to be re-engineered. This process will include variables such as the customer value proposition, the profit formula, the key processes such as manufacturing, R&D and human resources and the key resources (partnerships and channels).

The last recommendation reflects the findings of research conducted on low-income markets which highlights the need for the MNCs to incorporate the BOP consumer into their value chain. The sustainability of growth in BOP markets will come from the uplifting of this tier. Multinational pharmaceutical companies that make use of local resources and invest in capacity, as was the case with MNPC 3, enjoy not only profits but social embeddedness as well. It will be vital for MNPCs to start considering this aspect and to realize that this does not translate into philanthropy.

7.4. Limitations of research

The results and conclusions of this study are from the perspective of four case studies. As mentioned in chapter 4, conclusions for the total population cannot be inferred from case study analysis. All possible strategies that have been successful in entering low-income patient markets are therefore not represented in this research.

Open-ended questions allowed the concepts to be explored. The level of adherence to the characteristics of ambidexterity and business model innovation was provided from a subjective perspective (i.e. from the respondents). The respondents were only from the South African pharmaceutical industry and therefore conclusions reached in this study cannot be transferred to other emerging markets.

As previously pointed out, strategy is set in the global headquarters of a MNPC, and as such, the perspective of the senior managers making these decisions was not included in this research.

7.5. Recommendations for future research

This study was the first of its kind to explore the characteristics and behaviours of selected MNPCs in terms of their level of ambidexterity to enter low-income markets. Therefore, the first recommendation would be to study a larger sample of MNPCs in South Africa so that conclusions can be drawn for the population.

The open-ended questions explored the level of ambidexterity and business model innovation. However, the next area of interest would be to analyse the impact the choice of strategy has on company growth and performance.

It is possible that internal organisational barriers could play a much larger role than depicted in this study. Future research could investigate the type of organisational barriers and the impact these have when deciding on what strategy to implement in a low-income market.

7.6. Conclusion

To make progress toward meeting the three Millennium Development Goals on making healthcare more accessible in low-income countries, MNPCs need very different approaches to enter low-income markets compared to their existing strategies. The challenges that face MNPCs in making healthcare more affordable is a topic that is being increasingly researched. These companies face further challenges such as pressure from governments around the world to lower their prices, stagnant growth in developed markets and the failing blockbuster business model. Turning to new markets, such as emerging markets, for growth will necessitate innovations in their business models. The aim of this research was to

understand what business models will work in low-income patient markets, specifically in the South African BOP context.

The investigation of four MNPCs through a case study methodology, allowed the exploration of their current business models and ambidexterity level. Two of the four MNPCs exhibited a purely exploitative business model and as such had very little penetration into the BOP segment. One of the four MNPCs demonstrated a few characteristics of ambidexterity, but applied mainly an exploitative model and had limited access to the BOP segment. One of the four companies implemented all of the characteristics of business models that are successful in entering BOP markets as well as a high level of correlation to the characteristics of ambidexterity. The result of this MNPC described was a successful entrance in the BOP segment.

The review of the literature and the findings of this research show that MNPCs can adopt profitable business models to enter low-income markets that not only serve consumers at the base of the pyramid but also provide sustained business benefits to the MNPCs. The research study successfully achieved the research objectives as set out in chapter 3 and provides insights to stakeholders as to which strategies are effective when entering a low-income patient market and what are the elements that are missing from business models that are not successful.

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9. APPENDIX

Appendix 1: Interview Matrix

OBJECTIVE	QUESTIONS TO ASK	SOURCE FROM LITERATURE	PROMPTS
Analyse firm strategies for low-income markets	What are the structures the organisation adopts?	(London & Hart, 2004)	
Discover if MNPCs have the correct characteristics to enter low-income markets	How does the organisation grapple with the need to adopt a simultaneous strategy (improvement of existing products and process positions versus exploring activities to enter new product and process domains)	(He & Wong, 2004)	Dynamic capabilities: in utilization of existing capabilities to explore new capabilities
What is holding the MNPCs back from entering low-income markets successfully?	What are the limitations to their current business model?	(Sanchez & Ricart, 2010)	Isolated business model: firm leverages own resources in seeking efficiency vs. interactive business model: firm leverages on external resources and fosters learning & innovation
Do MNPCs have the right knowledge and capabilities to reach low-income markets?	What strategies have been implemented that lead to successful entrance into low-income markets?	(London & Hart, 2004)	<ul style="list-style-type: none"> • Collaborate with non-traditional partners • Co-inventing custom solutions • Building local capacity • Social embeddedness
Explore level of ambidexterity (simultaneous ability to explore new markets and optimise current strategy)	<ol style="list-style-type: none"> 1. Is there a sound strategic intent that justifies the strategy to explore and optimise? 2. Is there a common identity across the 2 units (common vision and values)? 3. Does the senior team owning the units share the same reward system (common fate reward system)? 4. Are there separate but aligned organizational structures (explore units and optimise units) 5. Is there tension resolution by the senior leadership 	(O'Reilly & Tushman, 2011)	<ul style="list-style-type: none"> • Rationale to fund small explore units • Common identity to promote long-term perspective • Competition of resources amongst units if common fate is missing • Use of resources across the units • Do the leaders manage the trade-offs

Introduction: I am evaluating if multinational pharmaceutical companies exhibit conditions to successfully enter the market segment consisting of low income patients at the same time that they continue to cater to privately insured patients or patients who can afford their products.

Introductory question: Does your company currently pursue the low-income patient segment?

