

Strategies adopted by South African steel manufacturers under conditions of demand contraction

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requirements for the degree of Master of Business Administration**

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ABSTRACT

This thesis is an analysis of a company operating in contracting market demand for its products, post the 2008 financial crisis. It is a case study based on ArcelorMittal South Africa, a large (monopolistic) steel company, and how they have adapted their strategy in response to the reduced market demand.

The research required an in-depth analysis of how the external and internal environment that ArcelorMittal South Africa is exposed to has changed post the financial crisis, and how this has translated into a strategy.

Thus, a qualitative research approach was adopted in this study, using semi-structured interviews as the primary tool. Due to the subject matter, the desired demographics of the respondents were senior members of the organisation that provided the necessary depth of knowledge and perspectives. This was triangulated using published information in the form of annual reports, newspaper articles and engineering journals. The thesis makes the following key contributions:

- How the financial crisis has reshaped forces in the steel industry
- An analysis of the resources and capabilities of a company, and how these can become a source of competitive advantage. Where this is not evident, a strategy must exist to turn them into a source of competitive advantage
- Highlights some of the strategies applied by steel companies and others in order to improve organisational efficiency and provide sustainable profits
- The intricacies and challenges that a large monopolist faces in both the external and internal environments
- The need to redefine historical target markets, thereby impacting on the products produced, in pursuit of sustainable profitability in the longer term
- Demonstrates understanding and highlights risks associated with the trend in backward integration prevalent in the global steel industry

Industries that have historically been slow to change are now being forced to become more dynamic and flexible, challenging efficiency levels. This is the new business order, and a failure to adapt on all levels in the organisation has the potential of humbling large companies.

DECLARATION

I, Ebrahim Dadoo, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Ebrahim Dadoo

Signed at Johannesburg

On the day of 2014

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1 INTRODUCTION

1.1 Purpose of the study

The purpose of this research is to establish how steel companies have adapted their current strategies in response to the changing external environment, to remain competitive in the long term. This competitiveness should translate into sustainable profits for the company. Hence, in doing so, the companies would ensure that their target market share is realised and protected.

1.2 Context of the study

The world has always been an unpredictable place. Over the past decade, we have been witness to one of the worst recessionary periods in history. The 2008 global financial crisis has, and will, change the way business is done in the future. In spite of the crisis originating in the US, it had an impact on countries worldwide. South Africa also went into a recession in 2009 (figure 1), with three quarters of negative growth (Statistics South Africa, 2011b).

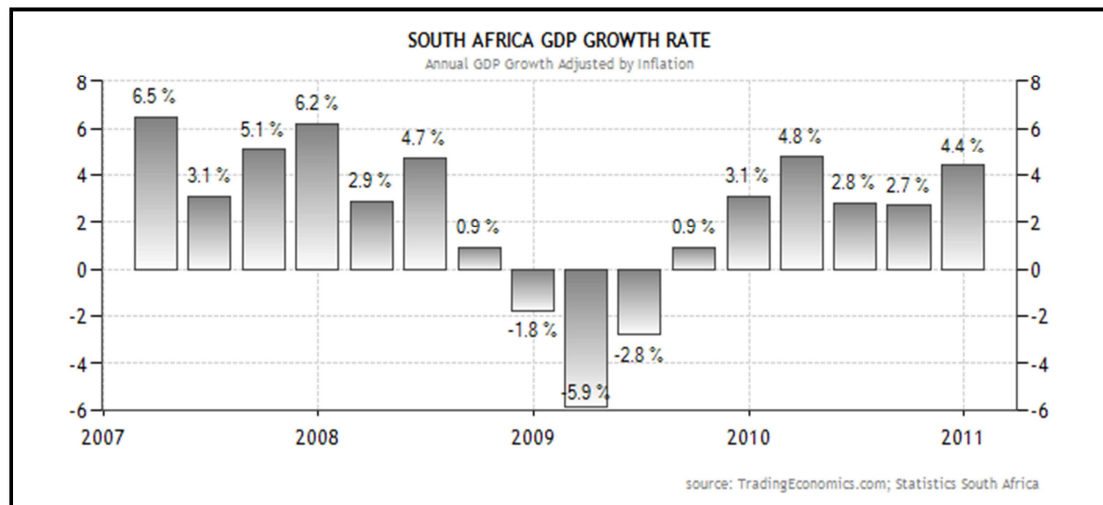


Figure 1: South Africa GDP growth rate for 2007 to 2011 (Source: TradingEconomics.com, 17 April 2011)

The manufacturing sector in South Africa also experienced a massive decline in sales, as of the fourth quarter of 2008. Figure 2 shows a significant decline in the estimated sales of the manufacturing industry, and further depicts that the sales have not yet reached pre-September 2008 revenues (Statistics South Africa, 2011a).

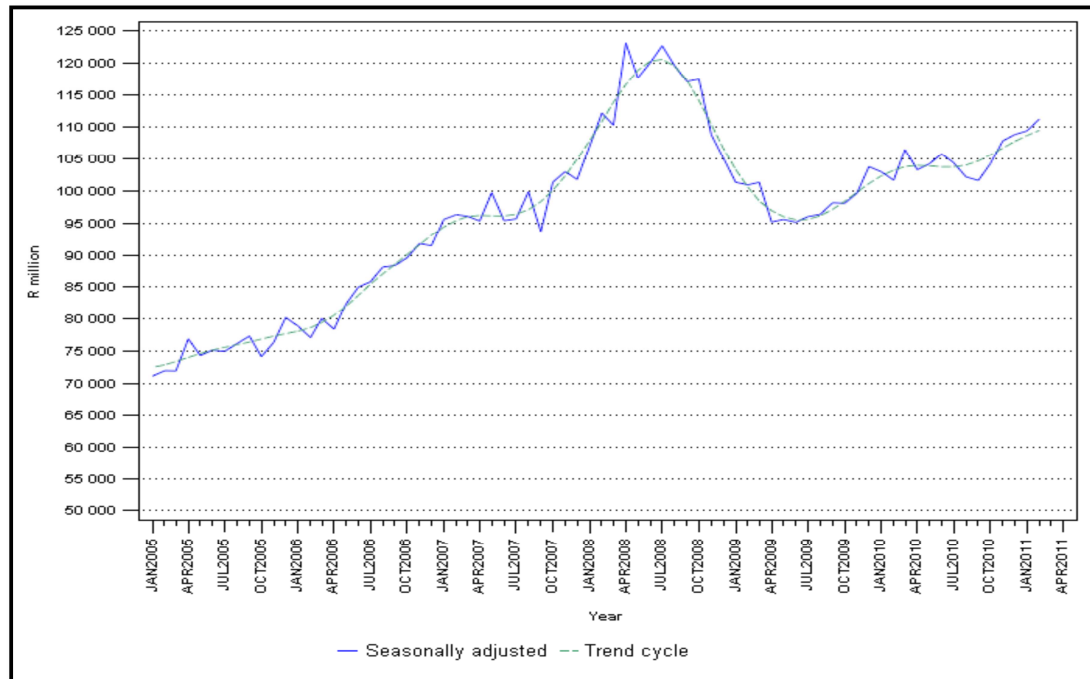


Figure 2: Total estimated sales of the manufacturing industry at current prices: 2005 – 2011 (Source: Statistics South Africa, 12 May 2011)

The steel industry, a part of the manufacturing sector, is inherently cyclical in nature. This is due to the fact that it supplies steel required for the automotive and construction industries which have cyclical demand as well. Hence, the steel industry needs to adapt its production facilities to possible changes that may occur in production demand (Degres, Pierreval and Caux, 2008)

However, the unpredictability and magnitude of the lack of sales in the industry from the last quarter of 2008 was immense. As stated by the CEO of ArcelorMittal South Africa, Nku-Nyembezi Heita, in its Annual Report (2008:13)

“Clearly, the global and domestic context has changed dramatically since September last year. Rarely has there ever been this level of uncertainty about markets, demand, pricing and the future economic landscape.”

Steel companies such as ArcelorMittal South Africa (hereafter referred to as AMSA) suffered losses during the last quarter of 2008 and during the 2009 financial year as well. They were not alone, as other steel companies in South Africa and abroad all registered losses or small profits during this period. This was evident in the share performance as well (figure 3).



Figure 3: ArcelorMittal South Africa share price from 2006 to 2011

In light of the global economic volatility, the challenges that the steel manufacturing industry faces has increased. It is critical that the strategies adapted by the companies are aligned to absorb this volatility and the context as quoted by the CEO of AMSA. AMSA is part of the ArcelorMittal group, which is the largest steel producer globally. It has a presence in almost all of the continents and can leverage of its in-house knowledge. In spite of this, it is still necessary that each company within the group has a unique strategy that is aligned to the local context in which it operates. There is no common strategy that can be applied across the group.

AMSA has, for a long time, been the largest supplier of steel to the domestic market. In spite of growing imports and other smaller companies in the local steel manufacturing sector, the company has remained the local market leader.

1.3 Problem statement

Analyse strategies adopted by ArcelorMittal South Africa in response to a changing environment, post the 2008 financial crisis

1.4 Significance of the study

The study fills a gap in that it analyses the strategies that AMSA adopted based on a changing external environment after the global financial crisis of 2008. Due to the size of the company and the emerging market environment, these findings could be adopted by steel companies operating in a similar environment. The focus would be on:

The strategies deployed to the change experienced in the external environment and how these are applied to meeting customer requirements.

The industry structure in terms of vertical integration would be further exploited. Previous studies have focused on how consolidations have changed the face of the global steel industry (Kumar, Ghildayal and Ostor, 2008) and how other companies are reacting to these changes (Kyeong-Chan, 2009).

The study will provide guidance to managers in analysing strategies implemented at minimising losses during the periods of depressed demand. The strategy would not only be short term, but focus on sustainable growth. This would be achieved by retaining and growing market share, and achieving sustainable growth based on the local context (the ends of the strategy). The final outcome should be sustainable profits for the company that translates into shareholder value.

1.5 Delimitations of the study

- The word strategy has a broad definition. In terms of the research, the strategies will focus on the external and internal environments and briefly describe some of the strategies to be applied. It does not provide an in-

depth analysis of each strategy, as each of these will qualify as an independent study

- The research is proposed to be qualitative in nature.

1.6 Definition of terms

Cyclical Industries: These are industry types that are sensitive to economic activity. Revenues are generally high in periods of economic prosperity and growth and lower in periods of economic downturn and contraction (investopedia.com)

Gross Domestic Product (GDP): Refers to the market value of all final goods and services produced within a country in a given period (en.wikipedia.org). GDP is widely used by economists to gauge the health of an economy

1.7 Assumptions

- Due to the selective nature of the questionnaires and/or interviews, it is assumed that the respondents will have sufficient knowledge in responding to the questions asked.
- It is assumed that the response on the strategy of the company from the sample is true and representative of the true strategy.
- It is also assumed that the published information from the company has sufficient detail in order to add substance to the research. If this information is not available, and more assumptions need to be made, the credibility of the findings will be hampered.

2 LITERATURE REVIEW

2.1 Introduction

The literature review was conducted on emergent strategies due to changes in the external environment. Changes in the external environment require a response from the company. This response takes account of the internal environment to devise a strategy. These are linked to eventually provide the company with a source of sustainable value.

2.1.1 *The external environment*

In the analysis of the external environment, focus was given to the changes in the external environment post 2008 financial crisis. A brief explanation of Porter's five forces (Porter, 1979) is first provided. Thereafter changes in the political, economic, social, technological, environmental and legislative (PESTEL) was elaborated upon.

Porter's Five Forces

Porter's five forces are shown in figure 4. As stated by Porter (1979), in the pursuit for profitability, focus must not only be given to industry rivals but to customers, suppliers, potential entrants and substitute products as well. They all work simultaneously in defining the competitive interaction within the industry. The five forces and their explanation is as per Porter (2008):

Rivalry amongst existing competitors: The profitability of an industry depends on the intensity and rivalry between competitors (Porter, 2008). This rivalry depends on the *intensity* and *basis* on which they compete. Rivalry is greatest when there are many competitors, industry growth is slow, exit barriers are high and firms lack reading competitors' signals because of a lack of familiarity.

If rivalry is purely a function of price, this affects the profitability of the industry and transfers it to the customer. When competing on dimensions other than price, these support customer value and hence could support higher prices. Price competition is most likely to occur if:

- There are low switching costs.
- Fixed costs are high and marginal costs low. This is the case with many manufacturing industries, including the steel industry.
- Capacity must be expanded in large increments to be efficient.
- The product is perishable.

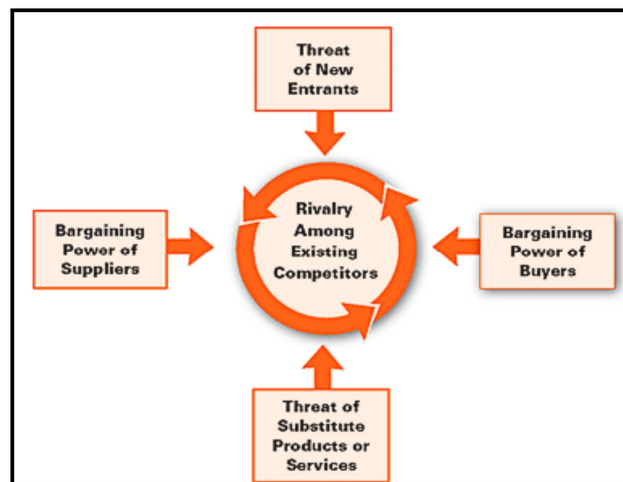


Figure 4: The five forces the shape industry

Threat of new entrants: It is the threat of new entrants that drives down profitability. High barriers to entry decrease the threat of new entrants. Some of the barriers may be high capital requirements, high switching costs, incumbency advantages, supply-side economies of scale and restrictive government policies.

Bargaining power of suppliers: The greater the concentration in the supplier industry, the higher their power. This gives them the possibility to charge higher prices, thereby capturing more value. A supplier group is powerful if: their industry is concentrated, it supplies products to more than one industry, there are high switching costs, there is no substitute for what the supplier provides and the possibility of the supplier forward integrating.

Bargaining power of buyers: This illustrates the flip side of what was discussed above, where the power is with the buyer, and thus the buyers have the potential of forcing down prices and demanding better service and quality.

Threat of substitute products or services: If the product or service that is currently provided to the customer has the risk of being substituted by another product or service that serves the same function, this could take away profitability from the industry.

2.1.2 The changing external environment¹

*“The key drivers of our business are steel demand, steel prices and costs.”
(ArcelorMittal South Africa, 2010:11)*

As a result of the financial crisis, world economic growth has slowed down (figure 5). The effects have been apparent in South Africa as well. This has translated in a corresponding decrease in steel production (figure 6).

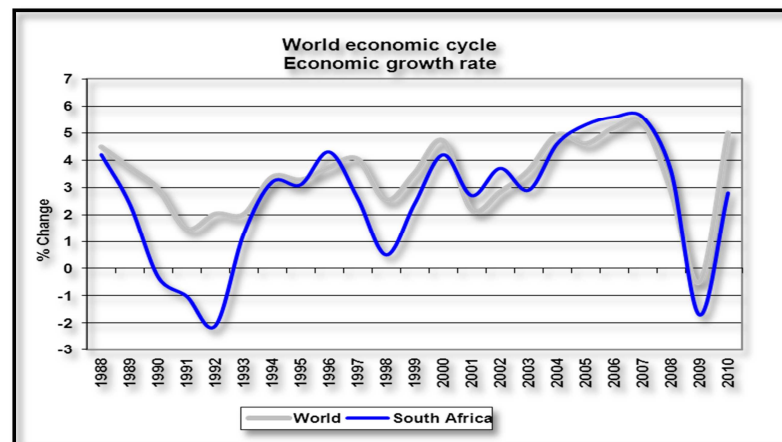


Figure 5: Economic growth rate for the past 20 years (Source: www.imf.org, 24 September 2011)

¹: The focus was on changes either prior to, or after the financial crisis that are still impacting on the external environment, particularly with reference to the steel industry

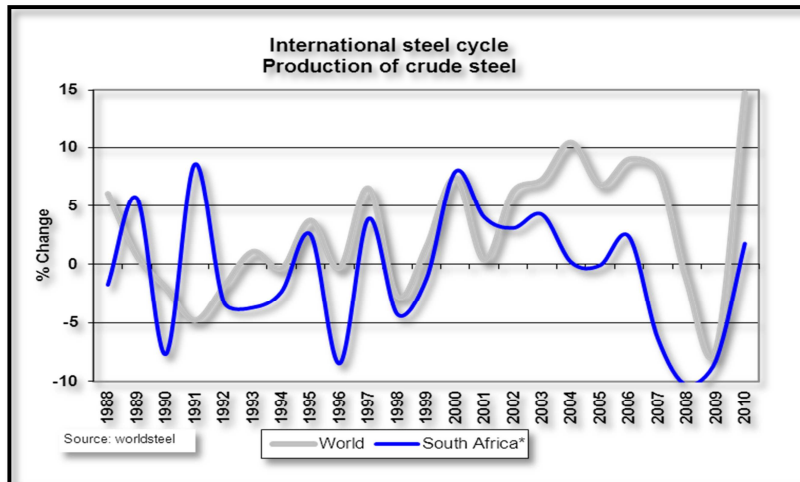


Figure 6: Crude steel production for the past 20 years (Source:World Steel Association, 2011)

Reports further suggest that growth would be slow, with the major growth points being the emerging economies and sub-saharan Africa (International Monetary Fund, 2011). The major producers and consumers of steel are China and India, accounting for over half of the global steel consumption (ArcelorMittal South Africa, 2010).

The cost of input material, especially iron ore and coke has increased substantially post 2008. Figure 7 presents data (indexmundi.com, 2011) on the spot prices of iron ore and coking coal (thermal coal) in \$/ton. These are two of the biggest input costs in the production of steel. The corresponding hot rolled coil price (HRC) in \$/ton is also plotted on the secondary axis. The HRC price can be taken as the base price for steel.

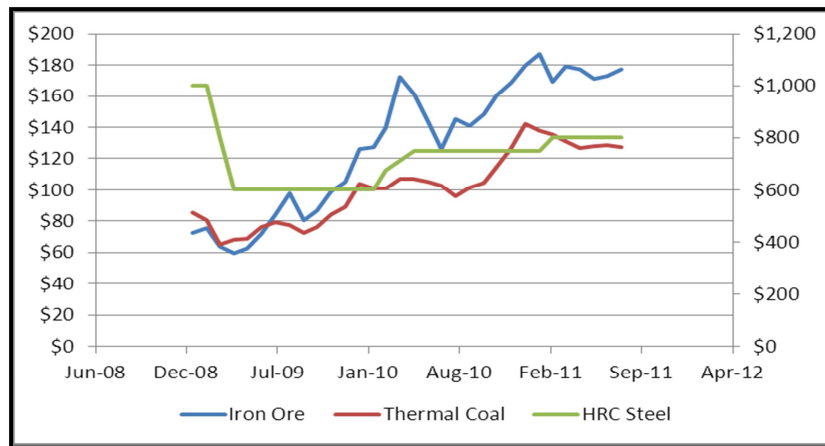


Figure 7: Iron ore, coking coal and HRC price post the 2008 financial crisis (Data source: indexmundi.com, 18 September 2011)

HRC prices are currently trading at \$200/ton less than during January 2009, whilst the input raw material costs have increased by between 80 to 100%. This surge in raw material input prices has been primarily driven by demand from China, which has increased steel output of 573.6 million tons in 2009 to 626.7 million tons in 2010 (en.wikipedia.org, 2011). India, the third largest producer of iron ore, has a 20% export duty on the raw material, in an attempt to discourage exports (Economic Times, 2011). There is also a threat of further increasing export tariffs, which is fuelling iron ore prices (Kazmin and Farchy 2011).

Further, there has been considerable consolidation in the iron ore industry (Ericsson, 2001). The current iron ore supply is dominated by the so called 'Big 3', namely BHP Billiton, Vale and Rio Tinto who account for 61% of the world seaborne trade of the mineral (United Nations Conference on Trade and Development, 2010).

The response from the steel industry has been backward integration by companies (Kearney, 2011). This is to have more flexibility in the pricing of steel and controlling their input costs. This is discussed further under section 2.1.4

The South African external environment

South Africa has a forecast steel demand growth of 7.5% for 2011 (ArcelorMittal South Africa, 2010). Forecasts by the IMF suggest steady growth of around 5%

for sub-saharan Africa through to 2016 (International Monetary Fund, 2011). Thus demand is foreseen to remain steady in the near future.

As shown, iron ore input costs have risen steeply since 2008. Companies such as AMSA have already started looking at backward integration. They are looking at mine acquisitions and green field developments (ArcelorMittal South Africa, 2010). The company is also locked in a dispute with Kumba Iron Ore over the 21.4% share of the Sishen mining rights which it lost in February 2010 (2010). The company received this ore on a cost plus 3% basis. The impact of this having been terminated until further notice had a financial impact of R990 million on the company for the 2010 financial year (ArcelorMittal South Africa, 2010).

The electricity cost in South Africa has also risen sharply over the past 2 years, and is still to increase over the near future at around 25% per year. This could double the electricity bill at companies such as AMSA (ArcelorMittal South Africa, 2010).

AMSA is further embroiled in arbitration hearings at the competition commission (ArcelorMittal South Africa, 2011b). There have also been media reports suggesting a new steel company in South Africa (Matomela and Bloomberg, 2010; Sergeant, 2011), which will affect the company's market share.

The company has also experienced domestic market share decreasing to 71% in 2010 as a result of cheaper imports mainly from China (ArcelorMittal South Africa, 2010). These have been underpinned by a weaker exchange rate, and the fact that South Africa imposes no duties on imported steel.

The company is also monitoring developments of possible substitutes in the automotive industry such as the use of alloy materials and other polymers (ArcelorMittal South Africa, 2010) in certain components.

2.1.3 *The internal environment*

The strategy of a company encompasses both an analysis of the internal and external environment. Resources, capabilities and core competencies are all

part of the internal environment. How these can be used to leverage the position of a company will be explored. This provides a means to the company reacting to a change in the external environment. There needs to be a way in the company to acquire its preferred goals in terms of its desired market share aspirations.

a. ***Competing on resources***

Business is evolving into a more dynamic competitive environment, and people are being forced to re-look at their strategies. In order to devise a strategy, cognisance must be taken of both the external and internal environment in which we operate. The resource-based view (RBV) essentially describes how resources could be used to drive performance and provide a competitive advantage (Collis and Montgomery 1995). The outcome of competing on RBV is to provide a company with a sustained competitive advantage (Barney, 1991). These resources can be broadly classified into three main categories (Barney, 1991; Wilk and Fensterseifer, 2003)

1. Physical capital resources: plant and equipment, geographic location and access to raw materials
2. Human capital resources: all employees of a firm
3. Organisational capital resources: the structures and coordinating systems that exist between the physical and human capital resources

All companies own resources in some form or another. However, this does not guarantee that the resource can be utilised as a source of advantage. In order to evaluate the competitiveness of a resource, it may be tested on the following criteria (Collis and Montgomery 1995, 2008)

1. Inimitability: how hard is the resource to copy? The more difficult this is, the greater the value and the more sustainable it would be.
2. Durability: longer lasting resources depreciate more slowly and hence are more sustainable.
3. Appropriateness: the value of the resource is not always captured by the 'owner' but can flow to customers, suppliers, distributors and employees.

4. Substitutability: the uniqueness of the resource and how quickly it can be substituted for the same use by an alternate resource.
5. Competitive superiority: assessing the superiority and competitiveness of the resource relative to the competitors.

Thus, if these criteria are met on the resources that a company owns, it could be a source of advantage. There was a framework developed in 1993 that proposed four conditions that must also be met in order to consider a resource as strategic (Peteraf, 1993). These are elegantly summarised in figure 8.

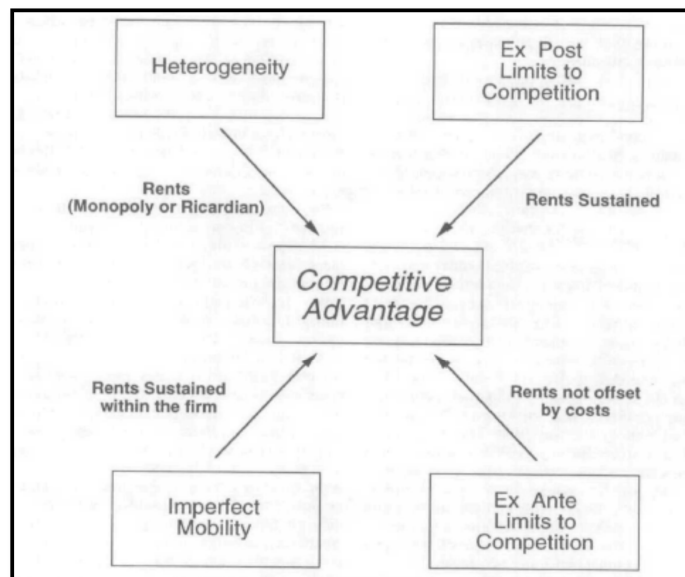


Figure 8: The cornerstone of competitive advantage (Peteraf, 1993)

Heterogeneity is the basic assumption that the resource bundles underlying production are heterogeneously distributed across competing firms. These have been further split into monopoly or Ricardian rents. Ricardian rents are linked to an economics explanation of heterogeneity. It assumes that firms with superior resources have lower average costs than the competing firms. They have inelastic supply curves, and thus cannot expand output rapidly. Thus, during times of high prices, opportunities for other firms exist to enter, provided the price is higher than the marginal cost. When markets are in equilibrium, the high price producers break even, whilst the low price producers earn supernormal profits. Refer to figure 9 for a graphical representation.

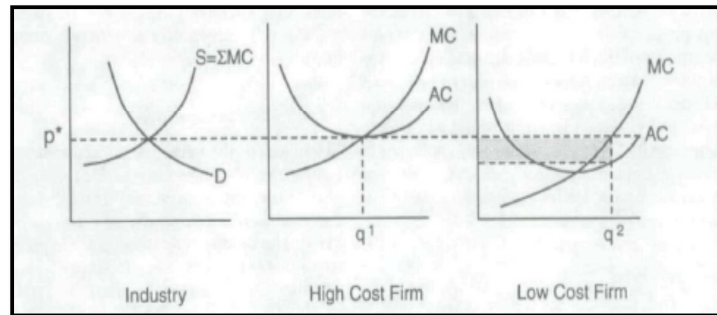


Figure 9: Scarcity rents with heterogeneous factors (Peteraf, 1993)

It is important to note that this source of competitive advantage is only sustainable for as long as the resource remains in limited supply. In monopoly rents, heterogeneity may result from size or first mover advantages. It may also result from spatial competition or product differentiation and reflect local monopoly. It may further be a result of intra-industry barriers. This, together with Ricardian rents, can be a source of competitive advantage.

The *ex-ante limits to competition*, as explained by Peteraf (1993), defines how a company can establish a superior position in resources if there is no or limited competition for that position. The *ex post limits to competition* can only be attained if there exists 'imperfect imitability' and 'imperfect substitutability' of a resource. With regards to the threat of a substitute, it is one of Porter's five forces (Porter, 1979) and must be consistently monitored as part of the analysis of the external environment. The imperfect mobility implies that a resource is either exclusively specialised or developed for the company that utilises it. Hence, it would not have the same value to all its competitors in its current state.

Barney (2001) had concluded that there are many theories related to a 'resource-based' approach and that these are linked by assumptions that they share. The long lasting heterogeneous distribution of resources and capabilities across competing firms can help explain why some firms outperform others. Empirical research conducted by Wilk and Fensterseifer (2003) found that companies are influenced by both sector-wide as well as internal resources.

Hence the strategy must be formulated taking into account both the individual and collective resources.

Further studies have gone on to explore the possible relationships that exist between a company, their suppliers and customers, using a resource-based view. Rungtusanatham, Salvador, Forza and Choi (2003) proposed a framework that can be utilised to enhance decision making by considering both the customer and supplier view point (figure 10). However, in order to do so, there needs to be a good relationship between the various parties. (It refers to the resources and capabilities that are valuable to the firm, rare to come by, imperfectly mobile, not imitable by competitors, and not substitutable as VRINN). Other studies have also found that resources can only be seen as a competitive advantage if they provide the customer with value (Clulow, Barry and Gerstman, 2007). Thus the customer must also be consulted to obtain an idea of what they deem as value from the company. As stated by Jim Andersen (2010:5)

“Focus on how you can create value together with your customers, based on your resources and not on what you can offer to your customers in terms of a set of products.”

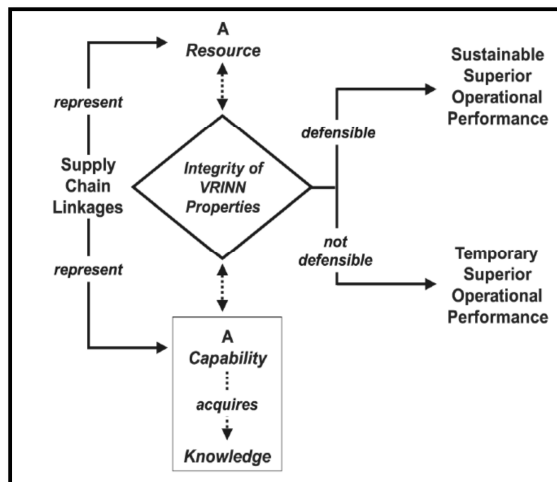


Figure 10: Supply chain linkages and operational performance: through the RBV lens (Rungtusanatham et al., 2003)

By focusing the company's resources on the customer requirements, a company would ensure that the final outcome results in an increase in the value of the product as perceived by the customer, and could thus translate into increased market share, and an increase in profitability resulting in improved shareholder value.

b. ***Competing on capabilities***

The capabilities of a company are a reflection of what they do well. It is what differentiates them from their competitors, in terms of what they do better (Hayes and Pisano, 1996). There are five dimensions on which capabilities are defined that would allow companies to outperform their competitors (Stalk, Evans and Shulman, 1992).

Speed: The quick response to changing market demands and the quick incorporation of ideas and technologies into products

Consistency: This is the quality aspect of the product, which must continuously satisfy the customer needs

Acuity: Understanding your market and competitive environment, thereby positioning yourself to responding to changing customer demands

Agility: Simultaneously adapting to the dynamic business environment

Innovativeness: Generating new ideas to create new sources of value for the company

The authors further describe four basic principles of capabilities-based competition from cases such as Wal-Mart, Honda, and Canon, etc. These are:

1. Business processes are the building blocks of corporate strategy.
2. The transformation of a company's key processes into strategic capabilities that provide value to customers would determine competitive success.
3. These capabilities can only be created by investing in support infrastructure that transcends SBUs and functions.
4. The champion of a capabilities-based strategy must be the CEO.

Others researchers such as Wheelwright and Clark (1992) have come to similar findings. They found that development imperatives include being fast and responsive, having high development productivity and manufacturing products with distinction and integrity. With a greater focus on the manufacturing

industry, the authors found that there needs to exist clear communication, and a specific set of capabilities, attitudes and relationships between all divisions. Thus, it is imperative that this occurs between upstream and downstream divisions. For upstream divisions, they need to meet performance objectives in a manner that is complimentary and makes use of the downstream capabilities. This, whilst downstream divisions focus on development and get the product onto the market, before its appeal is lost to consumers.

Further work in this field, specifically focussed on manufacturing, (Swink and Hegarty, 1998) proposed a linkage of capabilities to product differentiation. A model is proposed on how these would affect the manufacturing outcomes, and finally product differentiation (figure 11).

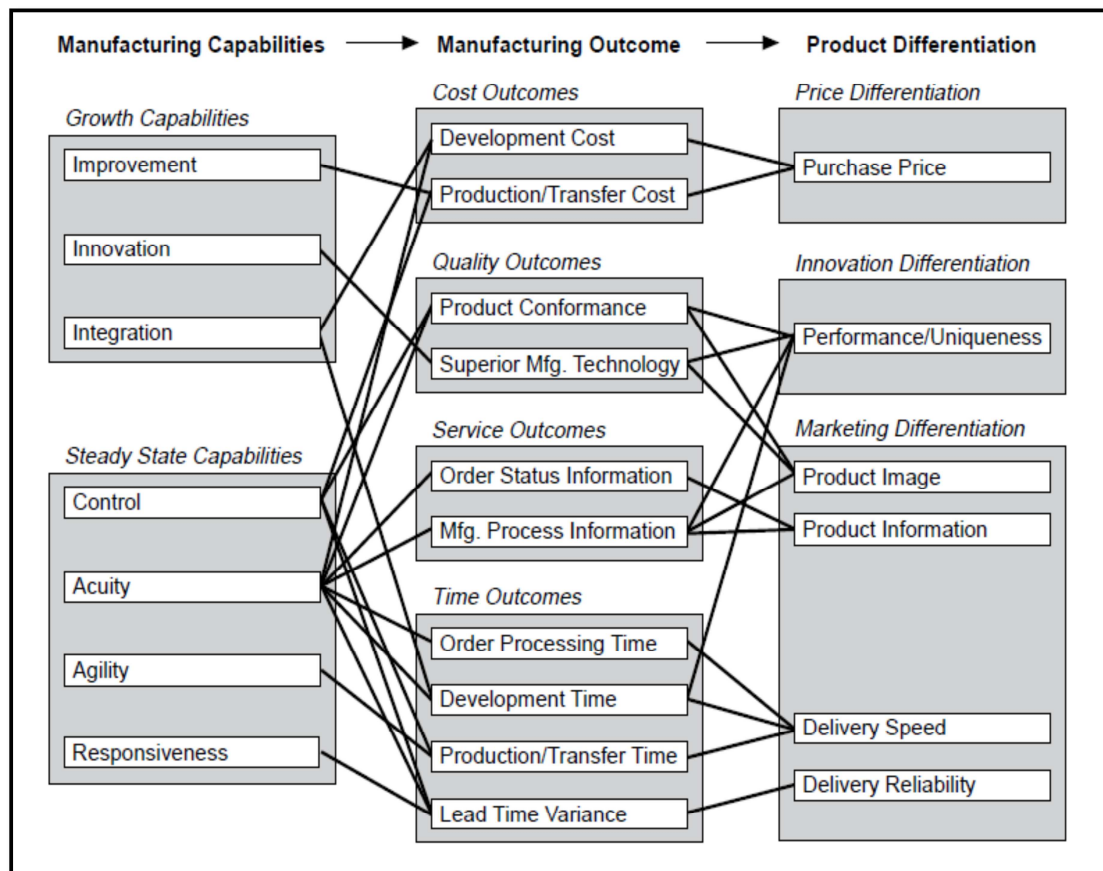


Figure 11: Supportive manufacturing capabilities for product differentiation (Swink and Hegarty, 1998)

The manufacturing capabilities have been sub-divided into growth and steady state capabilities. Swink and Hegarty (1998) defined these as:

The steady increase in efficiency and productivity of the manufacturing resource is related to improvement. Innovation is the application of new technologies, methods or resources to radically improve manufacturing performance. Research and development plays a role within this manufacturing capability. The last of the growth capabilities is integration, which relates to how easily a company can expand to incorporate a wider range of products or process technologies. The steady state capabilities are related to the dimensions defined by Stalk et al. (1992).

The various manufacturing capabilities link via a manufacturing outcome to provide product differentiation. The latter is sub-divided into price, innovation and marketing differentiation. They proposed linkages that support desired product differentiation outcomes (figure 11).

It remains important that a company's positioning and capabilities fit together as part of the overall company strategy (Fuchs, Mifflin, Miller and Whitney, 2000). Four elements must be in continuous play, to ensure continuous adaptation and strategy execution. These are *prioritisation* on what would provide a competitive advantage and *communication and collaboration* between business units. Resources such as ERP systems and the intranet can be seen as enablers in this process. Finally, *boundary spanning*, where the market must be continuously observed to ensure that the strategy remains aligned with the ever evolving customers' requirements.

The managerial implications are that companies should diversify, based on their capabilities, as this works to their strength, rather than diversifying based on the markets that are currently being served (Andersen, 2010).

2.1.4 Strategies in response to a changing environment

This section explores some strategic responses from companies in addressing a changing business environment. As mentioned earlier, a strategy is an

outcome after an analysis of the environment has been done. The strategies discussed are not exhaustive, but describe some that have been applied as a response to the changing environment as has been studied in this research. These will be broadly clustered into four strategies, namely the operational, financial, human resources and business strategy. There are huge interdependencies within these, and collectively they are applied to provide organisations with a holistic strategy.

a. ***Capabilities-based strategies***

The analysis of capabilities based strategies qualifies as a study in its own right. There are however some strategies, that have been applied in companies operating in a similar context to AMSA where there was a need to become more efficient and also retain market share. Hence the literature below discusses research conducted in this context.

In a study on optimisation opportunities in the global steel industry (Kumar et al., 2008), the following aspects were highlighted:

- Mini-mills may be seen as a “disruptive strategic innovation” and hence their existence must not be ignored when considering strategic responses by a fully integrated steel mill. Mini-mills are highly cost efficient, and due to them having no legacy costs, are driving integrated steel plants into financial difficulty. They are, in many cases, less centralised, more technologically advanced and flexible when compared to integrated steel mills. Hence the integrated mills must focus on how they can within their complex operations still achieve good flexibility, remain technologically advanced and reach decision making speedily.
- There must be a focus on labour productivity. The authors cite how Korean steel mills have become more efficient, and also describe how the Chinese steel mills take more hours to produce a ton of steel compared to the developed markets. However, due to the low labour costs in countries such as China and India, they still remain very competitive. It can thus be deduced that steel mills must focus on labour productivity and not simply look at their labour costs, as this will increase

as countries develop. When this does occur and companies have not improved efficiencies, they will become uncompetitive.

- Capital efficiencies must be established via consolidations, pooling resources and restructuring existing businesses.
- Through continuous innovation and technology, companies must establish competitiveness in cost, quality, delivery, product development and technical services.

Thus integrated steel plants must continue investment in technology within markets that they wish to cater to, consolidate to improve market strength, resources and position, and continuously focus on becoming more efficient by improving productivity.

Strategic determinants of plant efficiency in the context of mini-mills found that in plants where there is increased focus on operating at 'best practice', the plants performed much more efficiently (de Figueiredo, 2009). Thus, the broader implication is that if plants focus more on operating under the best prescribed operating conditions and applying the available optimisation methodologies, this will translate into improved efficiencies. De Figueiredo (2009) found that technological obsolescence of plant and equipment overrides learning effects. This does not imply that employee knowledge is not important, but rather that there is a point where if equipment is not upgraded the knowledge within a company's human capital is not sufficient to ensure improved efficiencies.

The focus on technology is present in other case studies. Gajdzik (2013) looks at how the Polish steel industry has been restructured after foreign ownership. He sites that as part of the restructuring process, it was evident and identified that the used technology had to be restructured. This was done in conjunction with broader asset restructuring ensuring that assets were all related to the core of the business and that together with the used technology, the range of products produced were also re-examined. These need to be seen as a whole, and not independently. The outcome from all the restructuring is sustainability of the Polish steel industry such that it maintains profitability and liquidity, a reduction in manpower and an improvement in efficiency.

This focus on efficiency and identifying the technology gap was also a reason for the joint ventures between the Japanese and American steel producers (Rosegger, 1992). The American steel producers identified that the gap in their technology will be filled by the Japanese, whilst the Japanese saw this as an opportunity to increase their supply to automobile manufacturers. The Japanese have always been at the forefront of technology in the steel industry and other manufacturing industries as well. When the Japanese textile industry reached maturity and macroeconomic turbulence, it was a focus on their resources and capabilities that enabled the firms to choose their diversification strategy (Colpan and Hikino, 2005). Investment in technology compared to other business models ultimately resulted in longer term profitability and yielded the highest returns. Although the textile industry is different to the steel industry, both remain old industries where technological strides have determined their new limitations and capabilities. Thus such learning would be applicable to the steel industry.

Many of the operational and capabilities based strategies discussed above may be linked to producers becoming more flexible, and setting up their operations to serve their specific market requirements. Such research is not necessarily new, as a study that focussed on lessons from the steel crisis (Schorsch and Friberg, 1987) also found the need for steel producers to become more flexible. Such flexibility is developed through decentralisation, multi-functional responsibilities to minimise internal conflict, investment in innovation and technology, focussing on product niches and becoming customer focussed. Customer focus speaks to the industry moving from an operational mind set to a market driven one. It looks at giving customers value in the products that it supplies. Since the downstream operations are closest to the end products within the steel process, focusing on technology and quality here will result in value to the customers. This may perhaps be seen as a trigger as to why the mini-mill phenomenon was born and has been more successful than the integrated steel plants in many cases. They purchase the steel to be fed for finishing into final consumer products, thereby capturing the part of the process with the greatest value-add.

One may tentatively conclude that mini-mills seem to have taken lessons from the fully integrated steel plants and applied the best operational and capabilities based strategies to their business models. However, with the fully integrated steel plants continuously striving to improve efficiencies and applied technologies, they still remain a considerable force within the broader steel market as they won the entire process. Thus, continuous improvement strategies must be adopted to improve efficiencies.

Continuous improvement strategies have become synonymous in business. The methodology originates from the Japanese way of doing things, many times referred to as KAIZEN. The Japanese word KAIZEN means 'change for the best' or 'improvement' (en.wikipedia.org). There have been numerous studies focussed on continuous improvement (hereafter referred to as CI) strategies and its benefits (Cheser, 1998; Williams, 2001; Gomes, Yasin and Lisboa, 2006). The principle is making small changes on a continuous interval, thereby optimising productions costs, efficiency, safety and productivity. Such strategies have changed the way manufacturing plants operate. Singh and Singh (2013) provide an overview of the way CI strategies are deployed, based on prior literature. Some of these are:

- Total Productive Maintenance (TPM)
- Total Quality Maintenance (TQM)
- Just-In-Time (JIT)
- 5S
- Six Sigma
- Failure Mode Effect Analysis (FMEA)

It is important to identify that each of the various strategies target specific functions within the business. They focus on the availability of equipment and ensuring that maximum efficiency is obtained with their usage by involving all members of the company from management to the shop floor, thereby creating a sense of ownership and clarity on objectives and outcomes (TPM); the products produced meet and surpass customer expectations in terms of quality, thereby allowing the company to obtain a premium for their products (TQM). This also reduces rework costs and is therefore additionally beneficial to

producers. JIT is focussed on ensuring that waste is eliminated, schedules are simulated with maximum availability of equipment and their efficient use, thereby ensuring that inventory management is maintained at the optimum level. 5S is derived from five Japanese words and is focussed on the manner in which the shop floor looks in terms of cleanliness, how items are marked and stacked and sorted. It highlights on a shop floor level the need to have the right stuff in the right place, thereby reducing inefficiencies. It is also applied to streamline processes and ultimately results in cost reduction and improved productivity. The other two CI strategies, namely Six Sigma and FMEA take an in-depth look at opportunities, problems, maintenance issues, etc. Within Six Sigma, there are two methods, the one focussed on DMAIC, and the other on DMADV. The former represents - define, measure, analyse, improve and control, and is specifically applied in improving existing processes in incremental steps. The latter represents - define, measure, analyse, design and verify and is applied in new processes or products (Allen and Kilmann, 2001). FMEA focuses on defining, identifying and eliminating potential process or product failures, problems and errors. In order to ensure that CI strategies are effectively executed within an organisation, requires a shift in organisational culture. It involves all members of the organisation and a skilful effort with awareness amongst all employees (Singh and Singh, 2013).

Finally, marketing capabilities require a mention as well. There is a link between a company's resources and capabilities to the product offering. The product-market strategy touches on three elements: differentiation, cost-focus and product-market scope. It is imperative that producers identify their target market, and differentiate products for specific markets provided the volumes justify doing so. In order to achieve this, resources and capabilities will have to be built to achieve the desired customer requirement. When differentiating from normal products, it allows producers to usually ask for a higher price. Further, market requirement information is only achieved when firms have built some sort of marketing capabilities and can act upon the information (Vorhies, Morgan and Autry, 2009). The marketing capabilities are either specialised or architectural. Specialised marketing capabilities refer to the knowledge within employees of the marketing team such as the communication with customers,

personal selling, pricing, distribution etc. The architectural marketing capabilities refer to the development of resources that allows the firm to achieve its desired product-market goals. Specialised and architectural marketing capabilities enable firms to realise their product-market strategy, allowing them to increase market and financial performance. Thus marketing capabilities are a key differentiator in how firms retain a competitive advantage over others.

b. ***Financial strategies***

The steel industry is noted to be a cyclical industry. Thus, investors are aware of its nature and price this risk into their expectations. However, industries such as the steel industry are highly capital intensive and have high fixed costs. As a result, during times of depression they remain more vigilant on how the cash generated from the operations is spent in order to ensure that all short term debt commitments and fixed costs can be paid.

A study undertaken on the Indian steel industry (Bhunia and Brahma, 2011) showed a remarkable correlation in the manner in which working capital in terms of liquidity management affected profitability. The liquidity position of the companies was analysed, based on various financial ratios such as working capital ratio, liquidity ratio, current ratio, short-term debt to equity ratio as well as inventory management. The ratios were selected such that they cover the manner in which immediate debt and liabilities can be covered based on the liquidity position of the company. In addition, return on capital employed (ROCE) was used as a profitability indicator. Liquidity refers to the debt covering (paying) ability of a company when it becomes due. Most of the companies showed poor inventory management in terms of receivable goods as well as stock of finished products. Others also demonstrated poor liquidity ratios, and this affected the ROCE. There was a positive correlation between the liquidity ratios and profitability. However, the authors noted that idle cash should not be kept, and the cash must be used to repay short term loans, or else this could harm profitability.

Working capital more holistically looks at the company's liquidity as it looks at a firm's investment in its current assets. These include short term assets, cash,

receivables, inventories and marketable securities (Singh, 2008). Thus the focus should not just be on cash flow, but rather on all current assets that can be easily converted into cash. Inventory management needs to be controlled as it is a major component of working capital. If inventory management is not observed, this could impact the long term profitability of the firm and possibly threaten its survival.

A statistical analysis on working capital, liquidity and profitability shows that these three financial aspects are interrelated, and that there is a definite positive relationship between profitability and keeping the optimum levels of working capital and liquidity (Khan, 2012). Cash is very important especially during times of market turbulence and tough economic times. Hence, one can conclude that there needs to be a certain level of liquidity and working capital management to the optimum levels in order to ensure the survival of a company and a positive impact on profitability.

There has also been an increasing trend in firms holding more cash (Bates, Kahle and Stulz, 2009; Dasgupta, Noe and Wang, 2011). However, the key question is what companies are doing with this increased cash? An analysis was performed on why U.S. firms hold more cash than they used to (Bates et al., 2009). The major reasons are that average firms are able to pay all their debt obligations, and to cushion against riskier incoming cash flows. Both of the above serve precautionary motives. Thus, as typical of the steel industry, when access to capital markets and financing is difficult in times of industry shock, the excess cash allows firms to better cope with the situation and partake in lucrative investment opportunities. Other studies have also found that firms invest in more cash from their cash flows in times when they are financially constrained (Almeida, Campello and Weisbach, 2004; Han and Qiu, 2007). Dasgupta et al. (2011) looked at the effects of cash flow on the balance sheet and how it is used. When operating in conditions of tight financial constraints, much of the cash flow is used to deleverage the firm and less for investment. As external financing is reduced with time and cash flows increase, the financial constraints of firms ease. Subsequently firms then start increasing spend on

investments and start taking on additional external financing which they are now able to.

The literature presented clearly explains why liquidity management is crucial to an organisation. There are both short term survival motives that are fulfilled as well as preparing the firm for longer term growth opportunities. Liquidity management becomes more crucial when companies are facing tighter financial constraints like operating in conditions of market demand contraction.

c. ***Human resource strategies***

Over the past few decades, there has been considerable efforts made in understanding the impact of human resources management (HRM) as a strategy and its impact on business performance. The human resources strategy must meet the strategic objectives of the organisation by focusing on the right human resource outcomes. Prior thinking of what were the only sources of competitive advantage for a firm have now shifted to include the recognition of people as a source of competitive advantage (Pfeffer, 1994; Wright, McMahan and McWilliams, 1994). The sources of advantage which can no longer be seen as providing a competitive advantage on their own are technology, protectionism and regulated markets, access to financial resources and economies of scale. Whilst some or all of these could provide some sort of advantage, they are being challenged due to patents falling away, product lifecycles shortening, globalisation and competing on international markets, accessibility of money to the more efficient financial markets and markets becoming fragmented. In such an environment, the focus on human capital in terms of the work force is enhanced and the manner in which things, such as training and development, externalisation of employees, compensation and salary structure are applied which will result in a work force that is developed into a source of competitive advantage.

It is important that the right HR practice is applied dependent on the strategy which the organisation wishes to pursue (Schuler and Jackson, 1987). The strategy could be cost-reduction, quality enhancement or innovation. Each of these strategies requires different HR practices and behaviours amongst

employees in order for them to be effective. The behaviours refer to flexibility, creativity, rigidity in work practice, quality or quantity driven objectives, specialised or broader skills and job involvement. Thus, having decided on the strategy and identified the required behaviours from employees as a result thereof, choices in terms of the human resource practices such as planning, recruitment, appraising, compensation and training and development can be decided upon. The result will be staff that are seen as a source of competitive advantage as the human resources strategy chosen matches the business strategy.

Huselid (1995) refers to the human resource practices as 'high performance work practices' and lists recruitment, compensation, performance management and training and development to have statistically reduced staff turnover and positively impacted on productivity and financial performance. Further interaction between human resource management and manufacturing strategy on a sample of US companies found that HR systems focussed on training and development of the work force substantially impacted on quality driven manufacturing strategy, and is an important factor in improving organisational effectiveness (Youndt, Snell, Dean and Lepak, 1996). A study on the effectiveness of HRM in ten European steel mills identified that they needed to start differentiating themselves on product quality and becoming more customer centred. In order to bring about this strategic objective within the firms, human resources was used as a change agent in organising the change process and creating HR practices that facilitated the implementation of the new strategy. Such an example has been cited in a case study on the restructuring of the Polish steel industry (Gajdzik, 2013). Together with restructuring of assets, the companies also looked at education and skills level of the employees. This was standing at relatively low rates with only 3% of the 147000 workers having a higher level of education and only 27% at secondary level. After restructuring there are only 25000 workers, of which 12% have a higher education and 38% secondary education. However a knowledge management system where the older workers serve as mentors to the newly employed workers, thus ensuring that the necessary skill and trade is not lost, has been implemented.

All of the previous literature has been conducted on the effects of HRM on business performance in the US and Europe. Nonetheless, these are developed markets and there was the need to investigate if such benefits can be reciprocated with emerging economies. A study on an Indian steel plant has reinforced the need for there to be a link between the business strategy and the applied HRM practices, and that such practices are based on the company strategy (Muduli, 2012). The Indian company SAIL had restructured its business by implementing cost reductions strategies, marketing initiatives, operational improvements and asset restructuring. The organisation decentralised/ delayed their structure, downsized their workforce, embarked on skills and development training etc. to align themselves with the greater business strategy. The result has been a formidable increase in profits over a 10 year period. The research model studied by Muduli is as per figure 12.

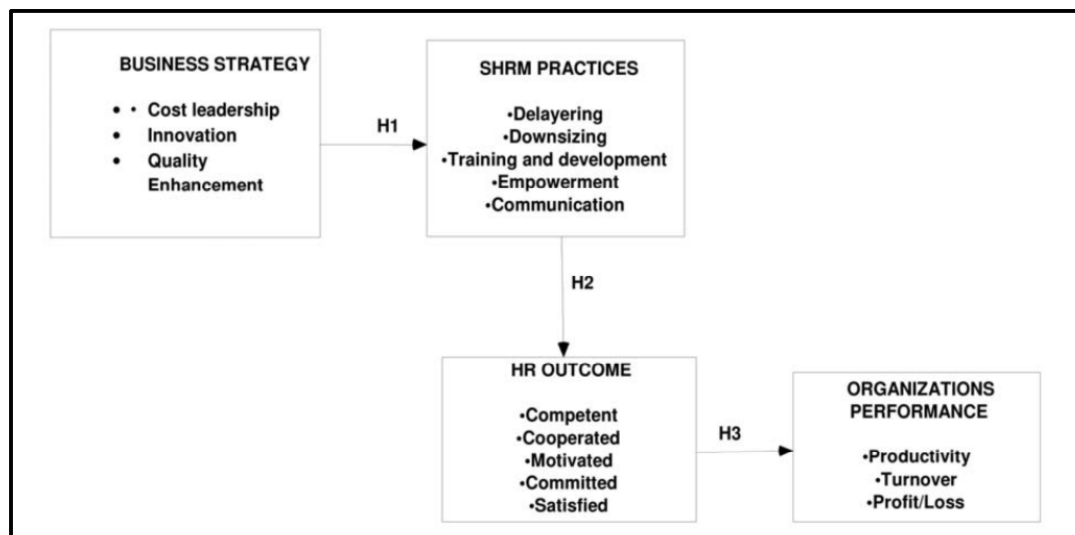


Figure 12: Research model of study (Muduli, 2012)

The findings reinforce previous studies and are supportive of HRM practices based on the business strategy, and that these achieve identified HR outcomes thereby contributing to improved organisational performance.

Another study also looking at the relationship of HRM practices, business strategy and the effect on firm performance in the context of the Taiwanese

steel industry (Feng-Hui, Tzai-Zang and Wann-Yih, 2010), researched the model as per figure 13.

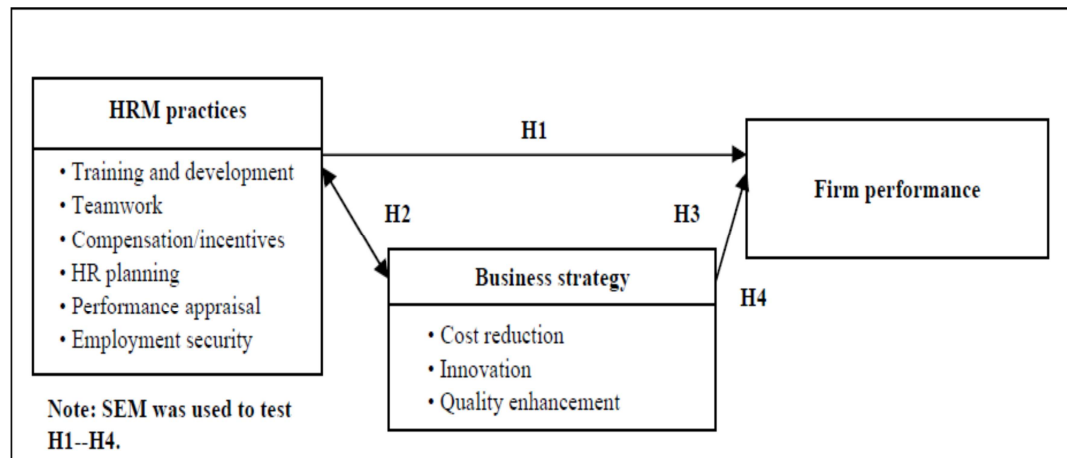


Figure 13: Research model for Taiwanese steel industry (Feng-Hui et al., 2010)

When the HRM practices are related to the business strategy (as shown in figure 13), they have a positive impact on the firm's performance independently as well as when integrated. However there must be a clear link between the business strategy and the HR practices. Similar finding have also been found on a study of companies in Eritrea (Ghebregiorgis and Karsten, 2007). Thus the applicability of HRM strategies and practices and their effect on firm performance has been found to be true in developed as well as emerging economies.

d. ***Business strategies***

The specific business strategy discussed hereafter is vertical integration, as this is currently an active strategy being applied by many steel companies. There have been studies on why companies vertically integrate, and the reasons behind these have been argued. There are broadly two different proposals forwarded on why integration occurs, as discussed by Aghion, Griffith and Howitt (2006). These are the "*Transaction Cost Economics*" (TCE) approach and the "*Property Right Theory*" (PRT). The TCE approach suggests benefit to both parties (the buyer and seller), whilst the PRT suggest an incentive for the buyer at the expense of the seller. These proposals as stated by Argion et al. are derived from previous work by other researchers (Williamson, 1975;

Grossman and Hart, 1986; Hart and Moore, 1990). The results of the research favoured the PRT reasoning more than that of the TCE.

A prior theoretical model has also shown that vertical integration is applied to obtain a more dependable source of supply at more predictable prices (Carlton, 1979). The study also showed that in times of uncertainty, vertical integration existed even if it was socially undesirable. The analysis showed that there may be desirable objectives that can potentially resonate from vertical integration as well, such as socially beneficial technology. Partial integration, where risks can be shared between the company and the factor market can prove useful during periods of fluctuating demand. This would ensure that all your owned inputs are utilised, and the fluctuating demand purchased when required. This would be a risk minimising technique.

Vertical integration could make firms more capable of dealing with economic and competitive forces that threaten it (Chatterjee, Lubatkin and Schoenecker, 1992). Other findings proposed that vertical mergers are most advantageous when the industry of the integrating firm is fairly consolidated.

Profitability must be a reason for vertical integration and considerations to achieve this have been proposed by Peyrefitte, Golden and Brice (2002). The business to be integrated must not be too far away from the core of the business. This would bring about skills acquisition and knowledge issues amongst employees and management. Further, a new managerial approach may be required, where managerial knowledge structures need to be adjusted to control the broader business scope.

A consideration must be given to the possible anticompetitive behaviour that may arise with the vertical integration by a dominant firm. This is the finding of the dominant firm model by Riordan (1998). The key assumptions though are the existence of barriers to entry in the upstream and superior technology within the dominant firm.

Vertical integration in the steel sector is not a new occurrence. Fully integrated steel mills are a result of this phenomenon and have been around for many years now (Riordan, 1998). A study by Desai and Mukherji (2001) looked at

case studies from the USA and the UK. It cites examples of US steel plants vertically integrating by owning iron ore sources as well as creating integrated steel mills. Further, it looks at the UK, and how companies there vertically integrated to obtain coal, as this was not available locally. The 'market power' factor related to vertical integration is touched upon. The case of US steel and its forward and backward integration that gained the company 'market power' is cited.

2.1.5 Research Question 1

How has ArcelorMittal South Africa adapted its strategies post the 2008 financial crisis to the changing external environment?

2.2 Conclusion of Literature Review

In adapting a strategy, both the external and internal environments must be analysed. Porter's five forces, together with other changes in the external environment, such as political, economic, social, technology, environment and legislation must be taken into consideration. The current steel industry globally has seen a decline post the 2008 financial crisis. There have been increases in raw material input costs with lower corresponding increases in the price of steel. ArcelorMittal South Africa has been exposed to many of the forces as well as other factors, on which they need to design a competitive strategy. The decreasing market share due to an increase in imports and the possibility of contending with a new steel company must be addressed as key factors in the strategy.

Gaining a competitive advantage based on resources and capabilities is a key part of a business strategy. Resources are classified into *physical, human and organisational* resources. In order for the resource to be a source of competitive advantage, they must be *inimitable, durable, appropriate, not easily substitutable* and *superior* to the competitors. A framework has also been proposed that analyses the competitiveness of a resource based on four broad criteria. These encompass *heterogeneity, imperfect mobility, ex post and ex*

ante limits to competition. The heterogeneous distribution of resources and capabilities across competing firms can help explain why some firms outperform others. Value must be created together with the customer based on the company's resources.

Capabilities are what a company does better than its competitors. For this to be a source of advantage, the competitor must be outcompeted on speed, agility, acuity, consistency and innovativeness. A framework was also proposed linking manufacturing outcomes to product differentiation, showing linkages based on a company's requirements.

The strategies discussed are capabilities based strategies, encompassing operational and marketing capabilities related strategies, financial strategies, human resource strategies and business strategies. In the review of capabilities based strategies, there are various proposals made as to how the capabilities of a firm can be turned into a source of competitive advantage. The literature has highlighted on numerous occasions lessons from 'mini-mills' as they effectively challenge the fully integrated steel mills. The capabilities that they have established are technology related that ensure continuous improvements in their efficiency and product offering, decentralising the organisation thereby allowing for rapid decision making and greater flexibility. In addition, the steel industry must focus on labour productivity and capital efficiencies by restructuring their business. It is important that there is a culture of continuous improvement to strive for an increased focus on cost reduction, quality management and innovation. These strategies may be applied together or independently, dependent on what the immediate focus of the business is. There are various CI strategies that focus on incremental and sustainable improvements in various areas of the business. This, however, requires the culture of the organisation to shift to one that is quality and improvement related.

Marketing based capabilities are closely related to business performance. Marketing capabilities are either specialised or architectural. The former refers to how with the internal knowledge of a company and its employees, they approach various marketing requirements, whilst the latter is more focused on

how resources can be developed to reach the firm's product goals. This decision determines how resources and capabilities are used to satisfy customer wants profitably.

Financial strategies have showed that liquidity or working capital management remains crucial specifically in companies that are experiencing market turbulence and where cash flow is unpredictable. In such companies it is necessary to manage liquidity in terms of inventory, accounts receivable and payable and cash flow management. Such prudent management of liquidity supports longer term profitability of such companies and ensures their survival in the short term. However, it is cautioned that the preserved cash flow be used to deleverage the company in the short term, when access to capital is costly or difficult. In the medium to longer term, the preserved cash flow can then be used in lucrative investment and growth opportunities.

The importance of human resources as a strategy complimenting the business strategy has been highlighted. Different business strategies such as cost reduction, quality management and innovation require different human resource strategies. Thus, there is a clear link between the business strategy and HRM, which is then used to improve organisational performance. Many case studies on companies in both emerging and developed countries have found support for such strategies, and have highlighted the need for them to be effectively implemented and managed.

In reviewing broader business strategies, the focus has been on vertical integration. The application of this strategy within the steel industry has been a result of companies being exposed to very high and volatile input material costs. In order to have greater control over these costs, backward integration amongst certain large steel companies has already commenced. Growth in China is still increasing, and with the global iron ore supply market being so concentrated, negotiating favourable prices is becoming more difficult. There have been many reasons proposed as to why vertical integration is or is not a good strategy. It can result in achieving a more stable source of supply at more predictable prices. There are risks involved with integrating that must be considered from

the outset. The proposition to partially integrate in order to share risks was also proposed.

2.2.1 *Research Question 1:*

How has ArcelorMittal South Africa adapted its strategies post the 2008 financial crisis to the changing external environment?

3 RESEARCH METHODOLOGY

This section describes the methodology that was followed to address the research question proposed in the section 2. This structure is based on the principles as described by Yin (2009).

The research method applied was justified based on the research problem.

3.1 Research methodology

The research problem described in the prior section required an in-depth understanding of the strategy at ArcelorMittal South Africa; with a special focus on how the external and internal environment has changed post the 2008 financial crisis and how these have translated into the company strategy.

The pursuit of having a complete understanding of the research problem is conducive to a qualitative research methodology (Leedy and Ormrod, 2005).

Leedy and Ormrod (2005:94) said:

“...qualitative research often starts off with general research questions rather than specific hypotheses and is followed by the collection of an extensive amount of verbal data from a small number of participants.”

The interpretivist paradigm was chosen as the data to be gathered was from a small sample and was rich and subjective.

3.2 Research Design

In deciding the methodological approach to be adopted, the three conditions proposed by Yin (1994) were considered:

1. The type of research question
2. The control that the researcher has over the actual behavioural events
3. A focus on the contemporary phenomena as opposed to historical events

Yin (2009) proposes that the case study method is best applied when the form of research question is a 'how' or 'why' question. The proposed research question focussed on the 'how'. Further, when examining contemporary events and when relevant behaviours cannot be manipulated, a case study is also preferred. The researcher has no control over actual behavioural events.

Yin (2009:18) proposed a technical definition of a case study. A case study is an empirical enquiry that:

1. Investigates a contemporary phenomenon in depth and within its real-life context, especially when
2. The boundaries between phenomenon and context are not clearly evident.

The research looked at analysing strategies post the 2008 financial crisis. Thus, even though previous research may have looked at similar research problems, the environment has changed, introducing emergent strategies. Changes in strategies in response to the new external environment are not only an occurrence within the steel industry, but more widely as well.

The case study method allowed the researcher to develop greater knowledge of the organisational phenomena. The strategy post the 2008 financial crisis within the steel industry globally has changed. AMSA is part of the ArcelorMittal group, which is the largest steel producer in the world. The company locally is also the dominant supplier of steel to the local market. Hence, in-depth findings from the research may have applicability to many other steel companies, especially those trading in similar emerging market economies.

Some of the key weaknesses as identified by Yin (1994:13) are:

1. They have the potential for bias
2. They provide little basis for scientific generalisation
3. They take too long and result in massive, unreadable documents

The researcher was cognisant of these, and tried to remain objective through the research process. Since the case study is based on the market leader in

steel production locally, the goal was to generalise theories. Yin (2009) defines this as analytic generalisation.

3.3 Population and sample

3.3.1 Case Site

The case site identified for this case study is ArcelorMittal South Africa. This is a single case, and is justifiable if it meets one of the following criteria (Yin, 2009):

1. a critical test of existing theory
2. a rare or unique circumstance
3. a representative or typical case, or where the case serves a
4. revelatory purpose or
5. longitudinal purpose

AMSA is the largest steel producer in Africa, and is also part of the ArcelorMittal group that is the largest steel producer globally. Hence the analysis of AMSA's strategy would have applicability to the group strategy. AMSA could be seen as *typical or representative* of other companies in the steel industry. It can also be seen as a *longitudinal* case, as it looks at recent strategy post the 2008 financial crisis.

3.3.2 Sample and sampling method

The sample was made up of people from senior management level upward. These individuals were chosen based on the information and value-add that they could provide in obtaining sufficient information to answer the proposed research problems. Further, they came from the different SBUs to ensure that data representivity was achieved.

The proposed profile of respondents to be interviewed is as per Table 1.

Table 1: Profile of desired respondents

Description of respondent type	Number to be sampled
Executive committee members	3
Works Managers	2
Plant Managers	2
Sales Manager	1
Marketing Manager	1
Finance Manager	1

3.4 The research instrument

The research instruments utilised were interviews and documentation where possible. The interviews were the most important sources of the case study information (Yin, 1994). It was a semi-structured interview to gather both facts around emergent strategies that have been applied and also obtain the opinions of the interviewee. A semi-structured interview is flexible, and will allow depth to be achieved as an interviewer can probe and expand an interviewee's response. The questions were also open-ended in nature.

Documentation was also collected during the course of the research. This may be in the form of published newspaper articles, annual reports, memos and other forms of documentation that may be applicable.

Refer to Appendix A for more details on the actual research instrument.

3.5 Procedure for data collection

The transcripts of the interviews, together with any notes that were taken during the interview, combined with other sources of documentation as discussed above were used. These *multiple sources of data* are important in the development of converging lines of inquiry (Yin, 2009) that is a process of triangulation.

With the large amount of information that was generated, a *case study database* was created into which all received data was saved. Transcripts of all the interviews are contained here, interview notes and any other documentation.

Finally, a *chain of evidence*, as described by Yin (2009), was maintained to enhance the overall quality of the case study.

3.6 Data analysis and interpretation

“Data analysis consists of examining, categorising, tabulating, testing, or otherwise recombining evidence, to draw empirically based conclusions.” (Yin, 2009:126)

The strategy utilised *relied on theoretical propositions* that led to the case study (Yin, 2009). This was appropriate as the objectives and design of the case study were based on propositions drawn from the literature. The propositions shaped the data collection and therefore gave priorities to the relevant analytic strategies.

The analytical technique that was utilised is *pattern matching* (Yin, 2009). The data collected was related back to one or more propositions from the literature, hence comparing empirically based patterns with a predicted one.

3.7 Limitations of the study

- In utilising the case study methodology, there is the potential weakness that findings may be subjective. The researcher tried to remain as objective as possible, and consciously take note of bias that could arise. Other limitations and how they will be dealt with are as described in 3.2
- The case site is singular. Hence, the researcher proposed to choose as diverse a sample within the case site to ensure that the data collected was as representative as possible, without favouring specific views. Also multiple sources of data were obtained, a database created and a chain of evidence maintained.

- Finally, case study data analysis is especially difficult as the techniques have not yet been well defined (Yin, 2009). To address these, the analysis relied on theoretical propositions and pattern matching to strengthen internal validity.

3.8 Validity and reliability

To judge the quality of the research design, there are four tests that are relevant to case studies. These are (Yin, 2009:40):

Construct validity: identifying correct operational measures for the concepts been studied.

Internal validity: seeking to establish a causal relationship, whereby certain conditions are distinguished from spurious relationships.

External validity: defining a domain to which a study's findings can be generalised.

Reliability: Demonstrating, that the operations of a study – such as data collection procedures – can be repeated with the same results.

3.8.1 Construct validity

In order to overcome the problem of construct validity in this case study, multiple sources of evidence were used and a chain of evidence was maintained. This has been described in section 3.5

3.8.2 Internal validity

In order to overcome the problem of internal validity in this case study, for the data analysis, the researcher did pattern matching as described in section 3.6

3.8.3 *External validity*

This deals with whether or not the findings of the study are generalizable beyond the immediate case study (Yin, 2009). An attempt was made to generalise the findings of the case study to theory. Also, by conducting the case study on a large company which belongs to the largest steel producing group globally, the findings may have applicability to other steel companies as well.

3.8.4 *Reliability*

The reliability of a case study is determined by the extent to which similar research conducted in the future will provide similar conclusions (Leedy and Ormrod, 2005). Reliability must have the outcome of minimising errors and biases in the study (Yin, 2009). Thus, the researcher endeavoured to ensure that bias was minimised by following the methodology as defined in this section, and ensuring that a database was developed.

4 PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents and describes the results of the semi-structured interviews based on the case study database compiled. The results are presented in three major themes: the changes in the external environment, the changes in the internal environment and the overall strategy. It is important to note that when referring to changes, this implies a comparison pre and post the financial crisis of 2008. This is very important in order to contextualise the findings of the interviews.

The first theme on the changes in the external environment is broken down into two major sub-sections:

- Porter's five forces as the basis for further discussion. This assisted in both compiling data for the dissertation and to create more structure around discussions on this pertinent point.
- Finally, changes in the political, economic, social, technological, environmental and legislative arena (PESTEL) were also discussed.

The changes in the internal environment utilised course notes as supplied during the study of the MBA (Mosala, 2011), together with further literature as presented in section 2 of this report. The major sub-sections here were discussions around the company's key:

- resources, and
- capabilities

The final theme merely discusses what the respondents felt were the key components of the strategy for the company going forward.

4.2 Demographic profile of respondents

The plan for the demographics of respondents is compared to the actual demographics realised in table 2. The seniority of respondents desired for the case study was achieved. Also, there is a good spread of respondents on various levels in the organisation, and also spanning different operating and functional divisions. Finally, no names of individuals interviewed will be disclosed, as this was agreed upon with the company prior to conducting the research.

Table 2: Comparison between actual and desired respondents

Description of respondent type	Number desired to be sampled	Number actually sampled
Executive committee members	3	3
Works Managers	2	2
Plant Managers	2	1
Sales Manager	1	2
Marketing Manager	1	1
Finance Manager	1	1

4.3 Results pertaining to changes in the external environment

As mentioned in the introduction of this chapter, discussions around this theme focussed on Porter's five forces and the changes in PESTEL. Some of the key points as obtained from the interviews are listed in the sub-sections below.

4.3.1 Description of interview responses pertaining to Porter's five forces

This section covers responses on changes in Porter's five forces post the 2008 financial crisis. The forces are individually listed and responses pertaining to them described.

Rivalry amongst existing competitors

The responses from the interviews focussed on the rivalry both within and outside the borders of South Africa. The rivalry has remained the same pre and post the 2008 financial crisis with firms operating within the borders of South Africa. What has happened is that the demand has decreased and hence the companies operating in the current environment are competing for a smaller portion of the pie. When considering the effect of being part of the global industry, the rivalry has intensified when one considers the competition posed by imports into the market. The increase in imports is a result of a global market where there is depressed demand with over supply. Thus companies are no longer merely dependent on AMSA. The rivalry is a strong function of price.

South Africa has moved from a sellers' market to a buyers' market due to the economic challenges facing the country and the greater influx of imports. In addition, since 2009, there has been a dynamic shift in the types of products demanded. This has been complimented by certain manufacturers catering for these niche markets (companies such as SAFAL and DSP). Thus the intensity within these market segments has definitely intensified, even on a local front.

Threat of new entrants

From the interviews, there seemed to be general consensus that the threat of a new entrant is not really realistic, due to the following stated reasons:

- o South Africa has a demand of approximately 6 million tons of steel consumption per annum, whilst having a current capacity to produce 10 million tons per annum.
- o The market in South Africa is only of a certain size, and all the current producers are having difficulty in maintaining profits during periods of depressed demand.
- o There are not sufficient raw materials available locally, thus a new entrant will have to import most inputs

The government has also expressed its keenness to fund a steel mill together with another company. For this type of transaction to work, there will have to be some sort of preferential raw material supply deals to the incoming company. The IDC's recent acquisition of SCAW metals is perhaps government's strongest signal of wanting to get into the steel business. The question is: Will the company be used as a preferred supplier to certain steel products?

Bargaining power of suppliers

AMSA has two captive mines in Thabazimbi and Tshikondeni, both approaching end of mine life. Thus, there is no bargaining power when analysing iron ore supply. In addition, coking coal and iron ore are globally traded commodities, implying that they work on internationally set prices, thus limiting any bargaining power. AMSA had a 6.2 million ton iron ore supply agreement with Sishen Iron Ore Company at cost + 3%. However, this matter is now set for arbitration as there is a dispute over the legality of the continued supply of ore on this contract. On a more global scale, the ArcelorMittal group of companies accounts for only 8 – 9% of the steel produced, thus they have minimal bargaining power. In contrast, the iron ore supply is predominantly controlled by 4 companies. They are likely to remove supply to the market if iron ore prices decrease.

Bargaining power of buyers

Steel companies globally are price takers and not setters, and so is AMSA. In a passive way, the buyers destock to low inventory levels, and if they do not want to buy they just do not. They wait for prices to decrease and then restock. Thus they have a slightly increased bargaining power. Customers can easily import from countries such as China and others with no real switching costs. Finally, the bargaining power is a function of supply and demand. The current market has high supply with low demand, thus implying a buyer's market.

Threat of substitute product

South Africa generally has a very simple product requirement in terms of the bulk of the products produced by AMSA. However, in certain market segments which do account for lesser volumes, this has definitely changed. With the northern hemisphere that has invested heavily in new technologies, tin cans have been replaced by aluminium. Draw and Wall Ironing (DWI) used in cans have new requirements in that they should be thinner, lighter and stronger. AMSA will require new investment here. Other product requirements where they are substitutes or considerable improvements is tin plate where the required thickness has decreased and they have become lighter. AMSA requires investment here as well.

The automobile industry requirements have become more stringent. They now desire stronger steels for improved corrosion resistance and lighter steels for improved fuel efficiency. AMSA's Chromadek technology is being challenged with a galvanised/aluminium composite material that is produced by a competitor in this market segment. The competitor's product proposes improved corrosion resistance properties.

Hence, there is most certainly a challenge to AMSA with other products that compete in certain niche segments.

4.3.2 Description of interview responses pertaining to changes in PESTEL

This section covers responses received on changes in the political, economic, social, technological, environmental and legislative spheres post the 2008 financial crisis. Each one of these is individually listed and responses pertaining to them described.

Prior to proceeding with the discussions, it is important to note that all respondents agreed that the global steel market has been affected. However, the specific dynamics of each country are different due to the markets that they

supply. Hence, all responses are related to the South African context and cannot necessarily be duplicated to the global steel market.

Political

On a political level, there has more word from official and unofficial members in the political space across how they would like to impact or shape the steel industry. Some of these are:

- There is the hanging threat of nationalisation of mines. Thus investors are not confident of investing in the mining sector.
- Government has mentioned the possibility of a state owned steel mill, and has approached other big steel companies to do business in South Africa.
- When ISCOR unbundled, there seemingly exists a difference between what the government and new owners' expectation were. This has resulted in the company been projected in a negative view.
- Government wants reduced steel prices, also referred to as developmental steel prices and would also not see steel as a local product necessity.

However, a respondent stated that politics does play a part, but, where there is a viable business case, people will invest in the country. Thus it is not an over-riding factor at this stage.

Economic

There have been considerable economic challenges that have faced AMSA as obtained from the responses. These include the rand/dollar exchange rate that has remained fairly strong, at least until mid-2012, adding to the profit pressures within the steel business, as steel is priced in \$/ton hot rolled coil. South Africa has a GDP growth below 3%, which is too low for growth and recovery in the industry. When looking at government's infrastructure programs, they are slow

in getting off the ground and AMSA cannot share extensively in these. Growth in construction has been more rampant in neighbouring African countries where they have experienced a growth of 7.2% compared to South Africa which is forecast at between 3.2 – 3.4%. When looking at local prime products, this market has contracted by approximately 40% since 2008.

Other changes in the economic landscape have been a substantial increase in electricity costs, and South Africa is no longer seen as cheap in electricity supply. As an example, the Saldanha Works has seen an increase of \$40/ton in its cost of steel production from 2008 to 2011 purely related to the increase in electricity tariffs. Labour costs have also increased higher than inflation over the period. In addition the costs of raw material inputs have also remained high. South Africa also has high rail and harbour costs when compared globally. To make things worse, Transnet, the local rail operator has had a 63% on time delivery performance which is very inefficient.

Finally, more stringent policies post the financial crisis have decreased the availability of credit to customers, especially in the construction and residential related industries. This has further contributed to low growth in the industry. A similar effect carries over to the low manufacturing index.

Social

AMSA has continued to be active in the communities in which they operate. There are science centres at all of these communities, promoting maths and science. Investment in education has also been made in the form of schools in Mamelodi and the Eastern Cape. With the need for relatively cheap housing to be built quickly, the company has developed low cost steel housing (steel structures that can be assembled quicker than using traditional methods).

Technological

Technology remains important to steel companies, whilst AMSA has not invested much here, so are a bit lagging. As a result, with the advancement in products and alternate materials in certain market segments, AMSA cannot at this stage cater for these due to a lack of the necessary technologies. If the economic times were better, capital would have been more easily deployed to meet the market demand. However, the company is currently in a hurricane situation, with capital funds limited. Thus, the company could be lagging somewhat in technology as a result of the lack of funds.

However, being part of the global group, the global research and development teams are very active, and this technology can be applied in South Africa if desired, provided the necessary capital is available.

Environmental

Poor environmental performance is a heritage of the company. To address this, the company has earmarked at least 20% of its CAPEX funds available to environmental projects. The South African legislation pertaining to environmental emissions have become more stringent and the enforcement hereof has definitely tightened.

Legislative

Legislation has not been too favourable to AMSA. Those mentioned by respondents are:

- No import duties on steel, thus not de-incentivising the practice of importing.
- The South African legislation pertaining to environmental emissions have become more stringent.

- The company has been embroiled in legal issues pertaining to their mineral rights of iron ore.
- The company has also been dragged into the competition commission related to excessive steel pricing. These are set for arbitration. This has occurred once too often, affecting perception. AMSA has been accused but not convicted.

4.3.3 Summary

From the interview responses (as described in 4.3.1 and 4.3.2) around the external environment, it is clear that the landscape within which AMSA operates has changed substantially since 2008. Many of the changes have been prompted by the financial meltdown, forcing all businesses to reconsider the manner in which they conduct business. AMSA has not been immune to this, and will have to ensure that they have a sound strategy to address these changes in the external environment.

4.4 Results pertaining to changes in the internal environment

This section covers responses on changes in the internal environment. Firstly the response on the resources and capabilities of the company is described. The section is concluded with interview responses on how AMSA has used their resources and capabilities to address changes in the external environment. These are responses in addition to those described in sections 4.4.1 and 4.4.2.

4.4.1 Description of interview responses on the company's resources

The responses on what respondents felt were the resources of the company are described below. They are clustered into three groups and described accordingly. The responses also describe what interviewees felt were challenges facing the company's resources.

Physical Capital Resources

AMSA has five plants in South Africa. These plants are well located near the growth points in South Africa, specifically Vanderbijlpark Works for the local market. In addition, Saldanha is also ideally located for the export market. In contrast, Newcastle remains a fair distance to the harbour as well as the major growth points in South Africa. Vanderbijlpark is also poorly situated for exporting products.

When analysing the assets of the company on a high level, Vanderbijlpark Works has many assets that have the capabilities of producing a large portfolio of products. However, some of these assets are old. Investment is required in making these more efficient in terms of energy, labour and quality. Saldanha is a modern plant and cost effective. Generally, equipment is not utilised to the extent of its design, contributing to inefficiency.

AMSA has well entrenched relationships with all raw material suppliers. Thabazimbi and Tshikondeni are captive mines, though approaching end of mine life. The Sishen arbitration has soured relations slightly with Kumba Iron Ore, who are the predominant supplier of iron ore to AMSA.

Human Capital Resources

The company has well established human capital, evident by the daily challenge of retaining them. There is good talent and a significant resource base. The company has well established and thorough training programmes for process learners, technicians and engineers. International experts from within the global group are easily available and utilised when required. There is a high level of knowledge of the markets as well as the processes within the company.

In contrast, some divisions are experiencing aging of many of the senior personnel, which must be addressed with succession planning. The company has also suffered a loss of technical skills, especially pre 2008. This is mainly amongst technical personnel, including managers. This trend has decreased

since then, but perhaps most likely due to the lower demand for skills as a result of market conditions.

AMSA does suffer the loss of good talent that they invest in substantially, and this still remains a challenge. To counter this, the company has introduced some sort of a retention scheme to address the challenges of retaining key personnel.

Organisational Capital Resources

Knowledge based resources within AMSA and leveraging the other plants within the group is a massive benefit to the company. Most skills can be brought into the company from the broader group if required. AMSA has in-depth and local market knowledge allowing them to understand local market dynamics. The company has well-entrenched and good relationships with its customers and is seen as a preferred supplier of certain products. As part of the global group, AMSA can get in steel when required to address any shortfalls due to major operational mishaps.

In spite of the current depth in knowledge and skills, this is at risk as AMSA has a poor knowledge management system.

4.4.2 Description of interview responses on the company's capabilities

The interviewee responses on the company's capabilities have been subdivided into speed, consistency, acuity, agility and innovation. The responses also describe where interviewees felt a lack of these existed.

Speed

The reaction from EXCO and the organisation has increased post 2008. There is good adaptability to new market demand volumes, with flexibility being built

in, and to the desired product portfolio. The company is however slow to evolve on some market segments.

However, approval to implement some decisions is tedious and time consuming, due to the various levels of approval required, especially when larger amounts of funds are requested. This is also slower than for smaller companies that operate in niche market segments.

Consistency

This is measured on the quality of products produced, and the aim of reducing rework. The quality of products supplied to customers is within South African and global standards. However, internally, the reprocessing of steel is at rather high levels. This has already been addressed and evidence of improvements is clear.

Respondents do feel that AMSA must change the culture of employees from just production focussed to both production and quality driven. This requires a mind shift change that must be driven from the top.

Acuity

AMSA has been the leading supplier to the South African market. It has great depth in understanding the local market dynamics.

Agility

It is paradoxical as AMSA produces many products which were the market requirement prior to the financial crisis, but now there is the need to change. Agility in the new environment is prudent, and AMSA can improve here. However a lot was done in alignment with the global group and that has helped

preserve cash flow. A big challenge is becoming more flexible without adding much cost.

Innovation

AMSA has not innovated much, but then there has not been the requirement to do so until now. Where AMSA has innovated, the realisation is not on time. The 'time to market' and execution must be improved. Hence innovation has perhaps not been a strong point.

4.4.3 Investing in resources and capabilities

On a short term basis, the company does not foresee investing in any expansion. The business needs to generate cash and focus on the owned assets. The company will invest to protect its assets as well as its market, retain their strategically important skills and also see what market and product segments are strategic and invest in these. The focus will be to maintain the status quo, and a ratio of capital to EBIDA of between 70 – 80%.

The company will also invest where the returns are justifiable on a very low payback period (6 months – 1 year). It is risky to invest in markets where volumes (product off-take) are low.

4.4.4 Summary

The manner in which AMSA has used its internal resources and capabilities has changed immensely when compared to pre 2008. There is an increased focus on maximising asset efficiency and using all its resources. The need to be more flexible and execute speedily has been evident. The internal environment has adjusted drastically in response to the changes in the external environment.

4.5 Results pertaining to the overall strategy of ArcelorMittal South Africa

This section describes the responses to three questions asked during the interviews. The responses are discussed in four themes, namely capabilities-based, financial, human resource and business strategies

4.5.1 Description of interview responses on capabilities-based strategies

(The responses below includes marketing strategies)

AMSA must regain improved operational stability and get the cost base right. There is significant potential here. The company must go back to basics in terms of efficiency, energy consumption and quality. This will ensure that the company becomes more cost competitive and is a key facet of the company's vision. The company embarked on a business improvement initiative taking a more holistic approach on optimising the business. This is one of the initiatives that has rolled out already.

The company will also change its focus to Africa-overland, which includes the neighbouring countries and other countries where there is significant growth. This is seen as an extension to the local market. The world and markets of 2008 have disappeared. The company must defend its markets from rivals, and look at expansion into sub-Saharan Africa. The focus will not be into east and west Africa due to freight costs and the cost of steel. Thus, the company will consider exiting some of the export markets from Vanderbijlpark for approximately 5 years. The result will be:

- Spending the necessary maintenance on plants and looking for niches in the market without needing to spend significant capital. These small investments must provide a good economic advantage.
- Investing in plants and products that are seen as strategic, whilst exiting certain markets.

- Market segmentation and the re-evaluation of non-value adding business units

4.5.2 Description of interview responses on financial strategies

The key response across this theme has been the preservation of cash flow, which has been identified as critical to the sustainability of the business. In addition, respondents shared the company's need to optimise its asset base by looking at things such as automation and ensuring legal compliance, with environmental obligations as a priority.

4.5.3 Description of interview responses on human resource strategies

The responses pertaining to the company's human resource strategies highlighted organisational culture, staff retention and training and management as focus areas within this realm. The company needs to retain the skills they have, and continue developing its human capital so as to have a much better trained workforce when the market turns. Leaders must also be trained to be more agile, flexible, understand uncertainty and react quicker in these markets. In addition, they must ensure that the human capital is better managed in terms of knowing how many people are required and ensuring that any future downturns do not impact on the workforce.

Finally, a change in culture was identified by respondents, who felt that after unbundling, the company did become a bit complacent with the iron ore arrangements in place. This locked the company into supernormal profits, and now the mind set of employees and management needs to change. The company must be viable paying market prices for its raw material inputs.

4.5.4 Description of interview responses on business strategies

The responses below relate to integration, expansion or consolidation. The company (ArcelorMittal group) has already started backward integrating, specifically within iron ore. AMSA is busy exploring the possibility of owning iron

ore deposits in South Africa, as Thabazimbi is reaching end of mine life, and AMSA must secure additional resources for the future. With coal, AMSA is in a joint venture with Coal of Africa.

Iron ore may be seen as a non-core asset to the steel making business. However, to ensure future supply, it makes sense to venture into owning some of your own deposits. Variable cost is a big contributor to the price of steel, specifically raw materials. Thus the company should backward integrate. ArcelorMittal has a mining unit, which operates separately from the steel unit. This is to make sure who is going to earn the money and not hide behind mining successes. Also, mining and steel dynamics are different. The philosophy of AMSA was a fully backward integrated company, and that was the rationale behind the privatisation programme, so iron ore supply was an integral part of this programme.

On the manufacturing front, there is the possibility of looking into an additional value adding facility. The company must go deeper into manufacturing to secure its dispatches. Also, the international trend is to go smaller and into niche markets.

However, a respondent stated that AMSA have now shifted from growth to optimisation in terms of assets, people, cost and products. Growth is no longer core to the strategy.

4.5.5 Summary

The section has displayed how AMSA responded based on the changing external environment as well as the internal environment to try to strategize the business going forward in the short to medium term. It is clear that the strategy entails 'sweating the assets' and optimisation in terms of all its resources. The strategy has re-examined the markets in which the company operates to ensure that only the viable markets are continued with to sustain profitability. The raw material price vulnerability also seems to be addressed with the company pursuing joint ventures and looking for iron ore deposits.

4.6 Summary of the results

The interview responses have clearly described how AMSA has been exposed to a drastically changing external environment. A description of how the external environment has changed has been clearly provided. Many of the changes have been prompted by the financial meltdown, forcing AMSA to reconsider the manner in which they conduct business.

The company's internal resources and capabilities have changed or been adapted when comparing the pre and post financial crisis periods. Asset efficiency, speed to market responses and flexibility in processes is now the new business norm. The external and internal environment has already demanded a change in the strategy of the company.

The market has not really supported both the demand for steel, and also the input price of raw materials. To remove some of the raw material price vulnerability, AMSA is looking at backward integrating.

5 DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter focuses on explaining and exploring the responses from the interviews in answering the research question. It discusses the external environment, the internal environment and finally the overall strategy that AMSA has adopted post the 2008 financial crisis, which is the research question. This structure gives context to the research question and adds to its analysis. A strategy cannot be discussed if the external and internal environments have not been explained, as these are the pillars to the strategy.

5.2 Demographic profile of respondents

The demographics of respondents planned for the study was not exactly that which was realised. There was one less plant manager and one additional sales manager that was interviewed. In terms of organisational ranking, this is the same. The difference is purely that the plant managers are operationally focussed whilst the sales managers are customer oriented. Thus, the differences are minor and would not impact the quality of responses desired as at least three respondents are completely operationally focussed within the organisation. Also:

- The seniority of respondents was excellent in terms of their position, experience and knowledge of the topic being researched.
- The respondents covered the spectrum of executive committee members to plant managers, in order to ensure that the responses are not biased and project a single opinion on the topic being studied. This also tests whether the strategy is understood throughout the organisation.
- Further, the respondents were from different departments, also testing whether or not strategies are not operated in silos, but are cross departmental and companywide.

5.3 Discussion pertaining to the external environment

It is known that the external environment has changed post the financial crisis of 2008. However, it is important to analyse specifically what the changes have been to a specific company, in order to later analyse their strategy. Hence, this section looks at Porter's five forces and attempts to explain how the forces are behaving with respect to AMSA. Thereafter, PESTEL is explained and a summary provided.

5.3.1 Discussion on Porter's five forces

Rivalry amongst existing competitors

When looking at the South African steel industry, it is important to note that AMSA is seen to have a monopoly in the local market. This is due to its dominance in terms of its market share. However, AMSA seems to have given up some of this to further imports, as was mentioned by its CEO in the 2011 annual report. Imports have increased from traditional levels of around 10% - 12% to about 19% (ArcelorMittal South Africa, 2011a). There are reasons for this; however it exemplifies the fact of the industry being one with low switching costs. The industry is also known to be asset heavy, and as the literature suggests, this creates ideal grounds for ***competing on the basis of price*** (Porter, 2008).

The respondents added that globally there is depressed demand, indicating that there is slow growth in the industry. With the industry output capacity higher than the demand for its product, more companies globally will look to enter new markets. The competition intensity in the production of certain niche products has intensified with some local manufacturers having invested in these market segments. Hence, the ***intensity has also increased***.

Thus, this *force is very prevalent* to the strategy that must be adapted by AMSA.

Threat of new entrants

In a market where there already exists the capacity to supply almost 80% more than the demand, it does not make intuitive sense for an investor to open up a steel mill. This, compounded with the fact that the current manufacturers of primary steel in South Africa are not really profitable in the current economic climate, makes a Greenfield investment decision in a capital intensive industry less likely. There are also risks with regards to raw material supply for a new company in the market, and if they were to import their requirements, it will increase their cost base. Hence the probability of a private company entering the South African steel industry is unlikely.

However, government has, via its investment leg, the IDC, purchased a controlling stake in SCAW metals. Although SCAW are a relatively small company in the local context, government has started showing intent in this market and further developments must be scrutinised by AMSA. In spite of these developments, the threat of a new entrant to rival a company the size of AMSA in the country remains unlikely in the medium term.

Thus, this *force is not that critical*.

Bargaining power of suppliers

The steel industry is heavily dependent on raw material input prices and is an energy intensive process. Looking at three of the big variable cost items, the following analysis may be performed:

- **Iron Ore**

AMSA until now has been buying iron ore on a cost plus model. The two major sources are from the Sishen and Thabazimbi mines. The latter is a captive mine, approaching end of mine life. This implies that it is becoming more expensive to remove the iron ore and that reserves would be depleted by 2016. However, AMSA is evaluating the economic viability of the Thabazimbi mine (ArcelorMittal South Africa, 2011a). With regards to Sishen, at this stage AMSA

is an interim pricing agreement of \$70/ton. This is still favourable when compared to international prices, trading at around \$150/ton (figure 14). Of concern to AMSA is the outcome of the arbitration over the mineral rights that the company feels it still owns, whilst Kumba denies this. If this were to go against AMSA, the company will have to get alternate suppliers or sources of iron ore. As the literature suggests, and is confirmed by a respondent, the iron ore market is controlled by 3 major producers globally, and hence they have more control over the market when compared to a relatively fragmented steel industry.

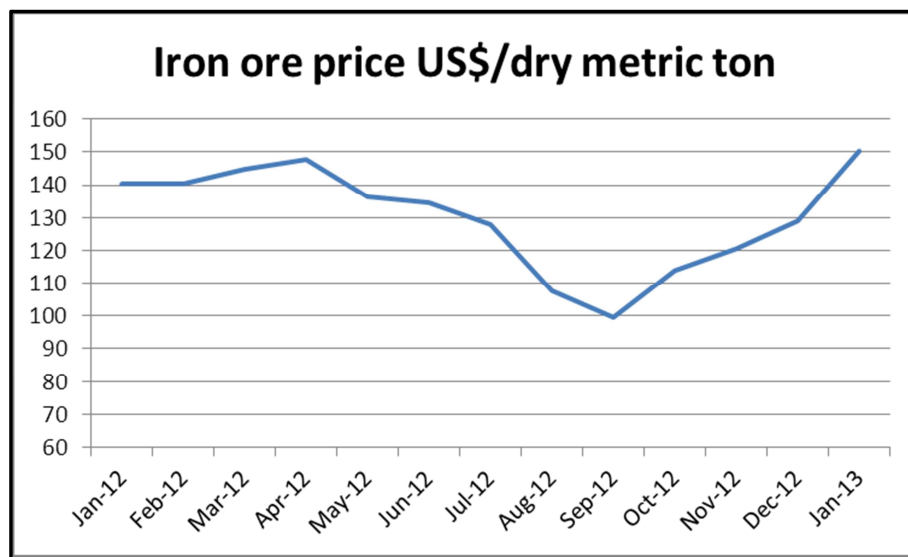


Figure 14: Iron ore price for a one year period (Data Source: indexmundi.com, February 2013)

- **Coking Coal**

South Africa does not have high quality coking coal. AMSA has a captive mine in Tshikondeni, whilst importing the remainder of its requirements. However, the import price of coking coal for the year 2012 was lower by 29% when compared to the previous year (ArcelorMittal South Africa, 2012a). Hence, currently these prices have been trading at better value for the company.

- **Electricity**

The electricity costs have been increasing in South Africa since 2008, due to Eskom's need to develop more power stations. This has also affected AMSA, and last year (2012) the company saw a 18% increase when compared to 2011 (ArcelorMittal South Africa, 2012a). However, there is not much that AMSA can do here, but become more energy efficient, as electricity costs in South Africa are planned to continue rising in the short to medium term.

Thus, based on current trends and the possibility of the preferential iron ore agreement with Sishen expiring, this *force requires careful strategising*.

Bargaining power of buyers

When analysing this force, there is not much literature to be found to validate the response from the interviews. As one respondent aptly put it:

"Bargaining power is a function of supply and demand. Where supply is high and demand low, this implies a buyer's market."

Another respondent suggested that buyers are no longer carrying high inventory levels due to the volatility in the market. Hence, they almost destock, forcing prices down, and then re-purchase. This force is significant in the current market of demand contraction when compared to prior to 2008. Hence, this *force must be addressed* when adapting the company strategy.

Threat of a substitute product

AMSA produces a large number of steel products for different markets. From the responses, it is clear that the bulk of the volume produced by the company meets market expectations. However, there is some where substitute products have entered and threaten AMSA's participation in them. These are, namely, the automotive steels, DWI used for cans and the Chromadek sheeting. Respondents have alluded to AMSA having a small demand for automotive

steels when compared to their other products. These are high value adding products, but require considerable investment from AMSA in order to participate in this market.

The DWI market is a fair sized market, but is now competing with aluminium. A response from the global steel industry has been to make these sheets lighter and thinner, but AMSA requires investment in order to achieve these improved standards.

Finally, the Chromadek product, which is a corrosion resistant product is also being challenged with a product from another steel mill. Their product proposes better corrosion resistance properties, which needs to be rivalled by AMSA. This seems to be more of a scientific/technological improvement requirement that must be explored.

The threat of steel by a substitute product *is not high, but is more important when looking at certain niche markets.*

5.3.2 Discussion on PESTEL

Political

The South African political landscape, in spite of noise, can be considered fairly stable. However, there is the threat of nationalisation coming from the ANC Youth League (ANCYL). In a statement last year, the ANCYL spokesperson reiterated that they will push for the nationalisation of all mines as well as the re-nationalisation of the steel industry (Mining Weekly, 2012). However, government has not supported this view, but has mentioned that they will look into a 'developmental' pricing model for the iron ore and steel industry (Engineering News, 2011). This will entail the supply of iron ore at a cost plus model thereby forcing steel producers to reduce their prices. However, analysts disagree that this will be effective in reducing steel prices and creating jobs in the industry (Charles River Associates, 2011). It will be premature to suggest that government will continue with this implementation, but AMSA will have to keep a close eye on developments. Political intervention in any business is

undesired. The threat of a new entrant supported by government has been discussed in section 5.3.1.

Economic

The changes in the external environment have most definitely been triggered by the 2008 financial meltdown. As the literature suggested, GDP in South Africa, like the rest of the world, has slumped. The steel business is dependent on a growing economy, and takes great pain when growth rates are low or declining. These challenges are still apparent in the South African economy as stated by the respondents and further validated from statistics (figure 15). The response from interviews suggested that growth that is lower than 3% creates a tough economic environment for the steel business.

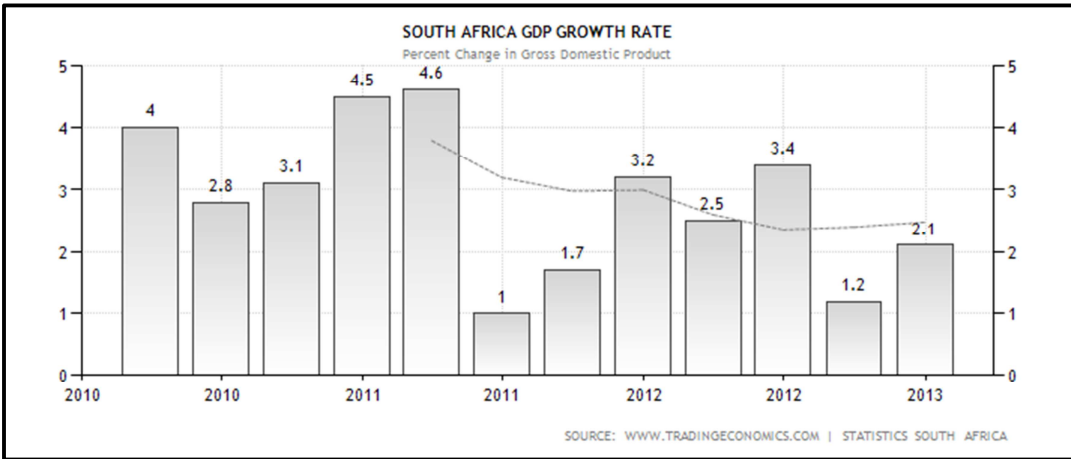


Figure 15: South African GDP growth rate from 2010 to Q1 2013 (Statistics South Africa, 2013)

To compound the effect of low growth, the company has faced a stronger than anticipated exchange rate together with rising electricity and labour costs. To counter the latter two, the company needs to improve on manpower efficiency and also improve the energy efficiency of their plants.

A respondent mentioned that there are more stringent lending criteria that are limiting expansion in the construction and residential markets. This may be having a negative effect; however the criteria are set to prevent a future

collapse of the financial system which will be more catastrophic to the industry than short term pains. Other respondents mentioned the inefficient logistics system as well as poor outlook into the mining sector. This has a broader effect on the entire economy, and with Transnet being a parastatal, government will have to focus on this aspect and ensure improved efficiencies.

Of importance was a response around the growth rates in Africa, specifically South Africa, as compared to the Africa overland market. This is 3.4% compared to 7.2% growth in construction. Thus, in devising a strategy, AMSA must ensure that there are sufficient measures in place to capture the bulk of the Africa overland market.

The steel industry is characterised by high fixed costs. In order to decrease these, the company must become more efficient and attempt to increase volumes of products. The latter will result in a dilution of the fixed costs, thereby aiding in getting the costing down. Thus, targeting the Africa overland market with this in view is crucial to ensure that the correct decision is made with regards to the markets to be supplied and those to be exited.

Social

AMSA has continued with its social objectives in spite of the tough economic challenges that it faces. They have invested in the communities in which they operate with the establishment of science centres and the construction of schools in the country. This is important for a company that requires its tarnished image to be restored.

Companies must give back to the communities in which they operate, as they are consuming the environment in these areas. Social investment by companies helps create wealth, a good image and improved social status for the shareholders (Effiong, Akpan and Oti, 2012).

Technological

When one looks at the South African steel market, it is generally a relatively simple market to supply in terms of product requirements. However, there are certain markets, as discussed in section 5.3.1, under the threat of a substitute product due to AMSA having lagged in technological improvements or alternate materials are challenging steel. It is necessary that these markets be reviewed, and a business case be made if investments are justifiable to retain the market share that could potentially be lost. The technology is available within the group, thus the assets to support its execution will need to be purchased, and this is where the high investment will be required.

Environmental

The poor environmental legacy that AMSA has was highlighted by almost all of the respondents. However, they added that the company has allocated 20% of their available capital to addressing these issues. Some recent major environmental projects at AMSA have been the baghouses at the arc furnaces at their Vereeniging Works, as well as the sinter plant baghouse at their Vanderbijlpark Works and the zero effluent discharge projects pertaining to water pollution at both the Newcastle and Vanderbijlpark Works (ArcelorMittal South Africa, 2010, 2011a). Becoming more compliant is also part of the company's stakeholder engagement.

Legislative

The current increase in imported steel products that the company is contending with, is not been supported with legislation that imposes zero duty on steel imports. This exacerbates the problem for AMSA, as there is no legislation promoting the local purchase of steel. This does seem untoward on the surface, however in a global reality this type of non-intervention by the state could

become the norm. AMSA must focus and regain their position as a low cost producer.

5.3.3 Summary

The analysis of Porter's five forces pertaining to AMSA may be summarised as follows:

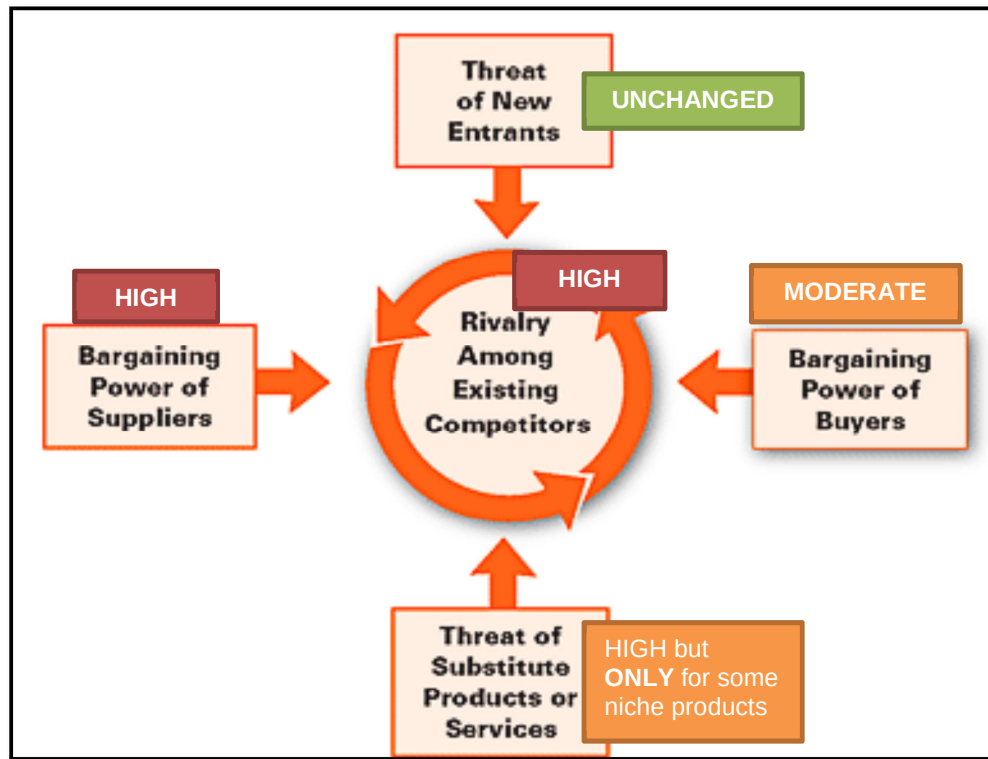


Figure 16: Analysis of Porter's five forces facing AMSA

The external environment within which AMSA operates has changed significantly. The company has apparently fallen out of favour with government as well as the competition commission. This is based on arbitration hearings, excessive pricing charges, zero duties on imported steel etc. The global economy and the slow growth experienced within South Africa (specifically within the construction and mining sectors), coupled with a low steel price are some of the serious challenges facing AMSA. The company has also experienced higher than anticipated raw material input prices and further strain on profits due to the increasing electricity tariffs in South Africa. There has also

been movement in some product demands from the local economy, hence forcing AMSA to relook at its market segmentation and product offerings. This will require AMSA to adapt their strategy and focus capital based on their new market demands.

5.4 Discussion pertaining to the internal environment

Having discussed the external environment and specifically the changes that AMSA has been exposed to, in order to analyse how the company has adapted their strategy, a discussion on the internal environment is first undertaken. The internal environment is discussed, based on the company's resources and capabilities.

5.4.1 Discussion on AMSA's resources

In explaining the resources, guidance and structure is taken from the literature review. Thus, these will be discussed as per the physical, human and organisational resources.

Physical Capital Resources

AMSA has plants spread through various towns in South Africa. However, looking at the three major operating units, and analysing their geographic location, these plants are seen as a mix in terms of whether or not their geographic location can be seen as competitive (table 3). The inland plants are ideally located for the local market (Vanderbijlpark and Vereeniging), but poorly situated when considering exporting their products. Newcastle is not close to the major growth points and is also approximately 400km away from the harbour. Saldanha is well situated to cater for the export market. On looking at what is competitive or not, the current focus for AMSA is the local market followed by Africa Overland. These are countries bordering South Africa and slightly further north. It excludes countries such as Nigeria and the like. Thus, the inland plants are well suited for their current target markets, whilst Saldanha

can export what is required. For road transport into the African markets overland, the inland plants are fairly well located.

Table 3: Geographic analysis of AMSA plants

Plant	Type	Product range	Ideally located for:
Vanderbijlpark Works	Flat	Very large	Local
Newcastle Works	Long	Large	Neither
Saldanha Works	Flat	Ultra-thin, medium	Export
Vereeniging Works	Long/Pipes	Small	Local

One does need to analyse why the Newcastle Works was erected where it is. This decision was made in 1969, when the government wanted to promote economic growth in Natal away from the Witwatersrand which was already then the major growth point. In addition, Newcastle had all the necessary infrastructure and resources to support a fully integrated steel plant (ArcelorMittal South Africa, 2012b). It was also situated on the main road and rail route between Johannesburg and Durban. Thus, the decision was not merely coincidence but tied up with government's growth vision for the country. Unfortunately, this is no longer the main route between Johannesburg and Durban and the rail infrastructure in the country is now severely strained for capacity, forcing transport to be done by road to the harbour.

When analysing the company's fixed assets, it is known that the steel industry is highly capital intensive. AMSA has three blast furnaces and a corex process that are their primary routes of manufacturing hot metal. This is then converted to liquid steel and rolled into the desired products. Vanderbijlpark has two blast furnaces and a steel plant with three blast oxygen furnaces (BOF). It also has an alternate iron making route that uses direct reduction kilns (six) and an electric arc furnace (EAF). Newcastle has a blast furnace as well as a BOF, whilst Saldanha is a more modern unit, utilising a corex and a con-arc to produce steel. The fixed assets are on upstream units and are thus fairly inimitable as they require substantial resources to erect. They are also durable and appropriate for the volumes and products required by the markets. Some

steel products are substitutable as discussed in the previous section. However for the most, steel will not be completely substituted, but rather improvements in their properties sought for.

Blast furnace technology is old within the steel making business, but remains the primary route globally as it is the most efficient of all processes. Vanderbijlpark has many rolling divisions to produce its variety of steel grades and product portfolios. However, some of these are aged and require funds to either upgrade or maintain. Also, the EAF route has been stopped due to environmental reasons that require significant investment, as well as the currently depressed demand in the market.

However, the physical resources that AMSA has cannot be readily duplicated due to the costs to purchase them and relative unavailability of raw materials in South Africa. This would thus immediately add to a new company's cost of production. It is important to note that the local raw material supply arrangements that AMSA has, cannot be readily duplicated as there are not sufficient raw materials available locally. Iron ore can be purchased locally, but will be at market prices, unlike the preferential prices that AMSA has experienced in the past and experiences with some suppliers at this stage. Some of this benefit has been eroded as one coal and an iron ore mine which are captive are now approaching end of mine life and are becoming more expensive.

Human Capital Resources

The South African steel market is dominated by AMSA and they are seen as the monopolistic supplier. The company has also been in existence since 1934, and thus has created a pool of knowledge and expertise over the years. This expertise also exists within their employees and is seen as a source of competitive advantage. The sales, marketing, process and commercial divisions have personnel with extensive experience, who understand the local context, processes and customers.

Since post-apartheid though, the country has been exposed to greater global forces and now competes on the global market. Thus skills are now more readily available to be exported which previously were constrained to within the borders of the country. This has created a challenge for AMSA in that they have suffered a loss of technical and managerial skills to other global competitors as well as other technically related industries in South Africa. Skills within the industry are available; however the more specialised skills cannot be readily duplicated. AMSA has started introducing retention schemes to retain this pool of key talent, however there was no supporting evidence provided of its success.

Retention of human capital within an organisation is pivotal in ensuring sustainability within a company and the transference of knowledge. With some respondents raising a concern around the age of employees in certain divisions, this may be interpreted as a possible concern in younger employees effectively taking over these roles. Natural attrition is experienced in all companies, however there needs to be a sound system in place to ensure continued sustainability and performance.

A key competitive advantage to AMSA remains their belonging to a much larger global steel company. Thus intercompany skills and knowledge can be provided and this was stated by some respondents as well. The overall feeling suggests that AMSA does still have the necessary skills to take the company forward, but that succession and retention remain its key challenges.

Organisational Capital Resources

The increased globalisation faced by South Africa may have resulted in companies rethinking their resources in terms of what may be defined as strengths. The takeover and unbundling of the old Iscor by ArcelorMittal may be interpreted as a definite advantage for the company. The company which was facing major financial strain was turned around and had begun making considerable profits. However, the landscape post the 2008 financial crisis has once again changed and has forced organisational resources to be

reconsidered. Cheaper resources in comparison with other international steel plants have slowly started eroding or eroded already. With time, the company has experienced costs of purchasing at a global market price rather than a protected one. When faced with increasing input prices, it is essential that a company focus on its other internal strengths. When a company has operated within a market for a period as long as AMSA has, this provides the organisation with an understanding of the market and, more specifically, the customer, that other companies will not have. This is favourable to the company and creates an environment of greater certainty in decision making within the organisation.

With the shift in market dynamics, segmentation and needs, all the physical resources of the company may no longer be viewed as a competitive advantage. AMSA has, where possible, leveraged the knowledge within the global group to reconfigure and optimise these.

Human resources are always crucial in ensuring continuity, but its importance increases when these skills are required to manage some ageing assets. That knowledge is still available within the company and the broader group and has been leveraged when required in terms of skills transference and knowledge exchange. This is an internal strength and cannot be mimicked by any organisation.

What is of concern was a comment by a respondent that AMSA has very poor knowledge management systems. In order to harness the skills and knowledge within key individuals currently in the organisation, there must be a thorough system that can capture and transfer this. This will ensure continued strength of the organisational resource.

Analysis of combined resources

Having discussed the company's resources, the following key points may be listed using the resource based view (Barney, 1991; Collis and Montgomery 1995):

- The physical resources of AMSA are in most instances a source of competitive advantage. This statement is based on:
 - o The inland plants, with the exception of Newcastle are well suited for the local market, which remains the key target market for AMSA. This is where major costs related to the transportation of the products are reduced when compared to exporting. These plants are also highly specialised in producing the large volume products required for the markets.
 - o Saldanha is a new plant, with modern technologies being applied. It is ideally located for export due its coastal location.
 - o AMSA still obtains some coal and iron ore at preferential prices. However this advantage is at risk due to legal issues and mines reaching end of their lives.
 - o Some processing units are old and require increased investments in order to optimise.

- The company has retained many of their human resources but have experienced a loss of these, specifically just prior to 2008 and the subsequent period. This loss has been twofold, one through natural attrition and more worrying, the loss of key talent. The introduction of a retention scheme will aid in stemming the flow, however it remains critical that other processes be put in place to retain these individuals. Part of this may be offset with the skills available from within the global group that can be imported when required. However, in managing a certain process, understanding the local culture and context remains important, and this is only gained via work experience.

- The organisation systematically coordinates its physical and human resources to obtain competitive advantages. However, if the risks discussed around each of the resources are not addressed, the organisational resource as a competitive advantage is threatened. The ability to leverage both physical and human resources from within the

group is advantageous, and certainly cannot be duplicated by any other company readily. However, the global steel industry has been consolidating, and another global steel company will be able to enter with its own organisational resources.

When looking at the resources of AMSA purely within a local context, they are in a monopolistic position due to their size and market share. Also, due to their preferential supply of raw materials as well as certain technologies exclusive to them locally such as their blast furnaces, and fully integrated steel mills these are in most cases inimitable. Also they have imperfect mobility. Thus based on Peteraf (1993), most of the resources of AMSA on a local context may be seen as strategic and a source of competitive advantage.

AMSA does have the right human capital resources, in combination with its physical resources, to steer the organisation forward, but more research is required to understand whether the human capital referred to, are predominantly part of the 'ageing' and those that are at a possibility of resigning from the organisation, which if proven true, would imply that the organisational resources may not be sustainable. In addition, the current raw material supply agreement specifically on iron ore at a better than market price is also at risk, if the mineral rights arbitration does not go in favour of the company. This arbitration has added some strain in the relationship between Kumba and AMSA. The company still maintains strong relations with their customers, which have been established over many years. These can also be affected if AMSA does not have reliability of supply to them due to operational issues. The responses from the interviewees strongly suggests, from multiple responses, that the customer requirements is what AMSA produces, as suggested by Andersen (2010).

Thus, based on all the analysis provided above, the superior operational performance of AMSA in the local context is not defensible (figure 10). AMSA has indicated that they do aim to continue investing in their resources and capabilities in the future, not on expansion but rather on what is seen as strategic to the business. This will aid in allowing them greater opportunity to

defend their competitive advantage and not allow it to erode in the short to medium term.

5.4.2 Discussion on AMSA's capabilities

The change in the global financial markets and its ripple effect to all industries forced the steel industry to start taking drastic steps. These were the removal or temporary shutting down of production units to quickly adjust to reduced demand as well as drastic steps to preserve cash flow. These drastic steps tested the capabilities of AMSA, and all respondents suggested that this was done with speed and agility. Due to the size of the organisation, this is impressive as it does require transcending various business units, which is important, as described by Wheelwright and Clark (1992).

The product consistency which is imperative in markets where demand is suppressed is an AMSA priority, and meets market requirements. By a respondent's own admission, agility does exist but needs to continue improving as it is the new norm within the industry.

AMSA's acuity is also well established due to its length and expertise in the local market. This expertise also exists in its processes and information transfer as an enabler to meeting the customer requirements. The company is part of a much larger group, and this does present some speed of execution challenges due to the bureaucratic systems in place. This ensures that only necessary funds are spent, however the system must be streamlined in some manner to ensure that market opportunities are not missed.

Work by Swink and Hegarty (1998) also proposed a linkage from capabilities to product differentiation. The items highlighted on figure 17 are those applicable to AMSA. This is based on the fact that they are currently in a more steady state and not growth phase thus impacting some manufacturing and production outcomes.

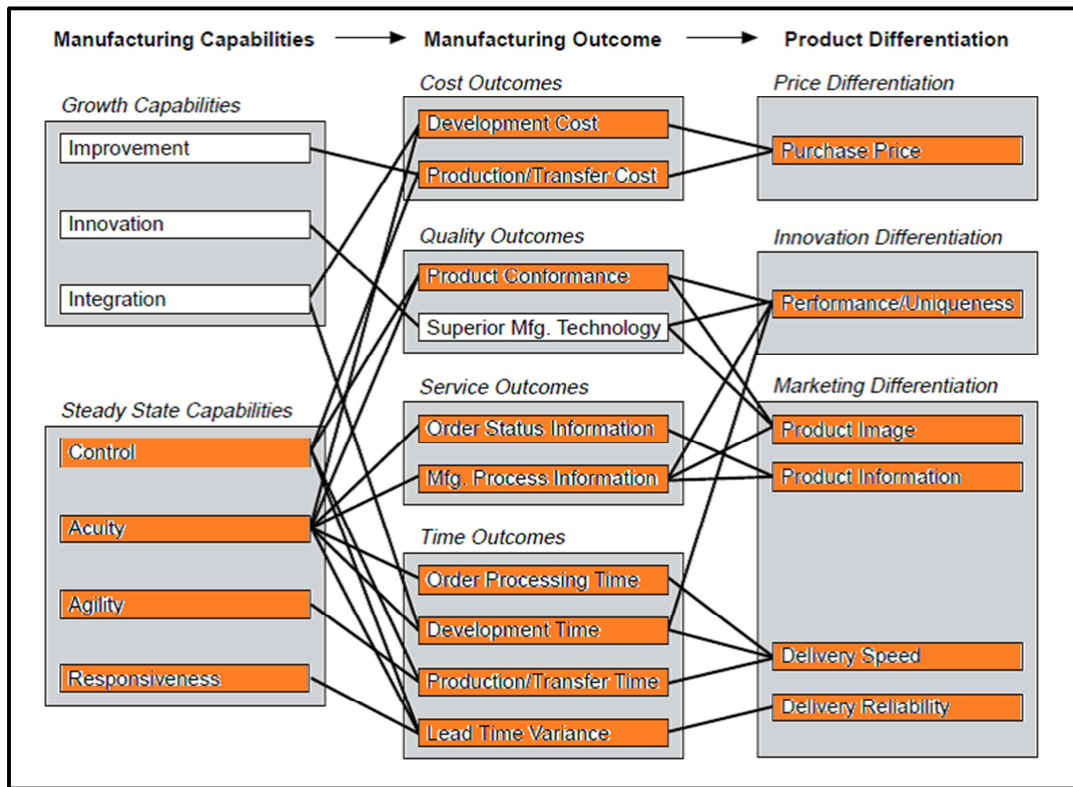


Figure 17: Adapted supportive manufacturing capabilities for product differentiation applicable to AMSA (Swink and Hegarty, 1998)

This figure highlights the need for AMSA to be in a position where they control their processes, possess acuity, agility in adapting to the market demands and remain responsive to the changes. Control and acuity capabilities directly impact cost and quality and service outcomes. As already discussed during the report, with steel prices under pressure and the need to retain market share, these two manufacturing outcomes are critical to ensure sustainability. The end result is a product that conforms to the customers' requirements, allowing AMSA to display added value in purchasing from them.

Finally, a general observation, that if true needs immediate attention, is the typical 'silo' approach observed after conducting the various interviews. This observation is based on the fact that many respondents were capable of adding to the interview questions, but restricted to their areas of responsibilities. A few people, predominantly from EXCO, provided a more holistic view of the company's internal environment as well as the challenges that it faced from the external environment. This observation may imply that strong *collaboration and*

communication between the different business units is not evident. This is crucial in ensuring that the position and capabilities fit together as part of the overall company strategy. This may seem contradictory to an earlier statement that discussed the speed and agility displayed by the company during the 2008 financial crisis. That was a quick reactive response with good communication and collaboration, but did not speak about forward execution in terms of a strategy.

5.5 Discussion pertaining to the research question

This section explains the results obtained from questions pertaining to the research question. The interview question responses pertaining to the overall strategies of the company, together with responses on the company resources capabilities are analysed. The section will discuss capabilities-based, financial, human resource and broader business strategies.

5.5.1 Discussion on capabilities-based strategies

The operational environment is being challenged by forcing operations to increasingly optimise in order to become more cost efficient and cost competitive. In order to achieve this, the company has spent the necessary maintenance on plants and invested in plants and products that are seen as strategic. As a respondent elegantly described:

“AMSA have now shifted from growth to optimisation in terms of assets, people, cost and products.”

The discussion and statement is supported by the literature (Kumar et al., 2008; de Figueiredo, 2009) and application in the case of Polish steel plants (Gajdzik, 2013). In order to achieve the desired objectives, the technology applied in some processes must be upgraded or replaced to allow improved efficiencies thereby decreasing production costs, improving labour productivity and meeting the quality requirements. Such decisions on investment are hard specifically during times of market demand contraction, but necessary if the company

wishes to have its capabilities and resources seen as a source of competitive advantage.

During the past few years, AMSA has experienced some large catastrophic incidents that have had financial implications for the company and interrupted services to the customers. Some of these events have been chilled hearth conditions at their plants as well as other catastrophic failures of structures and equipment at their furnaces. Hence, in order to achieve operational efficiency, these incidents must be avoided and the necessary systems put in place. In any manufacturing process, efficiency is a direct consequence of stability. The company must continue focussing on energy and quality optimisation as well. Respondents suggested that this has begun, but this remains critical in supplying the right quality product to the market and also decreasing the production costs. The strategy is quality and cost reduction driven. Such strategies require that the appropriate HRM practices be applied in addition to the inherent systems that define the way of doing things at the company.

Another operational strategy has been operating units at very low levels of production and adjusting productivity based on the market demands. This has tested the company's flexibility and such methods of production will become more normal going forward. However, in order to achieve flexibility in the operations, it requires that decisions can be made more speedily and to some extent, that companies decentralise. In addition, products to be manufactured must align with the marketing strategy so that the necessary investment in the appropriate and necessary technology can be made (Schorsch and Friberg, 1987).

The company has also embarked on a business improvement initiative. This looks at the business in greater detail by focussing at an operating unit level separately and implementing incremental change. Immense detail around current operational issues and successes is analysed. This in turn identifies opportunities to optimise, evaluates investment opportunities and redefines the manner in which the unit must be managed to extract maximum value. Such initiatives are excellent, but the execution of outcomes must be followed through to completion. This is a CI strategy, and such strategies have proven beneficial

in manufacturing firms (Singh and Singh, 2013). The most important consideration is that the correct organisational culture and employee behaviour must be created that enables all employees to take a sense of ownership, and that the programs are supported from the highest levels of the organisation.

The marketing strategies of AMSA will continue playing a pivotal role as this remains the link between the customer, company and operating units. AMSA has a clearly defined objective in terms of who their target markets are: The local market remains a key priority and protecting their market share is of paramount importance. With South Africa currently experiencing sub-par growth, they have identified certain markets within sub-Saharan Africa which they define as Africa Overland, as an extension to the local market. These are countries that are experiencing, and forecast to experience, increased growth in the short to long term.

With regards to market segmentation, there are some markets that have evolved past the technical capabilities of AMSA or are being taken up by substitute products. These markets, as was emphasised by a few respondents during the research, are of relatively low volumes in general. Thus, AMSA is strategising whether to exit these or to invest in those that have a sound business case, providing justifiable returns. This implies that the aim is to build capabilities that support the product-market strategy, which is defined as having an architectural marketing capability. The marketing discussion thus far supports the literature (Vorhies et al., 2009) as the company has identified the need to become more cost competitive, its target markets and thus its product differentiation. It is using its marketing capabilities in the form of specialised and architectural capabilities and ensuring that there remains a feedback mechanism between the markets, organisational objectives and business strategy. A possible risk remains that those markets that are exited provide a passage for the development of relationships between the customer and other steel manufacturers with the possibility of further loss of market share due to other product types also been purchased from them.

Finally, the marketing division is ensuring that the customer remains happy. This is a simplistic statement that, in order to realise, requires numerous facets

of the business to function systematically well. This in turn comes down to maximising the company capabilities in order to deliver a product that conforms to the customers' requirements in terms of cost, quality and on-time delivery. Considering the ease of obtaining steel from the global market, the company must ensure that they differentiate themselves on their product offerings allowing the customer to see value in buying from AMSA.

5.5.2 Discussion on financial strategies

A steel company, as mentioned on numerous occasions in the report, is capital intensive. The company must optimise its asset base by focussing on things such as asset utilisation and asset efficiency. A major part of the strategy thus far has been the preservation of cash flow, which is supported by studies on why companies keep more cash (Bates et al., 2009; Dasgupta et al., 2011). This has proven effective for the company, especially when any steel company is exposed to higher than normal market lending rates due to the risks involved in the business. Preservation of cash flow is necessary in such times provided that the company does not lose sight of what necessary funds must be spent and also taking on business opportunities that may require investments within a suitable period of time. Respondents have suggested that projects that are strategic and provide good payback periods are still undertaken, but some have raised a concern about the time periods needed to execute such projects. The scenario that AMSA finds themselves in characterises uneven inflows of cash and a financially constrained environment, thereby justifying the need to hold onto more cash (Almeida et al., 2004; Han and Qiu, 2007). However, it is even more important to manage the use of such cash in the short term on deleveraging the company and decreasing the overall debt position, and strategically spending it in the longer term on investments (Dasgupta et al., 2011). Cash flow is just one aspect of the working capital of a company. It is necessary to broaden such management to inventory levels, accounts receivable and payable as well as other short term assets. Managing working capital or liquidity is thus more important than just focussing on cash flow, and steel industries that have exercised such management have witnessed favourable impacts on the company profitability (Bhunia and Brahma, 2011).

5.5.3 Discussion on human resource strategies

It is not completely clear how AMSA desires to implement HRM that supports the business strategy. What was highlighted was the need to retain skills in order to ensure continuity, better manage their human capital in terms of understanding the people requirements and ensuring that any future downturn does not impact on their workforce. The company has already invested, and will continue investing, in its people to have a much better trained workforce when the market turns. In addition, focus will be given to train leaders to be more agile, flexible, understand uncertainty and be more proactive. This is crucial to change the mind sets of the leaders who are expected to steer the organisation through uncertain times. What was missed is why the above have been identified as part of the human resources strategy.

For HRM to be effective, the company needs to undertake a systematic approach in looking at the business strategy and what they desire to achieve from it (Schuler and Jackson, 1987). This will determine the desired employee behaviour and then guide the HR practices such as appraisals, compensation, recruitment and training and development. Such a systematic approach will benefit the company in realising better organisational performance and decrease staff turnover (Huselid, 1995). Such practices, where HRM is seen as a part of the business strategy, have yielded positive results for Indian and Taiwanese steel companies (Feng-Hui et al., 2010; Muduli, 2012).

The apparent lack of a knowledge management system, compounded by a loss in technical and managerial skill, has the potential to derail AMSA in achieving its desired strategies. With the desire to become more efficient, the HR policies must also form a basis from where employee productivity can improve. Thus based on the interview responses, greater thought in the HR strategy is recommended.

5.5.4 Discussion on business strategies

The complexities and price sensitivities that AMSA has been exposed to on the raw material input side has been described in the report. In order to counter

some of the challenges faced, the company does plan to backward integrate, and has undertaken steps to do so. This will be for coal as well as iron ore supply. Backward integration, as some respondents have described, will decrease variable costs and secure future supply. Some captive mines are reaching end of mine life and thus need to be replaced by additional resources. The rationale of backward integrating to obtain a more dependable source of supply at a more predictive price has been modelled in the past (Carlton, 1979). In addition, it also favours the “property right theory” proposed by previous researchers (Williamson, 1975; Grossman and Hart, 1986; Hart and Moore, 1990).

There are, however, several risks associated with integrating. To the steel industry this could be when raw material input prices are actually at lower levels than what it costs to produce, and when the business to be integrated is too far away from the core of the business. In order to address these, a steel company must consider the nature of acquiring a mining company. Even though the industries seem fairly integrated, a lack of the right skills, knowledge and management could result in increasing the production costs from mining, thereby negating any substantial benefit that could justify such an acquisition. A possible technique could be a joint venture that would minimise risk, and allow the mining company to retain their skills and manage the business as a separate entity. Other steel companies have already started backward integrating, as stated by Kearney (2011), and this has been prevalent within the ArcelorMittal global group as well.

An EXCO member, during the interviews, stated that the steel and mining units operate separately as their dynamics are different. This ensures that the profitability of either unit is not distorted and the steel business does not hide behind mining success. The purpose of this report is not to judge the merits of the mineral rights arbitration in which AMSA and Kumba are embroiled. However, a respondent mentioned that the rationale of the privatisation of AMSA was a fully backward integrated company and that the assets had been paid for.

An additional consideration that AMSA must give to becoming backward integrated is the possible perception that this could create with government. The relationships are seemingly slightly strained, and this sort of strategy may be seen as a bullying tactic by a monopolistic firm within the South African market. Thus, AMSA will have to continue engaging with government to ensure that the strategy and the dynamics behind it are understood by all stakeholders. It must not be seen as anti-competitive behaviour. This same philosophy will have to be applied if the company decides to delve further into manufacturing to secure its dispatches. This was a response from an interviewee, who pointed out that imports have, to a large extent, been from finished steel products such as nuts and bolts. Thus, forward integrating may also have to be evaluated as a strategy but the company will have to steer around the intricacies of competition law. A possible consideration must be given to setting up a Black Economic Empowerment (BEE) deal in complete ownership or joint venture companies between AMSA and a BEE company that can take ownership of further processing of the steel into finished products. This will enhance and add to the company's social responsibility whilst also securing its dispatches.

5.6 Conclusion

The collapse of the global financial system has prompted all companies to relook at their strategies. AMSA has been faced with numerous challenges, some created as a result of the financial crisis, others that are prevalent to the local market and some changes that affected the global steel business. From the analysis of the external environment, the single biggest deterrent to the industry profitability has been suppressed demand due to low growth. This low growth is a direct consequence of the lack of finance available post 2008 as investor risk appetite has decreased. The effect has been on the global steel markets and continues to exist in markets where growth is still moderate or negative.

This has also prompted customers in the industry to relook at their business models and preserve cash for as long as possible. The result has been contracted demand with sporadic purchasing cycles, forcing steel companies to

become more agile and flexible. When shorter periods of increased demand do appear, companies need to act speedily in order to capture the available volumes. Thus in a passive way, the buyers have experienced increasing buying power. In order to build this flexibility, requires the company to have systems and the appropriate technology conducive to executing the required capabilities.

Whilst the steel price has been under pressure since 2008, raw material input prices, such as coking coal and more predominantly iron ore, have experienced continued demand, thus driving these commodity prices higher. The net effect has been decreased profitability within the steel manufacturing industry that has forced companies to become more efficient in terms of all energy inputs, improving in productivity and profitability. In addition, AMSA has experienced significant cost increases due to electricity tariff rises. AMSA was also less sensitive specifically to iron ore price increases as they purchased all their iron ore needs at a cost plus 3% model. However, this deal is under judicial review and in the meantime, AMSA has experienced a 100% increase in its cost of iron ore, further affecting its profitability.

With profitability under strain, the key to survival has been the preservation of cash flow. This is to ensure that the gearing ratio does not increase substantially over the industry norm. It is advised that this be increased to include working capital management so that liquidity is better managed. AMSA is no longer in a growth curve but rather a consolidation phase with the aim of protecting market share. The most serious rival that AMSA has faced is imports that have taken up some of their market share. This has prompted a relook at the markets that the company services, exiting the low volume markets and redefining their target markets in terms of location and product offerings. AMSA is exposed to a fairly simple market where the bulk of the products do not require additional infrastructure and equipment to service. Some smaller niche markets have been targeted by other smaller steel mills locally and by imports and if AMSA wishes to partake in these products, the necessary resources and capabilities will have to be obtained. The company keeps quality and on-time

delivery core to their product strategy. The assets have been aligned as a means to attain this objective.

AMSA has also experienced increased pressure from government and buyers in terms of their pricing structures and have faced some tribunal hearings. Although no guilt has been found at this stage, these occurrences have tarnished their reputation and, in turn, affected investor confidence. More must be done to improve communication with the markets and to keep investors positive in terms of the future direction of the company.

The company has continued investing in its social responsibilities and continues earmarking capital to improve its compliance to environmental laws. This is an AMSA heritage which must be rectified, and the company is doing so on a yearly basis. Responsible corporate citizenship will remain a continuous focus of AMSA's.

The company is currently in a cost reduction and quality management strategy phase, where the necessary capabilities are being built to ensure that they remain competitive in the longer term. Such strategies are closely aligned with the recommendations from literature and other case studies on steel plants.

The company has continuous investment in its human capital and this remains strategically important in steering the company through these uncertain times and maximising opportunity when the market turns. The tough financial situation and negative sentiment surrounding the company has resulted in the loss of some key talent. The introduction of retention schemes and continuous training and development is earmarked to reduce this, however, the company needs to embark on a more holistic approach that wants people to remain loyal employees of the company. Such an approach must consider and compliment the business strategy, thereby ensuring that the correct HR practices are applied. There must be a greater appreciation of the value of human capital to the company.

AMSA has continued in its endeavour to backward integrate. This has been a trend within the global steel market; however cognisance must be given to the risks discussed. Forward integration may also be a consideration in order to

capture more value from the products. With the size and dominance of AMSA on the local market, possible anti-competitive behaviour allegations in the implementation of these may require prior consultation. The company must also consider forward integrating through a model that benefits the broader South African community as well as AMSA.

Finally, the company is in need of a systematic communication method that ensures that all employees of the organisation have a clear idea of the business strategy, so that individual business units can align themselves accordingly. It is not that this is non-existent, however the broader implications of the key performance indicators measuring business units is not always clear. This communication, with the CEO as the owner, will also help allay fears within employees as to where the company is heading.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter outlines the key findings of the research, thereby providing recommendations to stakeholders and finally makes suggestions for further research.

6.2 Conclusions of the study

From the collapse of the apartheid regime and the first free and fair elections of 1994, South Africa has become more integrated into the global community. This is necessary for a country to develop and compete on global markets. The country had experienced steady growth since 1994, without any major global market meltdowns. The crash of the global financial system in 2008 was perhaps the first real challenge that all multi-national and global South African companies faced. It was now time to act.

Globally, as well as locally, steel companies were hard hit. This is due to their dependence on economic growth as steel is consumed in construction, mining, food, automotive and the appliance sectors to name a few. South Africa has experienced low growth figures since, and the steel industry has experienced a rather difficult climate through this period. This has forced companies to re-strategise to survive in these periods and come out stronger when market conditions improve. The adaptation of a new strategy is justified when an analysis of the external environment in which AMSA operates is analysed. The financial meltdown has reshaped the forces in the external environment.

During the analysis of the external environment, it was clear that most of Porter's forces had changed. The analysis revealed how the operating environment had changed, and how quite significantly the forces and profits of the industry had shifted to the raw material suppliers, who seem to have prospered post the 2008 financial crisis. AMSA has also seen an increase in competing with imports, and this has also been a trend internationally. This has

been driven by oversupply and a low demand environment. The major growth points are still China and India, with most of the imported steel into South Africa coming from China. Most rivalry amongst competitors has been on the basis of price. The threat of a new entrant into South Africa is unlikely, as South Africa has a supply capacity of 10 million tons with demand of only 6 million tons annually. Also, with the increasing costs of electricity as well as the relatively low availability of raw materials in South Africa at reduced prices, and the major capital required to set up a mill, a new fully integrated steel mill is relatively unlikely unless backed both financially and with contracts from government. The likelihood of smaller finishing mills focusing on niche products is more likely.

Relationships between AMSA and the government leave a lot to be desired. This in the form of understanding the steel dynamics and engaging in more open dialogue in order to create clarity in terms of the company pricing models. This lack of understanding, or excessive pricing from AMSA has created tense relationships and resulted in AMSA being taken to task by the competition commission. AMSA's continuous spend on social, environmental and community upliftment is necessary in the modern business world as has been researched. Companies must give back to the communities in which they operate, as they consume the resources from these areas. A possibility that must be exploited is perhaps the introduction of an import duty on steel. However, this benefit should not only be of benefit to AMSA, but to the country as well.

One of the key decisions that AMSA is faced with, is exiting certain markets. This is as a result of technological enhancements in the product sectors as well as the considerable investment required if they desire to continue participating in these sectors. With restrictions on cash flow and available capital, the strategic importance of competing in the market segment compared to the risks of exiting them must be evaluated. These are smaller volume markets currently, and hence a longer term view is required. The target markets must be well defined, and the demand from these markets understood on a short to long term basis.

AMSA has been the longest operating steel plant in South Africa. With time and economies of scale, they have obtained considerable resources - resources that remain a source of competitive advantage when evaluated on various criteria recommended from literature. The plants are well equipped and well located for their major product demands. The location of plants such as Newcastle may be improved, but is impossible to do so due to the size of the infrastructure. They have also continued grooming and, until recently, retaining their human capital. The knowledge of their equipment, operations, products and markets is considerable. The risk though has been twofold: An ageing workforce and the loss of key talent and skills even in senior management. The company has suggested that these are being addressed, however more needs to be done in terms of succession planning and retention strategies. In spite of the cost cutting measures, continuous investment in the company's resources is required to ensure sustainability of the business. There needs to be greater clarity of thought in ensuring that the human resources strategy is aligned with the business strategy so that the desired outcomes can be achieved.

The capabilities of AMSA have been tested since the financial crisis, with an increased focus on speed, agility, acuity and control. These capabilities are the most applicable as the company is in a steady state and not a growth cycle. It is all about retaining and protecting your market share, whilst focusing on manufacturing products of a high quality, on time, every time. These must be sold at a competitive price culminating in the customer seeing value in purchasing products from AMSA. Thus the need to have a capability-based strategy that compliments cost reduction and quality improvements must be implemented. These strategies exist and there are many synergies with the recommendations from literature.

The abovementioned is only obtainable if the company focuses on improving efficiencies in terms of all their processes, thereby reducing manufacturing costs. Efficiencies can only be achieved with the right management and people, executing their functions effectively. The operational knowledge is available as they are part of a global group, however internally it may require some funds to be spent on maintaining the assets to ensure that they have an acceptable

availability and where technology gaps are apparent and need to be filled, that these are done.

There needs to be an immediate shift in the culture within all employees at AMSA. The company needs to function efficiently without having to rely on cheap input materials. Instead, that energy must be focused on maximising efficiencies and competing competitively on a global scale. If cheaper raw material input prices do realise, this must be viewed as a mechanism of earning supernormal profits, and not as a mechanism on which reliance is built to remain profitable. This once again necessitates that the correct strategies based on cost reduction and quality are implemented, if AMSA were to compete competitively on a global scale.

The latter in no way suggests that the company must not look into backward integrating. This has been a resurgent strategy amongst many steel companies, provided cognisance is taken of the associated risks. To the steel industry, backward integrating may secure supply and decrease speculative volatility, but both businesses must operate as separate entities. In addition, models such as joint ventures must also be evaluated in order to minimise risk.

With South Africa in the unique state where employment and the redistribution of wealth is strategically important, AMSA should pursue opportunities of possibly forward integrating. These must be structured in a manner where AMSA can secure its dispatches, deeper manufacturing can add value to the country and finally where the consumer can purchase a product at a reduced cost.

6.3 Recommendations

Throughout history, companies have continuously been forced to adapt their strategies to a change in the external environment. The global financial crisis of 2008 has perhaps been more severe and deep to certain industries, and steel is one such industry. The strategy discussed, is definitely more tailored to the local context in which AMSA operates. However, through the report, there has been

extensive elaboration when a specific change in environment or response from the company is more applicable locally as compared to globally.

For international companies operating in a similar environment, it is recommended that:

- The effect of the global financial crisis on their external environment is evaluated
- Their resources and capabilities are analysed
- Determining the applicability of their strategies relative to their analysis
- Many strategies discussed in the report, adapted by AMSA, have a sound theoretical basis, and hence will have wider applicability

For AMSA, they have adapted their strategies post the financial crisis but must focus on the following:

- Create a culture through its leadership that embraces change and acts as a means in the company becoming more agile and flexible. This is the new business norm, and the teachings from here will have lifelong applicability.
- Execute their desired strategies speedily, whilst still taking cognisance of the risks. The new market has opportunities that if not taken quickly enough, will be snatched by another company.
- Become more efficient in terms of all their energy inputs and processes. This will require money to be spent in maintaining or uplifting key processes, but if evaluated thoroughly will provide the necessary returns on investment and decrease production costs sustainably. Poor efficiencies, together with increased downtime of operating units have contributed significantly in eradicating improvements in other business units. This has contributed to a poor financial performance that has eventually shown up as a significantly devalued share price. Following through on the capabilities-based, financial and human resources

strategies will result in sustainable improvements in efficiency, improved productivity and financial performance.

- Continue engaging with government in a constructive manner. Strides have been taken, but when operating in a certain country and community, in order to be successful as a company requires mutual understanding and respect. Poor public perceptions are not desired.
- The target markets have to be defined. This is an important phase that must be followed by market segmentation and entering the strategic markets with greater purpose and the appropriate manufacturing technology. Africa has been identified by the global community as strategically important as well. Being an African country and company, AMSA must leverage this benefit to the best of their ability. This will also help define on which processes money must be spent.
- To harness maximum benefit from any strategy requires people. People that apparently do not stay long enough, in spite of their potential and importance to the company. Greater efforts must be focussed on retaining these skills. Skills retention is a product of good human resources management. Thus AMSA must ensure alignment of their human resource practices with their business strategy.
- A strategy is only as good as it has been communicated. There seems to be a lack of this within the company. Strategy is the navigator, and must be communicated to all employees in order to be effectively executed.
- Vertical integration is a strategy that has already been deployed by many steel companies. The merits as well as risks discussed in the report hereof must be analysed.

6.4 Suggestions for further research

This research has covered a broad look on strategies, and more specifically analyses how the environment and strategy of AMSA has and should continue to be adapted. In doing so, some items have been touched upon that would provide academic and practical insight if researched further. These are:

- The considerations to be given when forward integrating, specifically when in a monopolistic position
- A more in-depth analysis of each of the discussed strategies, namely capabilities-based, financial and human resources, in the context of a financially strained environment
- The preservation of cash flow, and its increased importance in industries with low financial gearing
- Aligning a workforce to effectively execute a company strategy
- Human resource strategies in companies faced with a tough economic environment
- Striking a balance between the needs of the country and that of a firm (this could be more focussed on a monopolistic firm)

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APPENDIX A

Setting up the interview

The rationale and logic of setting up interviews has been adapted from work by Irene Norgah (2007).

Introductory email correspondence to potential interviewee

Dear Mr. / Ms....., my name is Ebrahim Dadoo. I am an employee at ArcelorMittal South Africa, Vanderbijlpark Works. I am currently the production manager, Blast Furnaces and I am studying towards my MBA at Wits Business School. I am currently conducting research on analysing strategies adopted by the steel companies, post 2008 financial crisis. I am by this email, requesting an appointment at your convenience, in order to further explain the rationale for the proposed interview. I could also send you more information at your request, and conduct only the interview with you if you so agree.

Personal visit/follow up email if requested

Dear Mr. / Ms....., my name is Ebrahim Dadoo. I am an employee at ArcelorMittal South Africa, Vanderbijlpark Works. I am currently the production manager, Blast Furnaces and I am studying towards my MBA at Wits Business School. I am currently conducting research on analysing strategies adopted by the steel companies, post 2008 financial crisis. The research specifically explores the changing external environment to which the company is exposed to, and how the company is addressing these with regards to its strategy. I would require in-depth interviews and would appreciate it if you could make yourself available. The interview will be a maximum of one hour and all contributions will be treated with absolute discretion.

The results of the research are proposed to add value to the organisation in terms of its strategy formulation going forward.

By being part of this research, your office will receive a copy of the research report. I will be happy to further discuss the findings with your office at a date of your choice. I hope you would find the time to participate.

Schedule date, time and place of interview; preferably the interviewee's office.

Interview questionnaire

As mentioned earlier, a semi-structured interview will be utilised for the purposes of the research. Some of the questions will be as follows:

The changing external environment

1. What are the key changes in the external environment that face the company? (Use Porter's forces and PESTEL to guide the discussion)
2. Why has the external environment changed?
3. Are these apparent globally, or on a more local context only?

Change in the internal environment

4. What are the company's key resources and capabilities?
5. How has the company responded to changes in the external environment based on the company's resources and capabilities?
6. Does the company foresee to invest additionally in terms of its resources and capabilities?
7. What has been the response from other steel companies in the local market?

The company strategy

8. How have the changes in the external environment, together with the response from the internal environment help define the overall strategy?
9. What factors, other than those discussed already are important to the strategy of the company?
10. The company has indicated actively backward integrating to secure iron-ore. Is this core to the strategy and why?

Probing questions

These will be asked if any of the previous questions do not shed enough light on adding to the research

- Are emergent strategies isolated to the steel industry in South Africa, or do you think that it has applicability to the wider manufacturing sector both locally and internationally?
- In your opinion, does the current strategy add value to the shareholder, looking at the current share performance?

APPENDIX B

Consistency matrix

Table 4: Consistency matrix

Research problem stated here					
Sub-problem	Literature Review	Hypotheses or Propositions or Research questions	Source of data	Type of data	Analysis
Analysing strategies adopted by ArcelorMittal South Africa in response to a changing environment post 2008 financial crisis	(Porter, 1979) (Porter, 2008) (ArcelorMittal South Africa, 2010) (Barney, 1991) (Peteraf, 1993) (Collis and Montgomery 1995) (Stalk et al., 1992) (Rungtusanatham et al., 2003) (Swink and Hegarty, 1998) (Fuchs et al., 2000) (Carlton, 1979) (Chatterjee et al., 1992) (Aghion et al., 2006) (Riordan, 1998) (Desai and Mukherji, 2001) (Kumar et al., 2008) (Singh and Singh, 2013) (Bhunia and Brahma, 2011) (Pfeffer, 1994) (Muduli, 2012)	How has ArcelorMittal South Africa adapted its strategies post 2008 financial crisis to the changing external environment?	Semi-structured interviews Documentation such as: • Memo • Reports • Newspaper articles	Qualitative data from interviews in the form of transcripts and notes. Data from the other documentation	Analysis will rely on theoretical propositions and the technique of pattern matching

