

UNIVERSITY OF KWAZULU-NATAL

**The Factors Affecting the Sustainability of the Automotive
Component Industry in South Africa**

By

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for the degree of Master of Business Administration**

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DECLARATION

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ABSTRACT

The Automotive Industry in South Africa has undergone a major transformation process over the years and has evolved into a much sheltered and government supported industry. The recent wave of globalisation and liberalisation has brought about new challenges and opportunities which have forced companies to become more reactive to variation by intermittent, precipitous and cost-effective innovation through integrating the strengths of the local firm, such as creativity, flexibility and adaptability, with the innovation, technological capacities and overall market power and resources of internationally linked organisation. Due to the dynamic nature of the automotive industry, it was vital that South African organisations and management combine these factors to ensure a sustainable competitive industry, capable of competing on the worldwide platform.

This study is intended as an investigation into the challenges experienced by South African automotive component manufacturers with regards to growth and survival. To this end, the literature review was conducted to identify the challenges impacting the industry. Empirical research was then conducted through the distribution of a web based research questionnaire to each member of National Association of Automotive Component and Allied Manufacturer (NAACAM). This quantitative study analysed data collected through interviews from 114 companies in the database of firms. The results support the literature review and demonstrate that changes in the industry have certainly impacted the business relationships of the local firm which resulted in companies grasping on to an unsettled future in the local industry. From these findings, recommendations were made to assist in strengthening the industry's competitiveness. Whilst participation in global value chains has given the industry hope, other factors seems to weigh heavily on the progress of the industry. These factors are explored further.

Keywords: automotive, supplier, economic sustainability, emerging markets, South Africa, Globalisation, liberalisation, value chain, governance, market access

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CHAPTER ONE

Introduction

1.1. Introduction

“If the South African motor industry were to disappear tomorrow, the rest of the world would hardly notice” (Furlonger, 2013).

Vehicle and component production in South Africa is relatively small compared to international production output; however the industry is a major contributor to the success of economy of South Africa. It is for this reason that the topic relating to the industry has been chosen for further study. The purpose of this chapter is to provide the background to the topic and provide an insight into the significance of the study. The chapter describes the research problem and details the aims and object of the research highlighting the question that this study seeks to answer.

1.2. Motivation for the study

The South African Automotive Industry is a major cog of the South African economy and plays a huge role in the achievements of this emerging economy. It accounts for about 10 percent of the exports of the country and contributes about 7.5 percent to the GDP. The industry employs around 36000 individuals. It is also one of the fastest growing industries in the country (The DTI, 2013). The Automotive Component Industry in South Africa has undergone a major transformation over the years and with the latest trends of Globalisation and Liberalisation, it is uncertain as to what the future holds for the industry. The extent of the uncertainty is an area that has not been sufficiently explored by research in the past. Therefore this study is expected to uncover some of the key issues facing the industry in order to understand what influences the structure, strength and nature of the industry. The study is expected to be beneficial to a wide range of stakeholders including business owners, government policy makers, customers

and suppliers to the automotive industry. The result of this research is expected to provide a useful analysis of the dynamics of the industry as well as provide a unique perspective on factors affecting the sustainability of the local firm. Equipped with this understanding, the various stakeholders may be in a position to make valued judgments as to the process to be followed to ensure a sustainability industry.

1.3. Focus of the study

The Automotive Industry is the driving force behind the entire automotive value chain. There are predominantly eight light motor vehicle manufacturers in South Africa including Mercedes Benz, BMW, Volkswagen, Toyota, Nissan, General Motors and Ford (NAAMSA, 2009a). Over the years the nature of business has changed drastically as evidenced by the vehicle production. In 1999 the automotive industry has assembled 317 000 motor vehicles of which 8.5 percent were exported (Black, 2001). In 2007 vehicle assembly reached 535 000 units and there is an expectation that it will rise to 1.2 million by 2020 (DTI, 2013). The changes in the Automotive industry has had far reaching consequences for the automotive industry at large but none so significant as the impact on the automotive component industry of South Africa. The automotive component industry consists of approximately 350 firms and produces a full range of components for both the domestic and export market (Black 2001). As the result of the importance of the broader industry this sector has been selected as a focus for further study.

1.4. Problem Statement

The challenges facing the Automotive Component Industry in South Africa is manifested in the competitiveness of the industry with global markets and ultimately in the sustainability of the local firm. These challenges arise out of global integration and rapid liberalisation which shifted the world economies focus to emerging nations like South Africa. Whilst there has been positive spinoffs for the industry, the global economic down turn has weighed heavily on economy.

According to Naude (2011), the downturn has resulted in large scale downsizing of operation and business closures brought about by cost and financial pressures from the world economy and through relentless pressure from value chain leaders seeking to reduce costs. These challenges were further compounded by the increasing competition from other low-cost, developing economies. The combination of these factors has weighed heavily on the automotive component industry in South Africa. Whilst there has been positive growth led by large scale government intervention and the injection of foreign investment from developing nations there has been an equal amount of pressure placed on the South African component industry to meet world class quality, delivery, and technology and innovation standards. The ultimate challenge for the industry is to remain competitive with the industries of other developing nations like China, Russia, India and Thailand. The research therefore seeks to investigate the challenges facing the industry in order to understand the impact on the sustainability of the local firm.

1.5. Research Question

The problem statement illustrated the challenges faced by the Automotive Industry through global integration and the change in concentration toward the emerging markets. However it is still uncertain whether local suppliers in emerging markets can improve their competitive position in the global environment. In order to be able to investigate this phenomenon the following research question needs to be answered: What factors are influencing the economical sustainability of local suppliers in the South African automotive component industry? Following the initial research question the secondary research question asks what factors impacting on the competitiveness of the local firm.

1.6. Objectives

The following objectives will assist in addressing the research problem:

- 1) Determine the impact of OEM ownership change on the future of the Automotive Component Industry.

- 2) Gauge the impact of competition on the local automotive component firm.
- 3) Determine the impact of global sourcing on the competitiveness of the local industry.
- 4) Determine the impact of government support on the sustainability of the industry.

1.7. Limitation of Study

Whilst the study is structured to solving the research problem there are certain limitation to the research which needs to be understood. These include the following:

- 1) The scope of the research is restricted to the South African automotive component industry and cannot be used to form trends and opinions on other industries or developing countries.
- 2) The cross-sectional nature of the study limits the findings to a point in time and does not provide a balanced view over a period of time.
- 3) The data collected for each element in the sample represents the view and knowledge of a single individual within the firm.

1.8. Summary

The chapter provided an overview of the topic at hand and discusses the method of setting up the research. The research problem was introduced and the objectives and the limitations of study were explained. The following chapter sets out the details of the study progressing from the review of theoretical concepts to the methodology employed and then the review of the actual study. Chapter 2 presents the literature review and expounds the different views on the topic which provides direction for the research questions. The impact of globalisation and liberalisation are discussed in line with the impact on the structural changes in the industry. This is an important aspect of the study as it has major implications for the sustainability of the industry at large. Chapter 3 presents the methodology employed to undertake the study. The research design comprises a firm level survey conducted using a web-based questionnaire which samples the South African automotive supplier industry.

This section also describes how the data collection and analysis were conducted and how the quantitative data was gathered. Chapter 4 discusses the quantitative data which is used to investigate the relevant factors for the economic sustainability of automotive component suppliers. The quantitative data is analyzed using descriptive statistics. Chapter 5 presents the findings of the research and also provides implications for theory and practice with regard to the changing global automotive value chain. It also points to key success factors of the local suppliers in emerging markets. Finally, implications and opportunities for further research are pointed out.

CHAPTER TWO

Review of Literature

2.1. Introduction

The automotive industry is regarded by developing countries as a strategic sector because of its influence on the economy and as such is exposed to large scale protectionist measures to promote local production (Fuangkajonsak, 2006). The sustainability of the industry is critical to the success of the South African economy and has therefore been influenced by industrial policy programs that support the industry. Flatters (2005) assert that earlier policies have been extremely inefficient, imposing high costs and resulting in labour adjustments. Nevertheless, the various levels of policies have seen the Industry traverse a lengthy journey of transformation in suppliers, customers, systems and business relationships. Maxton and Wormald (2004:257) suggest that businesses will have to be economically redefined and reconstituted to achieve optimal balance between economies of scale and variety at each stage of the supply chain. This stage of realisation signalled the commencement of Globalisation which held deep seated consequences for the South African automotive component Industry.

The impact of globalization and the reintegration of markets into the global operating environment was a catalyst to the industry which saw a change in the OEM behaviours and subsequently a change in the nature and manner in which business was carried out in the automotive component industry. The following review discusses liberalization and globalization and the effect it had on the current industry. It also contrasts the impact of globalization and liberalization in emerging countries. Furthermore it reviews the demands placed on companies to change the nature of the business in a climate where only the strongest could survive. Finally it explores the impact of increased customer demands on the component industry and its impact on the sustainability of the industry and seeks

to establish if the component industry can survive the changing nature in the business environment?

2.2. Impact of Industrial Policy

By the end of 1970 and with the imposition of economic sanction, South Africa was forced into Import-substitution industrialization (ISI). This involved the implementation of policies that promoted the replacement of imports with domestic production to reduce the country's foreign dependency, thus encouraging local production. Import substituting industrialization policies helped to grow the domestic industry and created strong local ownership by creating high tariff barriers and artificial market support which according to Hartzenberg and Marudzikwa (2002); Kaggwa, Pouris and Steyn, (2007) was generally considered the best way of supporting the market. Although the concept was novel, these policies created a limping industry as described by the (BTI 1988) which claimed that the programs created a tendency to produce low cost, low technology components and created a high production cost structure.

The inefficiencies of the ISI policies were later addressed with the implementation of the Motor Industry Development Program (MIDP) which followed soon after the abolishment of the Apartheid regime in 1994. The automotive industry returned to foreign ownership while the automotive market was liberalized (Barnes and Morris, 2008). The MIDP was designed to help the industry adjust and increase its competitiveness in the new post-apartheid trade policy environment. The program comprised four principal elements which included the reduction of import duties on vehicles and components, an export-import complementation scheme, access to duty drawback programs for exporters and a duty free allowance on imported components. The MIDP created various opportunities however Flatters (2005) believes that that some of the program's alleged benefits, especially in terms of consumer interests and employment, have been overstated.

The implementation of the MIDP can be associated with the change in the environment especially with regard to the OEM ownership structure, which has a

bearing on the component sector. According to Barnes (2000a), OEMs that were locally owned were taken over by multinational companies and the industry was confronted with the international environment which was characterised by global changes in the value chain. Wad (2009) maintains that components and parts production was subject to resourcing to developing countries. The challenges of the industry would not have been as severe had the industry been competitive. The protectionist nature of the industry has been blamed for the uncompetitive state of the industry as viewed by Venter (2008) who claims that companies become inefficient in an industry where production and local sourcing is artificially protected, and because they relied on artificial support they become globally uncompetitive. Flatters (2005) further supports this view by arguing that South Africa's auto-materials cost are much higher than those of key competitors and this has been caused by production and investment distortions arising from the subsidisation through the MIDP. He further believes that the MIDP can lead to socially extravagant activities becoming privately profitable and losses from activities whose costs far exceed their revenues can be made financially sustainable by offsetting MIDP subsidies.

However, in a more positive light, the MIDP has provided generous assistance to the motor industry which has responded with major internal reformation resulting in generous investments, accompanied by rapid growth of both exports and imports (Flatters, 2005). In that sense the program can be considered a success, however, as Flatters (2005), pointed out, a taxpayer and consumer subsidised adjustment cannot and should not go on forever and but more importantly the adjustment to liberalised domestic market is concerning in light of the sustainability of the industry.

2.3. Liberalisation

Liberalisation refers to "the removal or reduction of restrictions or barriers on the free exchange of goods between nations for the purpose of promoting free trade", (Investopedia. 2012). The barriers we refer to in the automotive industry are the

policies created by the government to protect the industry and to encourage local growth.

2.3.1. The benefits and cost of Liberalisation

According to the Automotive sector study (2007) the economic impact of liberalisation is expected to benefit the industry by promoting amplified productivity and subsequently enticing foreign investment flows to the automobile sector. Trade liberalisation increases the competitiveness and export potential of the sector and increases the return from investments. Moreover it improves openness and promotes international competitiveness of vehicle manufacturing and component production, The benefits of this exposure to competition is increased efficiency, improved productivity gains and opportunities for new investment and the added prospects of attracting new investment into the sector (Automotive sector study, 2007).

Domestic producers, however face short term pressure, as they adjust product design and productivity to meet the challenges of competing with imported parts for use in domestic market. Black (2006) maintains that “in any process of liberalisation, import expansion would be anticipated but successful adjustment may require new investment and growing efficiencies to at least partly offset the impact of declining protection”. The automotive sector study (2007) found that if liberalisation surpasses the rate at which domestic firms can adjust, there could be an adverse impact on employment and production which ultimately results in inefficient firms downsizing their operations or even closing down.

Black (2011) states liberalisation has a “shattering effect” on the industrial structure because the industry was previously protected. The impact is greater because of the role played by international markets in an environment where the low volume, flexible producer servicing the domestic market is transformed into a high volume supplier. Operating as locally owned entities, reliant on licensed technology became increasingly difficult for firms that were exposed to international competition. To continue as first tier suppliers, foreign relations, including foreign ownership in some cases, became necessary in order to source technology and advance access to global networks. Growing foreign ownership in

turn has a range of implications for domestic firms and for the industry as a whole (Black, 2011).

2.4. Globalisation

Globalisation, relates to the increase in economic trade and other activities taking place beyond the borders of the nation and can be described as “the process whereby distance is becoming less of a barrier to social, cultural and economic interaction” (Ballard, 2001).

2.4.1. Potential benefit of Globalisation

Chang et al (2012) believes that globalization has affected the conduct of business through the alteration of global supply chains and global value chains brought about by precipitous technical progress, modern transportation and communication infrastructures, falling trade and investment barriers, and the materialisation of developing, low-wages economies. Balakrishnan (2004) maintains that Globalization has created opportunities for developing countries arising from greater access to developed markets and technology which provides aptitudes of superior productivity and higher standards of living. However, he also notes that the globalisation can be constrained by the barriers to trade. This is the basis of argument that aims to establish if the South African Component Industry is struggling to deal with globalisation as the result of previous barriers to trade created by government policies and exacerbated by the rapid liberalisation of the industry.

2.5. Impact of Liberalization and Globalization on the South African Automotive Component Industry

Liberalisation and globalization has been the catalyst that resulted in the transformation of the South African Component industry and has created vastly different outcomes. There is little doubt that Industrial policies have played a major role in developing and guiding the Automotive Industry in South Africa. Black and Bhanisi (2006) believes that the composition of the industry is more robust than it

was and that increase in investments has been made in equitably high production volumes, and economies of scale have been achieved. Fuangkajonsak (2006) supports the view that Industrial policies have created successful competitive industries in many countries and has been responsible for keeping not-so-competitive industries alive. However it has also been the cause of the failure of the industries resulting in high costs with little impact on industrial competitiveness.

The industrial policies adopted, by the South African government, before and after 1960 was implemented to grow the local industry through the imposition of high tariffs and the promotion of local content (Black, 2002). These policies were implemented in phases. Phase V1 was probably the most transformative phase which gesticulated a modification in the industry behaviour from one of import substitution to export promotion. The target objective of this phase was to expand the size of the market and to increase rationalization in the built up vehicle and component markets. Despite the component sector initially showing rapid expansion, the objectives proved more difficult to achieve and resulted in low production scales and high costs which were perceived to be the problem in both the vehicle and component sectors (Black, 2002). Furthermore while the objectives of Phase V1 was to rationalize production the impact of heavy fortification has resulted in proliferation whereby manufacturers build a variety of models on the same assembly line (Black, 2001).

Ballard (2001) asserts that international trade is rules-based and thus governments have to allow foreign producers access to local markets in exchange for local producers to gain access to international markets. The lowering of trade barriers means that governmental protection previously offered to local firms is reduced, unmasking the intense competition from foreign firms (Lorentzen and Barnes, 2004). Thus the continuing lessening of benefits and the liberalisation of the protected industry subjects the South African industry to global markets. Integration of markets with global markets implies that companies now face the challenge of competing with global suppliers for business. This new challenge was made more difficult as the result of the rapid promotion of import protection afforded by the MIDP. Flatters (2005) believes

that although the MIDP provided incentives to rationalise production into a smaller range of products and achieved economies of scale through exporting certain products, it also created an opportunity to freely import other products and components. In this regard the policy was of concern to the local component firm because OEMS were now in a position to import products previously supplied by the local firm through a system of offsetting import duties on components and vehicles with rebate credits derived from export programs. The resultant impact of freely importing components challenges the local firm to compete with global players. This was seen as a major step towards the unlocking of the South African industry to global markets. The South African component manufacturers who derived their turnover from the OEM interaction faced an uphill battle to compete for business with global suppliers as OEMS sought lower prices and didn't have the obligation to fully support local content that was considered to be highly priced. Black (2001) believes that trade liberalisation tends to lower the prices of free products in comparison to domestic market goods and similar commodities available internationally.

Barnes (2000) argued that the automotive component manufacturers appear to have suffered enormous economic difficulties as a result of their rapid exposure to international competition through market liberalization. This has indeed been the case and is generally viewed as the reason for the declining margins of many automotive component manufacturers. Furthermore the protection afforded to the South African Automotive Industry and the subsequent liberalization of the markets has affected the sustainability of the automotive component industry and it is arguable whether similar effects would have followed in other emerging countries.

2.6. Liberalization and Globalisation of Global Automotive Industries

Lecler (2000) doubts whether local suppliers in emerging market have a future from an economic perspective or whether they can sustain their access to the globalized automotive value chain; especially when trade barriers like import regulations and duties are being minimized. However, according to Black (2006),

rapid liberalization has varying outcomes for the different emerging markets and may even result in economies attracting inward investment due to high productivity, lower labour costs and close proximity to markets. On the international front, liberalization of markets has yielded vastly contrasting results. Some markets have shown positive growth, while others have had an adverse impact on the sustainability of the automotive industry. Fujitha (1997) maintains that the move towards liberalisation can be understood as a test of success or failure of past industrial policies in developing a competitive industry.

2.6.1. The industry of Thailand & Malaysia

The industries of Thailand and Malaysia have adopted different approaches towards dealing with liberalisation which was dependent on the policy and resulting development pattern of the automotive industry.

In Thailand, the private sector took the lead role in protecting the industry and the government only intervened in in the early years to offer protection and restriction. (Fujitha, 1997). Policy changes and the constructive environment with mounting domestic demand coupled with globalization and the increase in foreign domestic inflows has created vast opportunities for the Thailand Automotive sector by taking advantage of the liberalisation progress (Fujitha, 1997).

In contrast the Malaysian government guided the industry much more firmly with policies that helped expand the national car firm without being exposed to competition. The policies did not achieve the desired results as firms were not exposed to competitive pressure. The failure of policies to strengthen the firm's competitive edge is expected to make competition with other manufacturers extremely difficult (Fujitha, 1997).

2.6.2. Industry in other developing countries

The growth prospects of global industries through liberalisation have been affected differently. Black (2006) has identified four varying prospects for growth:

- 1) Big Emerging markets (BEMS), such as China and India who have huge potential for growth,

- 2) Brazil, Poland who are on the periphery of large emerging markets,
- 3) Argentina, Thailand and Malaysia who form part of regional trading blocs (Mercosur and Asean),
- 4) Mexico, Czech Republic and Poland who are on the periphery of large emerging markets and countries like Korea who have independent strategies.

Although these countries have been exposed to liberalisation of their markets in some way or the other they had a distinct advantage over South Africa in that they were exposed to global markets while South Africa was being sheltered from global competition through industrial policies (Black, 2006).

Humphrey (2004) lists two main competitive disadvantages faced by latecomer firms when attempting to compete in global markets. Firstly, since latecomer firms are far from developing countries, they are typically cut off from the technological exposure and secondly, they are far removed from major international markets and consumers. Thus latecomer firms possess weak capabilities in the areas of marketing, design and technology. However, they do have one advantage stemming from their location, which is an abundant supply of low cost labour (Miotti and Sachwald, 2001). The only entry strategy latecomer firms typically have to enter global markets is to focus on performing the more labour-intensive value-adding functions.

Global automotive firms have taken advantage of the favorable growth in developing industries by seeking out the cheaper locations. This has implications for how South Africa is regarded by major global markets and how they elect to position South Africa within worldwide networks (Black and Banisi, 2006). South Africa does not have the necessary attributes of big emerging markets and home grown firms or government strategies to be able to drive a successful independent strategy similar to those of big emerging markets like China and India (Black, 2006). Whilst the deficiencies of the South African Automotive Industry and the inability of the industry to develop a strategy has been highlighted, the increased importance of South Africa as gateway into Africa is often overlooked as a strategic advantage because of its positioning on the doorstep of a major untapped market. Furthermore the incorporation of South Africa into the BRICS

community affords South Africa the advantage of being party to a significant trading bloc with market benefits yet to be explored.

Wad (2010) believes that “few developing country automakers and 1st tier suppliers have survived the globalisation of the auto industry but the emergence of strong local automakers in China and India indicate that indigenous firms and networks may still be able to catch up and withstand intense competitive pressure from global automotive giants”.

2.7. Challenges facing the local component Industry

Globalisation and liberalisation has created challenges for the Automotive Component Industry in South Africa which if overcome can lead to the success of the industry. These challenges are evident in the following areas:

- a) Business Ownership changes (including mergers and acquisitions that have commanded the formation of global players who provide admittance to global communication) (Barnes & Morris, 2008)
- b) Competition (the intensification of which results in deteriorating financial performance levels (Barnes & Morris, 2008).
- c) Value chain adjustments (the characteristics of which define the nature and structure of operations) (Barnes & Morris, 2008)
- d) Technology Changes (Pietrobelli and Rabellotti, 2008)

2.7.1. Business Ownership Changes

As the result of globalization and the subsequent increase in foreign investment and trade, local OEMs were incorporated into multinational corporations. Foreign ownership has been advanced as the result of the increase in the number of locally owned firms producing under license agreements, having been bought out by foreign multinationals or entered into joint ventures (Black, 2001). Since 1990 the ownership structure of most OEMS have been transforming at an alarming rate. Table 2.1 below shows the change in ownership until 2007.

Table 2-0-1. OEM Ownership Changes

Changing ownership structure of South African based vehicle manufacturers South African Assembler				
	Ownership: 1990	Ownership: 1998	Ownership: 2007	Ownership: 1990 to 2007
Toyota	100 percent local (listed on Johannesburg Stock Exchange)	Local: 72.2 percent (JSE listed) Toyota (Japan): 27.8 percent	Toyota: 75 percent Wesco (South Africa): 25 percent	SA to Transnational Company (TNC) - dominated Joint Venture
Volkswagen	Volkswagen AG: 100 percent	Volkswagen AG: 100 percent	Volkswagen AG: 100 percent	TNC – no change
BMW	BMW AG: 100 percent	BMW AG: 100 percent	BMW AG: 100 percent	TNC – no change
Daimler Chrysler	Daimler Chrysler (Mercedes Benz): 50 percent, Local 50 percent	DaimlerChrysler (Mercedes Benz): 100 percent	DaimlerChrysler : 100 percent	Joint Venture to TNC
Ford	100 percent local (Anglo American)	Anglo American: 45 percent, Ford: 45 percent Employee trust: 10	Ford: 100 percent	SA to TNC
Nissan	87 percent local, Nissan Diesel: 4.3 percent, Mitsui & Co. (Japan): 8.7 percent	Sankorp (local): 37 percent, Nissan: 50 percent, Nissan Diesel: 4.3 percent, Mitsui: 8.7 percent	Nissan: 87 percent, Nissan Diesel: 4.3 percent, Mitsui: 8.7 percent	Primarily SA to TNC
General Motors	100 percent local (management)	Local managers: 51 percent, General Motors: 49 percent	General Motors: 100 percent	SA to TNC

Adapted from Barnes J. & Morris M. 2008. Staying alive in the global automotive industry: What can developing economies learn from South Africa about linking into global automotive value chains? *The European Journal of Development Research*, 20(1), 41

Major restructuring has led to ownership changing hands leaving only a small portion of local ownership whilst a large portion is controlled by Trans National Corporations (TNCS). Barnes (2008) maintains that as the result of integration of local OEMs with their parent networks, all of the assemblers became majority-owned by their international parent companies. The implication for the industry is that the key decisions on vehicle sourcing from different regions are made by a handful of global companies and local subsidiaries are thus expected to actively compete for vehicle export contracts (Barnes, 2008).

This trend has had major implications for the South African Component industry. Barnes (1998) highlighted that a systematic restructuring of the relationship with South African automotive component manufacturers resulted from the rapid assimilation of South African-based OEMs into their parent company's global operations. Black (2009) believes that Multinational carmakers also have a major influence on where the bulk of component production takes place and can encourage suppliers to relocate or establish production in South Africa or in any other location.

Component manufacturers were persuaded to form relationships with Multinational Corporations (MNC) in order to meet global standards of quality, design and development. The decision was made largely due to component suppliers possessing outdated technology which, although sufficient for the local market, could not be used for the export markets. Investments were necessary for technology upgrades which were deemed to be excessive. In an environment where low volumes prevail it is increasingly difficult to absorb investment costs without the required economies of scale. Black (2006) comments, that the highest production volumes per model were about 40,000 to 50,000 units per year and this did not justify upgrades in the domestic component industry. The problem was expected to be solved by the injection of foreign direct investment which would have allowed companies to upgrade technologies. The consequence of not complying with the request for realignment of the business relationships was that that products previously manufactured by South African companies would be sourced from internationally companies. Barnes (2004) demonstrated that

changes in the Component Industry have taken place in order to meet the demands from OEMs and also to strengthen the position of local supply Table 2.2 demonstrates these changes from 1997 to 2003.

Table 2-0-2. Ownership Status

Ownership status and technology used by SA-based component manufacturers supplying SA-based assemblers (n = 4) (percentage of purchase value) Category			
	1997	2000	2003
Wholly owned subsidiaries of TNC automotive component manufacturers	26	31.7	37.5
Joint ventures between SA companies and TNC automotive component firms	18.5	26	32.5
SA companies with technology agreements with TNC automotive component firms	29.8	24.3	20
SA companies with South African technologies	25.8	18	10

Adapted from Barnes J. & Morris M. 2004. The German connection: Shifting hegemony in the political economy of the South African automotive industry. *Industrial and Corporate Change*, 13(5), p797.

The trend has been a move away from South African technologies to one of technologies supported by TNCs. This is evident from the increase in wholly owned subsidiaries of TNC automotive component manufacturers from 26 in 1997 to 37.5 in 2003 with a sharp decrease in SA technologies and technology agreements (Barnes and Morris, 2004).

On the other hand trade liberalization and the exposure of the Automotive Industry to Global markets has not only impacted the competitiveness of the component manufacturers but has also caused the migration away from purchasing from local companies to a strategy of purchasing from Multinational Source Corporations (MNC) leads. The face of local component manufacturers therefore had to transform in order to survive in the industry.

Barnes (2000) maintains that South African first tier automotive component manufacturers could not survive in the long term by simply having licensing agreements with MNC lead source suppliers. There had to be an injection of equity into the South African market which entailed the setting up of joint ventures and subsidiaries with MNC who were source directed by OEMs. This arrangement afforded the opportunity for suppliers to compete with international market players and reposition themselves in the value chain of OEMS (Barnes, 2000).

Unfortunately, suppliers who did not integrate with global industries had a tough battle to secure future contracts with OEMs. Black (2011) points out that firms which are fully integrated into global networks operate with advanced technology and attain higher levels of productivity than those which supply domestic markets. Many were however forced to close down operations or venture into other industries. The change in ownership of many component manufacturers has seen the transition from local South African industries to a hybrid of international and local entities. Black (2011) believes that competitive pressures and demands of customers have driven the need for firms to integrate or re-position themselves within global value chains and this entailed the introduction of a foreign partner or even the takeover by a foreign firm. While this relationship may have initially damaged the local suppliers, the long term benefits resulted in the strengthened industry backed by foreign investment that favoured the sustainability of the component industry.

Humphrey et al. (1998); Barnes and Kaplinsky (2000a,b) claim that the reason why TNCs have purchased nationally owned component firms in developing economies through liberalisation is twofold ; firstly TNCs are becoming more acquiescent to assuming design responsibility as the result of the reluctance of developing economy firms to provide any local design services. Developing economy firms prefer to obtain designs from the lead source companies who themselves are unwilling to share intellectual property for competitive reasons, and also because of the inability of developing economy firms to internalise the cutting edge technologies deployed with new vehicle generations. Secondly lead sourcing suggests that TNCs are accountable for the global quality of its products and therefore they must answer for the poor performance of developing economy firm

manufacturing under license. Given the risks associated with this arrangement many large TNC component firms have purchased smaller, developing economy competitors and established a global presence. The net result has been a profound restructuring of ownership and results in 'the death of the local firm' (Barnes and Kaplinsky, 2000a, b)

Despite the benefits afforded to industry by combining businesses, the critical issue of cost competitiveness and the continual benchmark of local prices to those of other emerging countries needed to be addressed

2.7.2. Competition

Barnes (1999) emphasizes that there appears to be a global overproduction in the automotive industry which continues unabated and this is unlikely to improve in the short term. Vehicle manufacturers therefore face "tremendous pressure to improve the competitiveness of their products by way of price, quality, reliability and innovative designs in order to increase sales and thus generate profits".

One of the main reasons for the uncompetitive nature of the industry is the level of import content in products manufactured by South African firms. The South African automotive industry has a low percentage of local content in the final product and this contributes to the industry being on average, 20 percent more expensive as a vehicle manufacturing base than Western Europe. On the other hand China was 12 percent less expensive than Western Europe therefore South Africa is 30–40 percent more expensive than China and India (Venter 2009a, 2009b).

"The South African automotive industry is also experiencing many challenges due to saturation of demand and intense competition; more demanding customers with increased preferences, reducing profit margins and increasing fixed costs; and developments in information and communication technologies" (Buzzavo 2008:105; Ambe & Badenhorst-Weiss 2010:2110). This has placed tremendous pressure on the OEM to drill down into the competitiveness of local automotive component manufacturers.

Local automotive component manufacturers are not as competitive as suppliers from other emerging nations like India and China (Naude, 2011). This has been cited as a major contributing factor affecting the sustainability of the component industry. According to the Automotive Industry Development Centre increasing operational complexities within the automotive industry, rising fuel prices, higher manpower costs owing to higher living costs and growing pressure from China and India to remain competitive have led to the industry's growing awareness of the impact that an efficient supply chain can have on business sustainability (Gabru 2008). Despite these factors local suppliers are being placed in competition with global suppliers who are characterized by vastly lower cost bases.

Furthermore local suppliers are being forced by the OEMs to absorb further economic increases arising from rising costs without obtaining equal relief from OEMs. According to Roland, Berger and Rothschild (2008), First tier suppliers are sandwiched on one side by OEMs and consumers and on the other by financial pressures and raw-material markets (see fig 0.1 below). Coupled with this is the challenge faced by local suppliers to meet stringent targets set by OEMs under economic conditions not similar to those experienced in other global markets.

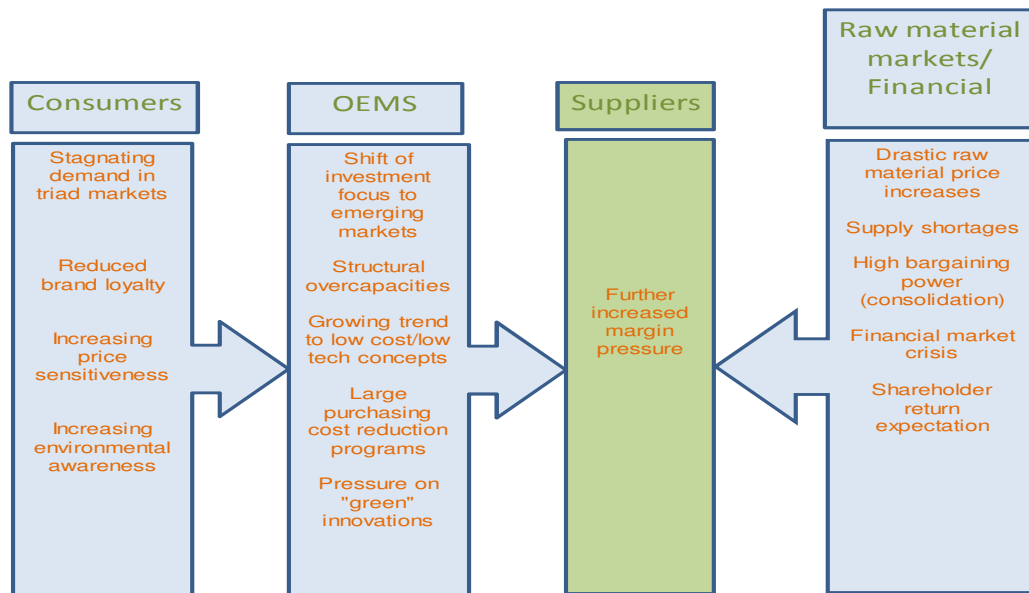


Figure 0-1. The Automotive Power Play

Adapted from Roland Berger & Rothschild. 2008. Global Automotive Supplier Study 2008. [Online] available: www.rolandberger.com. Accessed: 03 September 2012.

Black (2009) identifies the following demands on component suppliers that place competitive pressure of the local firms.

1. Fixed term cost down contracts. OEMs demand that first-tier suppliers set percentage cost-down contracts without consideration of inflation, over the product lifecycle
2. Once-off price reductions on new products. With each new model released, OEMs demand component suppliers manufacture their new products at substantially reduced prices of up to 20 percent. Integrity and product quality must also improve, despite the cost reductions.
3. Enhanced just-in-time (JIT) supply. OEMs increasingly demand more frequent JIT deliveries to reduce their overhead cost structures, improve internal controls, and better control their working capital.
4. Improved quality performance. Tied to production processes, component firms are now also expected to supply perfect quality products, progressively reducing failure rates to customers,

5. Adherence to environmental standards. In line with the environmentally polluting nature of certain aspects of automotive production, OEMs are also demanding that their component suppliers stringent quality accreditation.

The implications of increased costs with reduced product selling prices are substantial, forcing first-tier component firms to squeeze their own suppliers, or re-source to cheaper locations, resulting in intensive competitiveness pressure throughout the supply chain. Given the growing importance and competitiveness of the large-scale automotive industries in China, India and to a lesser extent Thailand, many OEMs and first-tier component firms are looking to re-source their supply to these locations (Barnes, 2008). Asia is expected to substantially increase its contribution to global vehicle production by 2012, thus challenging the European Union and North America as the world's most important production locations (Barnes, 2008). This then begs the question; what becomes of the developing economies, including South Africa that contribute to economic wealth but are caught between developed industries and rapidly growing, highly competitive Asian economies?

The full impact of this exposure is being felt in the industry which has seen major changes in the companies participating in the supply to the OEMs. In the process, some companies have fallen prey to the hardships of the time and are no longer participants in the component supply business. The position has been made worse by the global economic crises that had far reaching implications for the South African Automotive industry. The current economic crisis has contributed to about 50 percent of the Top 30 automotive suppliers being in in fiscal danger (Blome et al. 2010:714).

Following the global crises, revenues and profits seem to be back "on track" but structural issues like the increase in factor costs and price pressures from the OEMs are still challenging the industry. Therefore, it is expected that margins will be under threat in 2011 and beyond, and structural underperformers in the supplier industry will fail when volumes decline again (Roland Berger and Lazard, September 2010: 2). This matter is supported by a KPMG (2010) study which

points out that upper value chain profitability is expected to decrease and tier-3 suppliers will be under threat from a profitability point of view.

Sustainability in an environment of falling protection and assistance is a function of cost competitiveness (including factors like labour, material and logistics) and more dynamic attributes, such as production volumes and productivity improvement over time (Black, 2009: 506). This will force the resource of business to low cost regions. The move to lower cost regions will be driven by two forces: Cost and demand. The cost of labour in emerging markets continues to be a fraction of that in the developed world. Furthermore, to take advantage of the expanding population in emerging markets, OEMs will transfer production closer to their biggest source of new customers. For example, Greater China and South America will represent more than 50 percent of growth in global light vehicle production from 2008 to 2015 (Deloitte, 2009)

Component firms struggle to make progress in the industry even with the emergence of TNC first-tier component firms who have not been able to provide greater leverage over the OEMs. OEMS still control pricing and distribution of business due to their consolidation which has given them global reach in respect of purchasing thus allowing them to play off large first-tier automotive component manufacturers on a global scale and squeeze their profitability levels. (Barnes 2008).

2.7.3. Value Chain Influences

Chang et al (2012) describes a value chain as the complete process of value added activities required to bring a product from its conception, through design, sourcing raw materials and intermediate inputs, production, marketing, distribution and support to final consumers. The conventional value chain has been transformed through Globalisation and the resultant changes taking place in the industry. Change et al (2012) ascribes rapid technical progress, improved transportation and communication infrastructure, falling trade and investment barriers, and the emergence of developing, low-wages economies to the

fragmentation of the traditional vertically integrated production model which resulted in the emergence of increasingly interconnected and complex global value chains. The South African automotive industry, which has been equally affected, has historically depended heavily on imported technology because of the high protection afforded to the industry (Black, 2011). This dependency on imported technology has resulted in deficiencies in the value chain as OEMs import components used in production and then export the locally manufactured vehicles causing the accumulation of cost which affects the competitiveness of the local production (Naude, 2011).

Furthermore Component Firms that are locally owned firms find it increasingly difficult to embark on any sort of export strategy because of the restrictions imposed on exporting by their license partners in European, Japanese and American firms. The only cost effective way of obtaining technology for these firms is via license agreements (Black, 2011).

South African firms have not been upgrading their technology and therefore have lagged behind in relation to other developing countries to meet Global production's technological complexity requirements (Naude, 2011). As the consequence local firms battle to compete against developed and developing countries. Barnes and Morris (2008) believe that OEMs in developed and developing economies determine the level of the automotive activity as well as the technology, production process and research and development which determine producer specifications and assists process efficiency of their suppliers and customers. The Auto industry is seen as a producer-driven value chain with the major OEMs commanding a pivotal role in the coordination and the production of the network (Dicken, 2003). In this type of network OEMS lock the large and important tiers of component suppliers into dependency relationships – called 'global connectivity', 'follower sourcing', and 'lead sourcing' (Dicken 1998; Humphrey, Mukherjee, Zilbovicius and Arbix 1998; Barnes and Kaplinsky 2000a, b; Barnes and Morris 2004).

OEMs control the value chain by controlling their involvement with component manufacturing suppliers in the following manner.

- 1) OEMs are transferring responsibility for the design and development of certain vehicles parts to component manufacturers.
- 2) OEMs have converged towards modular production, which involves manufacturers supplying complete modules rather than individual components.

2.8. Impact on the local Component Industry

Component suppliers who are averse to engaging in research and development activities are awarded “lead sourcing” contracts. This allows suppliers to secure the right to manufacture their designs to OEMs at a global level. Global contracts imply higher production volumes and thus suppliers can amortise the design costs without much effort (Naude 2011). The implementation of modularisation accompanied by lean production influences the interactions between original equipment manufacturers and their suppliers, (Naude, 2011). The lean manufacturing concept involves higher quality, better cost and delivery performance and ultimately fewer suppliers in the value chain. The combination of these factors result in a world class consolidation of the value chain which creates a position whereby suppliers who are robust and resilient survive in the industry and are in turn afforded greater power over lower tier suppliers. The subsequent transformation of the value chain also implies that vehicle assembly plants source their components from fewer suppliers. Therefore while in the 1980s there used to be over 200 first tier suppliers, there are currently only between 100 to 200 first-tier suppliers. The sourcing responsibility has been transferred to second tier suppliers while the first tier suppliers have become systems integrators rather than simply component manufacturers. The above trend has resulted in the reduction of reduced fixed overheads for OEMs and created higher overheads for the component industry forcing the need for economy of scales in order to recover higher overheads. The changes taking place in the supply chain network are profound and are reflected in diagram 0.2 below.

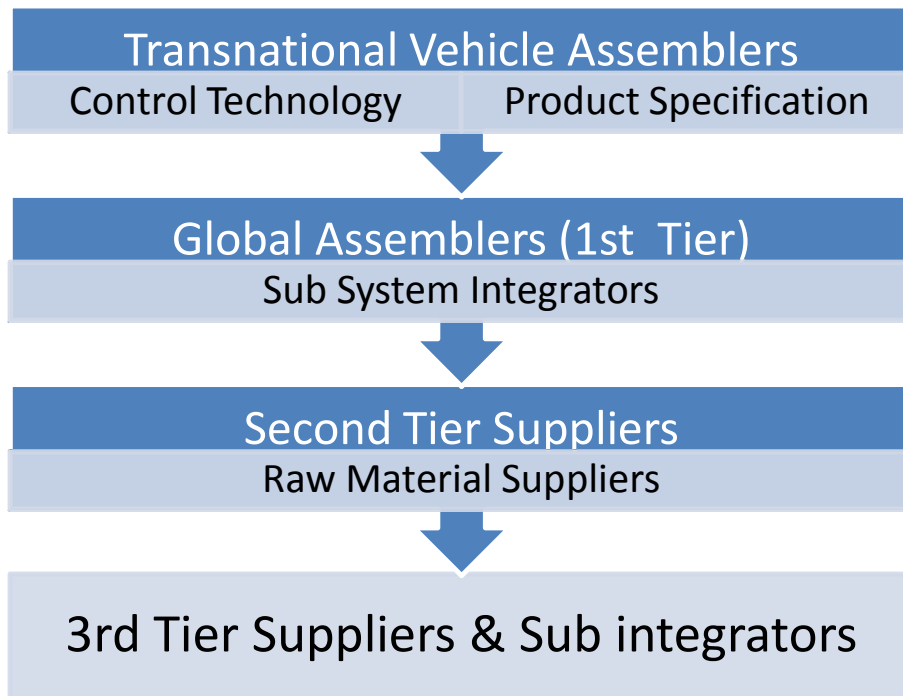


Figure 0-2. The Supplier Chain Network

A relationship exists between the transnational vehicle assemblers, the global assemblers, (the producers and the first-tier suppliers and sub-system integrators). These also operate their own global value chains, fed by second- and third-tier suppliers, as well as by very large raw materials producers. In turn, this network depends on the support of a myriad of service providers, logistics organisers, energy, and machinery suppliers (Barnes, 2008).

This type of chain tends to be characteristic of capital- and technology-intensive industries, such as automobiles, ICT and semiconductors and tends to have a high barrier to entry. This type of value chain forces changes to take place in supplier's business operations, especially in the area of technical capabilities, sophistication and associated investments in both technology and skills. Furthermore there is an impact on the vehicle assembler's market which influences all other automotive market and market segments (Barnes, 2008)

Recent development in the South African industry has certain influences on the value chain of the industry; Nitschke (2010) describes these follows:

- 1) Firstly, OEMs are investing in the South African location. This demonstrates a commitment from global lead firms to their operations and the on-going export/import-substitution to improve their competitiveness through meeting local content targets in order to reach global competitiveness.
- 2) Secondly, the presence of car makers suggests that multinational suppliers will continue or even expand their strong presence in the South African automotive industry and there could be decreasing opportunities for local suppliers to gain access to the value chain as competition increases.
- 3) The third fact which influences the automotive value chain is technological modularisation. As more competencies are being outsourced by the lead firms to capable suppliers, a power shift to module suppliers is predicted. This shift could have positive implications for local suppliers, as the dominance of the lead firm's moves up the value chain and they will, therefore, be more closely linked to firms operating high up the value chain

2.9. Summary

The literature review was conducted to obtain an understanding of the automotive industry in South Africa with particular emphasis on the understanding of the factors that impact the success or failure of the industry. It is evident that the industry has been revolutionised over the years and continues to transform as the result of Globalisation and liberalisation. The impact of globalization has been discussed at large as it formed the key contributing factor impacting on the sustainability of the Automotive Component Industry in South Africa. Globalization however has been discussed in the light of liberalization of markets which signalled the turning point for the industry. The changing nature of the business and the shift towards Multi-National Corporations was seen to have transformed the industry and has led to a shift from local focus to global aspiration. Finally the price competition was discussed and the disparities in economies were highlighted as a concern when comparing competitiveness of industries.

The review points to critical factors impacting the sustainability of the South African automotive component industry. Understanding these factors will be critical in developing strategies to promote the local industry through continuous improvement and appropriate policy implementation. The following chapters will

focus on further research into the topic to understand if the current review is supported through empirical studies. The research provides the following implications for practice:

Trade Policies need further research to understand its potential impact. While policies that promote the preservation of local content has its merits in terms of promoting a specific industry, it does however create a level of dependency which stifles the competitiveness of companies and their ability to compete in a free market. The design of industrial policy requires knowledge of what is happening “on the ground” and this requires informed communication with stakeholders in the private sector. But to make and manage policies in the broader national interest, policy makers need the capacity and the independence to filter, augment and analyse the information so obtained. Otherwise policy making processes are prone to being captured by vested interests. (Flatters, 2008)

Competition in global markets is an important success factor in ensuring sustainability of the local industry. Local companies need to formulate strategic partnerships with large MNC and also tap into the influence that large MNC has in the supply chain in order to remain major players in the industry.

Local companies need to be agile enough to absorb fluctuating demand conditions and promote lean operations in order to be or remain cost competitive in a high cost environment. The following chapters will provide details to support or reject the literature review.

CHAPTER THREE

Research Methodology

3.1. Introduction

The South African Automotive Component industry is perceived by the researcher to be in a critical stage of transformation that will either positively shape the industry or cause it to diminish. There appears to be numerous challenges facing the industry but not all of them are adverse. This study is performed to affirm the existence of these perceived challenges using quantitative techniques which are analyzed using descriptive statistics so that generalizations and conclusions of the observations can be made with a view to proposing effective corrective actions and strategies where applicable.

This section focuses on the research methodology, unit of analysis, population which will be analyzed, sample size and sampling method. It also describes the data collection instrument and outlines the methodology and the proposed data analysis techniques.

3.2. Aims and Objectives

The research seeks to investigate the challenges facing the industry in order to understand the impact on the sustainability of the local firm. The factors that influence the economic sustainability are explored in light of the changing nature of the industry brought about by Globalisation and Liberalisation. An understanding of these factors will assist in predicting the conditions that will lead to the improvement of the strategic position of suppliers in the economic environment and ensure the sustainability of local suppliers in a developing market. The outcome of the research will be beneficial to government policy makers, owners and senior management of component manufacturers. It is expected that the information gathered from this research will guide these role players in taking

appropriate actions to stimulate the industry in order to improve competitiveness and secure the future of the industry.

The objectives of this study were achieved by first conducting a literature review and subsequently undertaking an empirical research. The empirical research comprised an analysis of information gathered from a specific group of participant within a certain location.

3.3. Participants and Location of the study

This research focuses on the automotive component industry and therefore the study involves a firm-level survey on the Automotive Component Manufacturing Companies located in South Africa. These companies play a supporting role to the auto manufacturing companies by providing materials, components and service to the assembly process. The participants are therefore South African companies that operate in the automotive value chain.

3.4. Type of study

A cross sectional study is undertaken since all the data was gathered just once and collected over a period of weeks. Due to the dynamic evolving nature of the industry, a cross-sectional study may have been more appropriate to compare the impact of the different industrial policies on the sustainability of the industry. However a cross sectional study would suffice in analysing the problem statement and achieving the research objectives within the ambits of the time and cost constraints of this research. The research design follows a pragmatic approach and includes deductive reasoning which progresses from general to specific.

The study undertaken is descriptive in nature. Since some understanding of the research problem already exists a descriptive study can be undertaken (Zikmund, 2003). According to Sekaran (2009) the purpose of descriptive studies is to obtain an understanding of the characteristics of organisation that represent common practices.

3.5. Research approach

Data within the Automotive Component Industry is only partially available. It is for this reason that the quantitative study is carried out. The quantitative study is accomplished through primary research involving a firm-level survey on the automotive component companies operating in the South African industry. Surveys are useful and powerful in finding answers to research questions through data collection and subsequent analysis (Sekaran and Bougie 2010;262).

A survey is carried out among the units of analysis in order to gather quantitative data which is analysed using descriptive statistics to investigate the factors that correlate to the measures of economic sustainability.

3.6. Sampling

This section describes the process of sampling which Sekaram (2010) describes as a process of selecting a sufficient number of right elements from the population in order to study the characteristics and generalise these characteristics to the population. The identification of the sample was done by a non-probability sampling technique, as the population of the South African automotive suppliers can only be estimated due to the lack of a comprehensive national list.

3.6.1. Description of the population

The study is focused on the automotive component industry in South African. Therefore the population will comprise all companies active in the supply of automotive components to the Automotive Industry. In order to estimate the population size of the South African automotive supply industry the Automotive Industry Development Centre database was used, as this list is based on latest market data (see also <http://www.autoindustry.co.za/SupplierSearch/SupplierSearch.aspx> for further information). This list has been data cleaned and shows a total number of 469 automotive suppliers with a local presence in South Africa. This number includes component suppliers down to the fourth tier level, as well as service providers to

the automotive industry. Due to the focus on the component supplier industry it was decided to make use of the database of the supplier organisation NAACAM (National Association of Automotive Component and Allied Manufacturers) in order to define a sample. The membership listing of NAACAM, as at 31 December 2012 was used as a sample frame. The sample frame according to Sekaran (2010) is a representation of all the elements in the population from which the sample is drawn. Although the members of NAACAM do not constitute the entire population of component manufacturers, they do constitute almost 70 percent of the South African tier 1 manufacturers. Outside of NAACAM are some foreign and smaller local companies who are either not members of any association or are affiliated to tyres, catalytic converters, plastics, stainless steel, aluminium and similar bodies. (The DTI, 2013).

Due to the population containing a large number of automotive component manufacturers, it is not practically possible to examine all members of this group within the time frame, cost and human resource allowed for this research. According to Sekaran (2009: 263), a researcher should be able to draw conclusions that generalise the population of interest, by studying a sample.

3.7. Data Collection

This section describes the instrument chosen to gather data and the construction thereof. It further details the reliability and validity of the method selected and outlines the administration of the instrument.

3.7.1. Instrument

The primary data required to conduct this study was collected via a questionnaire after an in-depth analysis of secondary data gathered and discussed in the literature review. The design of the questionnaire is shown and the variables from the conceptual model are related to the questions in the questionnaire

The questionnaire was distributed and administered via an electronic questionnaire and sent to members of NAACAM, via email. The chosen medium

for the field study was therefore a web-based survey using an online software called Question Pro. The software is a comprehensive tool that can administer the development of the questionnaire, manage the address database and the control the responses and results. Due to the fact that confidential data were collected, the responses were fully anonymous and the results could only be accessed by the author. The data collection was conducted from mid-September 2013 to mid-October 2013. Questionnaires were sent out to 114 companies, and a response rate of 30.6 percent was achieved. The questionnaire follows a self-administered and internet-mediated design. This is done with the aid of a survey-software called QuestionPro. The completed questionnaires were submitted to the QuestionPro data base and was exported into excel. The results of this study are dealt with under the analysis of the findings section.

Sekaran and Bougie (2010) describe the benefits of electronic questionnaires as follows:

- Easy to administer
- Very inexpensive
- Fast delivery
- Respondents can answer at their convenience.

The major disadvantage however is the apathy of respondents towards answering the question. The questionnaire starts with a covering letter in which the intentions, requirements and contact information are given. The questionnaire includes 25 questions. The types of questions range from rating, quantity and qualitative. A copy of the questionnaire is attached in Appendix A. The questionnaire makes use of structured questions which increases the cod ability of answers. The questionnaire contains a large variety of topical questions which will increase the possibility of generating useful insights into the sample members' companies. However, since this study is specifically focused on understanding the competitiveness of the South African component target firms, the additional questions included may pose a risk in requiring an unnecessarily long interview, which may leave the respondent frustrated or fatigued, resulting in additional response errors.

3.7.2. Reliability and Validity

The validity and reliability of the measurement affects the outcome of the results of the study and the probability that statistical implications can be derived from the data. According to Sekaran and Bougie (2010: 326) “the reliability of a measure is established by testing for both consistency and stability”. Validity is dependent on the reliability. If a measurement is unreliable, then it would be invalid. It is always important to test the reliability before the validity is examined. A test score can also be highly reliable but invalid. Test-retest reliability; is the extent to which stability of a measure can be assessed and reliability can be computed by establishing the correlation between the same tests administered at two different time periods.(Sekaran and Bougie , 2010:324). A reliable questionnaire should provide parallel results consistently.

The study is reliable and the results will be valid even though non probability sampling techniques was used. The sampling method was applied to 70% of the first tier suppliers who make up the major contributors to the automotive component industry in South Africa. The study targeted all companies who were members of the National Association of Automotive Component and Allied Manufacturers (NAACAM) at the time the data was collected and there was no chance of a company not being chosen. Therefore the results will reflect the conditions facing the automotive component industry in South Africa. The study would have internal validity. Internal validity refers to the extent to which conclusions that are free from bias can be formulated. Face validity, content validity and construct validity were used, as the opinions of knowledgeable people as well as the pilot study were also taken into consideration.

3.7.3. Pretesting and pilot

Testing of the survey was done in preparation for carrying out the questionnaire to the potential respondents. The survey was pre-tested by five participants selected

from within and outside the automotive industry. The pilot study was used to determine whether all questions were understandable. This pilot showed satisfactory results, although the time required to complete it, was a concern to the pilot respondents and the presence of financial data was seen to jeopardize the response rate due to the confidential nature of the information and the availability of the data. The questionnaire was therefore revised to exclude financial data.

3.8. Data analysis

The data was captured directly onto the web based database and there was no need for manual capture and the potential for capturing errors. The data was however checked and cleaned in order to ensure that all information was legitimate. The data was summarized using descriptive statistics such as frequency tables and cross tabulation amongst others. Simple analysis of this ordered data provided many useful insights from which deductions were extracted. The collected data were analyzed with descriptive statistics. The descriptive statistics were used to build up a picture of the South African automotive component supplier industry.

3.9. Summary

In conclusion, the research design shows an interesting relationship between the literature review and the quantitative study. This study is exploratory by nature and contains qualitative aspects. The study was undertaken to understand the problems facing the automotive component manufacturers in South Africa. This approach was chosen because the concepts form a proposal from the theoretical discussion on the topic. In order to align this theoretical view with practical applications the results of the questionnaire was used to achieve this objective. The theoretical concepts were used as a base for the discussion in the quantitative research to examine the factors affecting the sustainability of the industry and explore the strengths in the South African automotive industry.

CHAPTER FOUR

Presentation of Results

4.1. Introduction

The data gathered through the survey are presented and analysed in this chapter. The findings are structured in two sections and are discussed in line with the objectives of the study. The first section provides a descriptive analysis of the statistics and the second section deals with the specific aspects in support of the research objectives.

The structure of the chapter begins with an analysis of the responses received and the relevance and quality of the data followed by a discussion on the ownership structure of the Automotive Component firm. The level of government support given to the Automotive Component Industry is explored in order to establish the impact of government policies on the industry. The factors affecting the competitiveness of the industry are then explored and finally the impact of global sourcing on the South African component market is discussed. The objective of this chapter is to integrate the results obtained from the survey with the findings of the literature survey.

4.2. Descriptive Statistics

Descriptive statistics provide statistical summaries of data with the purpose of providing an overall, coherent and straightforward picture of a large amount of data (Struwig, 2001:158). The data collected in this research is analysed by observing the central tendency and by making observations and comparisons.

Measures of dispersion are useful in providing information with which the reliability of the central value may be judged. Widely dispersed observations indicate low reliability, while a high concentration of observations increases confidence in the reliability of the central value (Wegner, 1999: 54 & 84).

4.3. Analysis of Response

A profile of the South African component industry is developed from the data collected from the survey and is used to define the structure of the automotive component supplier landscape in South Africa as well as identify the structural differences according to ownership, tier levels and product categories. Understanding the structure and the landscape will provide support to the arguments presented in the literature review with regard to the dynamic nature of the industry and the subsequent impact on its survival.

4.3.1. Response Rate

As mentioned in the previous chapter NAACAM's database was used to identify the 114 companies listed on their membership register. These are component firms active in the automotive industry during 2013 and at the time the data was collected. The sample was accessed directly through the distribution of surveys to the members listed on the NAACAM's registry as well as indirectly via the endorsement by the CEO of the National Association of Automotive Component and Allied Manufacturers. Due to this direct and indirect accessibility, the expected response rate was greater than and equal to 20 percent. Of the 114 companies identified, 54 companies participated in the research, yielding a response rate of 47.3 percent. Many attempts have been made to improve the response rate by sending reminders and direct telephonic correspondences. It is the researcher's belief that the response rate could have been increased further through impact presentations at the NAACAM's annual conference and through participation in regional meetings of the NAACAM. This could only be achieved without cost and time constraints. The response rate for the survey is demonstrated in Table 4.1.

Table 4-1. Survey Response rate

Number of component suppliers in NAACAM database (sample)	114
Responses ended (finished entire questionnaire)	54

Response rate for "responses ended"	47.3 percent
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4.3.2. Profile of Respondents

The survey was sent to Managing Directors, CEOs and Managers of firms operating in the Automotive Component Industry of South Africa. Subsequently the responses were received from senior ranking officials within the automotive supplier firms. Senior representation has accounted for 89 percent of the total responses received and includes Managing Directors, Chief Executive Officers and Senior Management officials. An overview of the responses is provided in Fig 0.1 below.

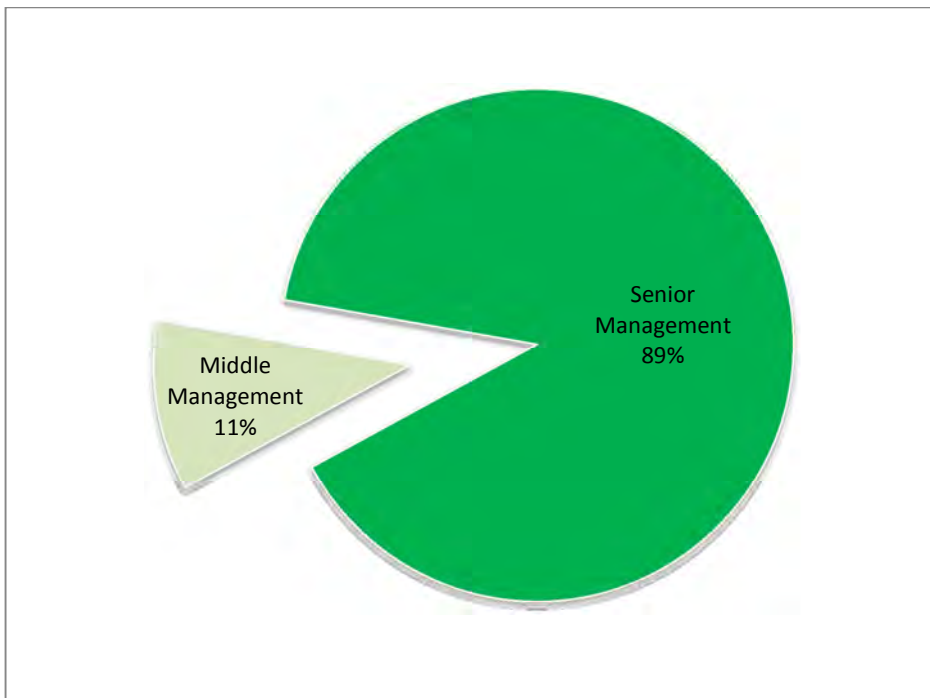


Figure 0-1. Profile of Survey Respondents

Based on the level of seniority of respondents it can be inferred that data and comments made are significant in determining the status of the South African Automotive Component industry.

4.4. Research objective 1 – Determine the impact of ownership changes on the future of the Automotive Component Industry

4.4.1. Ownership of company

The ownership structure of the South African Automotive component firms demonstrates a distinct majority of companies forming relationships with international entities, either through direct ownership or via joint ventures and supplier agreements. Of the companies surveyed 39.44 percent were internationally owned, implying that international companies have either entered the South African market or have taken over ownership from current suppliers. Table 4.2 illustrates the ownership structure of the local component industry.

Table 4-2 Ownership Structure

<i>Locally owned South African supplier</i>	23.94 percent
Locally owned South African supplier using international patents / licenses.	25.35 percent
Joint Venture (JV) of locally owned South African and international supplier.	8.45 percent
Internationally owned supplier	39.44 percent
Other	2.82 percent

Further investigation was necessary to understand the makeup of the “other” category. It was established that they could be integrated into the known categories. After accounting for the above adjustment it is apparent that 75 percent of respondents have global linkages through joint ventures, license agreements or direct ownership. The data shows a similar trend to that shown in the OEM sector as identified by (Black, 2001) who found that foreign ownership has been growing and local firms who used to produce under license, have been purchased by foreign companies or entered into joint ventures. Black (2011) suggests that first tier suppliers had to embrace foreign linkages in order to continue as first tier suppliers. Foreign links, including foreign ownership was

necessary in order to source technology and gain access to global networks and their technology (Black 2011). The high rate of companies using international patents and licenses combined with joint ventures with international companies further corroborates the view that component manufacturers have formed relationships with Multinational Corporations (MNC) and it is assumed to have done so in order to meet global standards of quality, design and development as suggested by (Black, 2001).

The percentage of locally owned South African suppliers differs from the findings of a previous study undertaken by (Black, 2001) with regard to the extent of local ownership. This study reveals a higher level of locally owned suppliers. This could be the result of the analysis on 4 companies versus the much broader supplier base surveyed in this study.

Discussion – The general trend in the industry is for companies to align their business practices to incorporate foreign linkages through. Companies increase their association with foreign companies to take advantage of modern technology and to capitalize on business awarded to foreign companies through global sourcing. This is done via license agreements. The dependency on imported technology has resulted in deficiencies in the value chain as OEMs import components used in production and then export the locally manufactured vehicles causing the accumulation of cost which affects the competitiveness of the local production (Naude 2011). Furthermore Component Firms that are locally owned firms find it increasingly difficult to embark on any sort of export strategy because of the restrictions imposed on exporting by their license partners in European, Japanese and American firms. The only cost effective way of obtaining technology for these firms is via license agreements (Black, 2011). South African owned firms have not been upgrading their technology and therefore have lagged behind in relation to other developing countries to meet Global production's technological complexity requirements. As the consequence local firms battle to compete against developed and developing countries.

4.4.2. Tier Structure

The tier structure of the automotive component industry is represented in fig 0.2. It demonstrates that first tier suppliers make up the majority of respondents to the survey. Upon further analysis of the “other” category it was found that nine out of the ten companies were also first tier suppliers and one belonged to the commercial sector. Therefore 43.66 percent of the companies represented are tier 1 suppliers. Tier 2 suppliers make up the next highest market and the balance of the companies are integrated into the industry network. The small number of component firms – 114 in total supports the view by (Black, 2011) that “Individual vehicle assembly plants no longer source their components from over 2000 suppliers as they did in the 1980s. They now only have 100 to 200 first-tier suppliers”. The implications of this trend is that companies which previously supported the OEM may now no longer be in business or have changed their focus to other industries

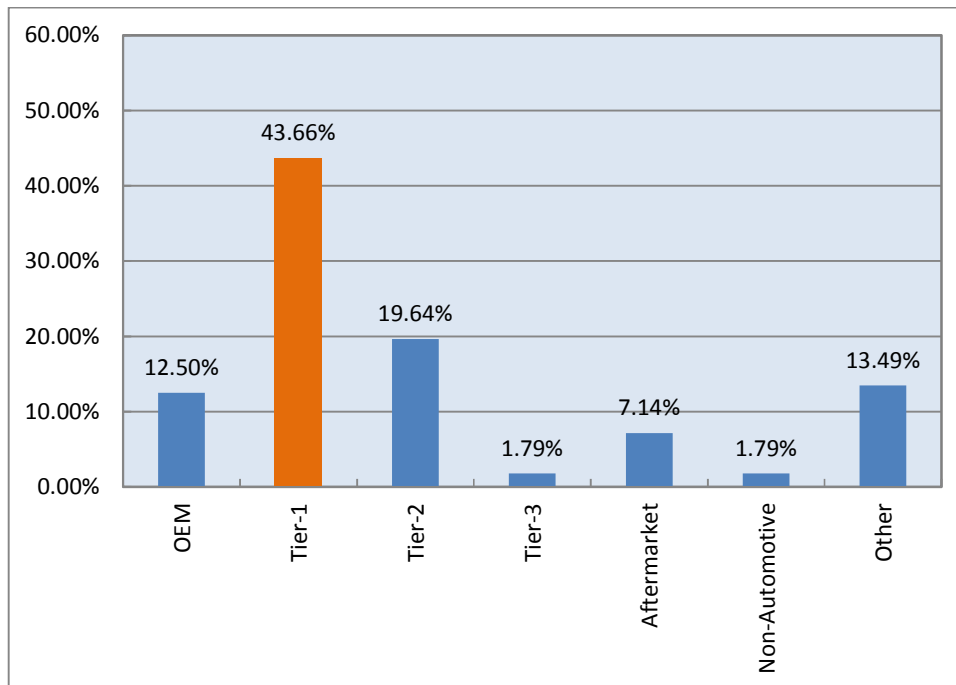


Figure 0-2. Tier Structure of the Industry

Discussion – The reduction in the number of Tier 1 suppliers suggest the transformation of the value chain and it points to a decline in the number of

companies operating in this level. This may point to the demise of tier 1 companies or could suggest the relegation of suppliers to second tier levels.

4.4.3. Design responsibility

Companies in the automotive component industry are heavily dependent on OEMs for their design specification. This is supported by the research represented in fig 0.3 that demonstrates that on average 86 percent of companies turnover is derived from products manufactured according to design specifications provided by OEMs. While production remains local, design and contract allocation is increasingly global leading to large scale consolidation and restructuring of the components industry in developing countries (Humphrey, 2003). This findings also points to the prevalence of the concept of follow sourcing as the result of OEMs rebuilding supply structures in the developing markets. This is suggested in the findings by Black (2009) who found that Multinational carmakers have a major influence on where component production takes place and they encourage the relocation of suppliers or the establishment of production facilities in South Africa or in any other location.

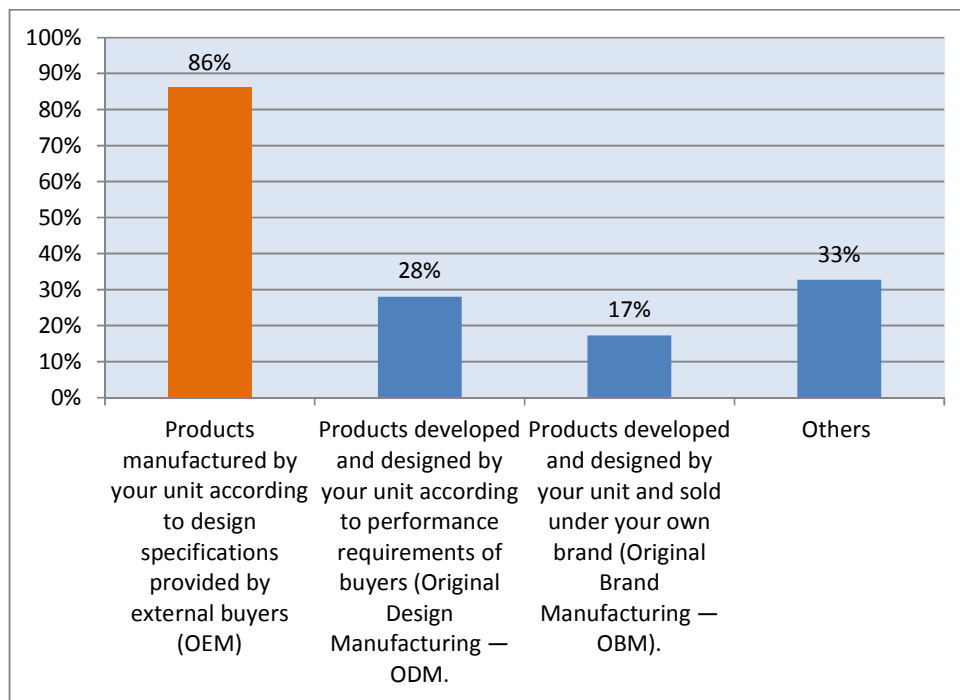


Figure 0-3. Product Tier Structure

Discussion – Most companies do not develop their own designs and are therefore heavily dependent on product designs produced by lead source firms. The trend in the industry is for companies to take on design responsibility and without the expertise and necessary development to do so, it could prove challenging for local companies to assert their position in the market on their own strength.

4.4.4. Technology

Most respondents believe that their technology is on par or equal to that of global economies. Figure 0.4 represents the perception of the industry and demonstrates that 54.17 percent of the industry possesses technology that is similar to that of developing and developed countries. An interesting observation is that 38 percent of the respondents believe that their technology is superior. Tier 1 suppliers make up the largest group who perceive their technology to be superior. These companies are also internationally owned. It can therefore be inferred that due to the international links technology is transferred to the local industry and this is positive for the sustainability of the industry

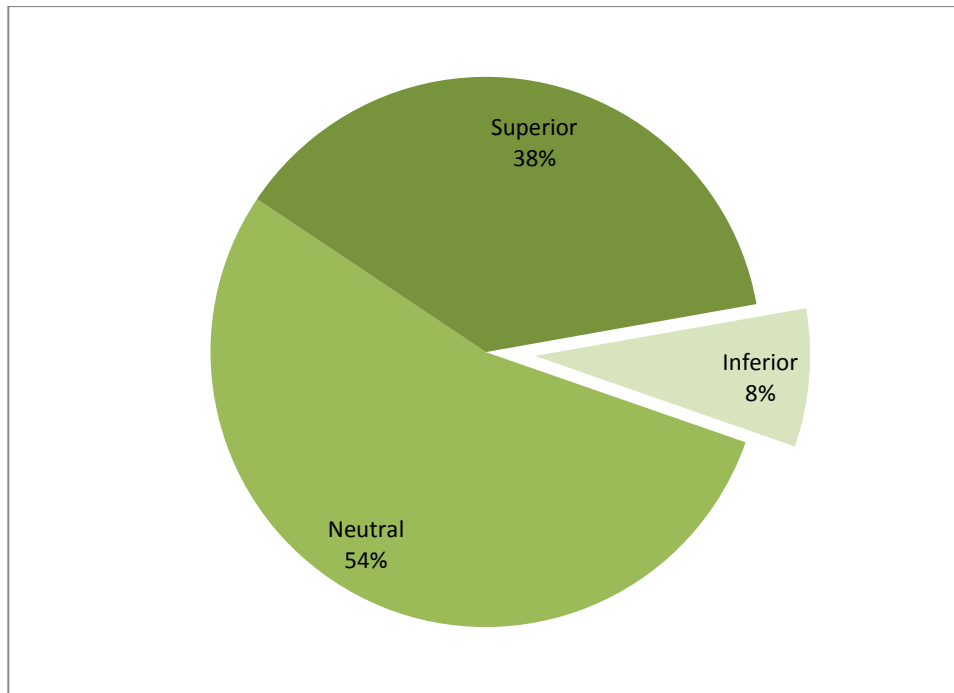


Figure 0-4. Level of technology

Discussion – South African component manufacturers possess the level of technology appropriate for its sustainability. It can be reasonable be assumed that the technology has been derived from the international relationships brokered by the local firm.

4.4.5. Machinery & Equipment

Most respondents believe that their equipment is on par or equal to that of global economies. Majority of the respondents (48.65 percent) believe that their technology is neutral and 18.92 percent believe that their equipment is superior. Therefore a large section of the industry is considered to have the necessary equipment and machinery to compete with global players. There is also a relationship between the ownership of the component firms and the perception of the levels of machinery and equipment. It can therefore be inferred that companies have advanced their investment levels with the technology acquired from foreign investments and foreign ownerships.

Discussion – Companies with a high level of foreign domestic investment perceive that their machinery is ahead of the developing nations.

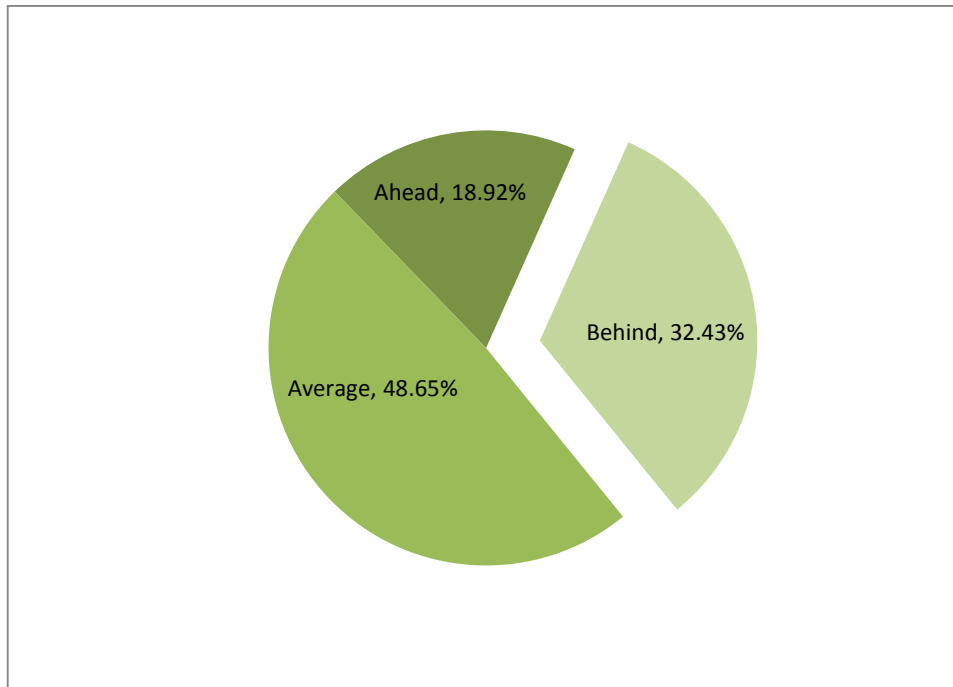


Figure 0-5. Equipment

4.4.6. Horizontal Upgrades

Upgrading activities of the South African automotive component suppliers are measured in the number of horizontal (e.g. new products) and vertical upgrades (e.g. new production stage added) in the last three years. The average for horizontal upgrades is 1.7, and for vertical upgrades 1.5. Fifty four percent of the suppliers have at least accomplished one horizontal upgrade. With regard to horizontal upgrades, 32 percent of the suppliers have more than three upgrades, whereas 13 percent have not upgraded in the last three years.

By looking at the structure of upgrades when taking ownership into account it can be observed that the locally owned South African suppliers have considerable higher numbers of upgrades than average. This group averages 2.4 horizontal upgrades. This could indicate that the locally owned suppliers need to or are willing to upgrade their overall capabilities to play a role in the local and international automotive value chain.

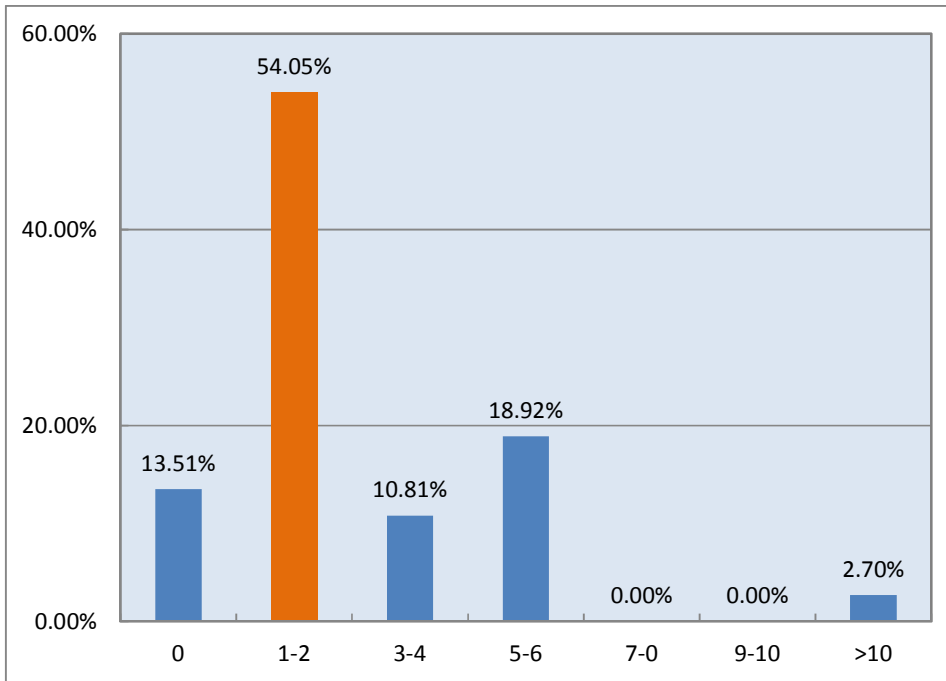


Figure 0-6. Horizontal Upgrades

4.4.7. Activities undertaken in the industry

The results as presented in fig 0.7 demonstrate that the principle activity undertaken by companies within the South African Automotive industry is the manufacturing of components and consists of 50 percent of the total participants in the market. Industry is associated with issues pertaining to technology, quality, age of machinery and labour costs are relevant in measuring the level of competitiveness in the industry. A marked observation from the above data is that there is low prominence of raw material suppliers which leads to an interesting implication. Firstly, raw material suppliers are not sufficiently integrated into the South African automotive value chain, or at least are not seen as automotive suppliers. The question thus arises, why the South African component industry not integrates one of its potential sources of a major competitive advantage - the availability and proximity to raw materials into its value chain. As the research is focused on component suppliers, one explanation is that the survey simply has not targeted these kinds of suppliers. Another justification can be made by the fact that most of the raw material suppliers do not only supply the automotive industry, but

have a diversified customer portfolio and are, therefore, not regarded as automotive suppliers.

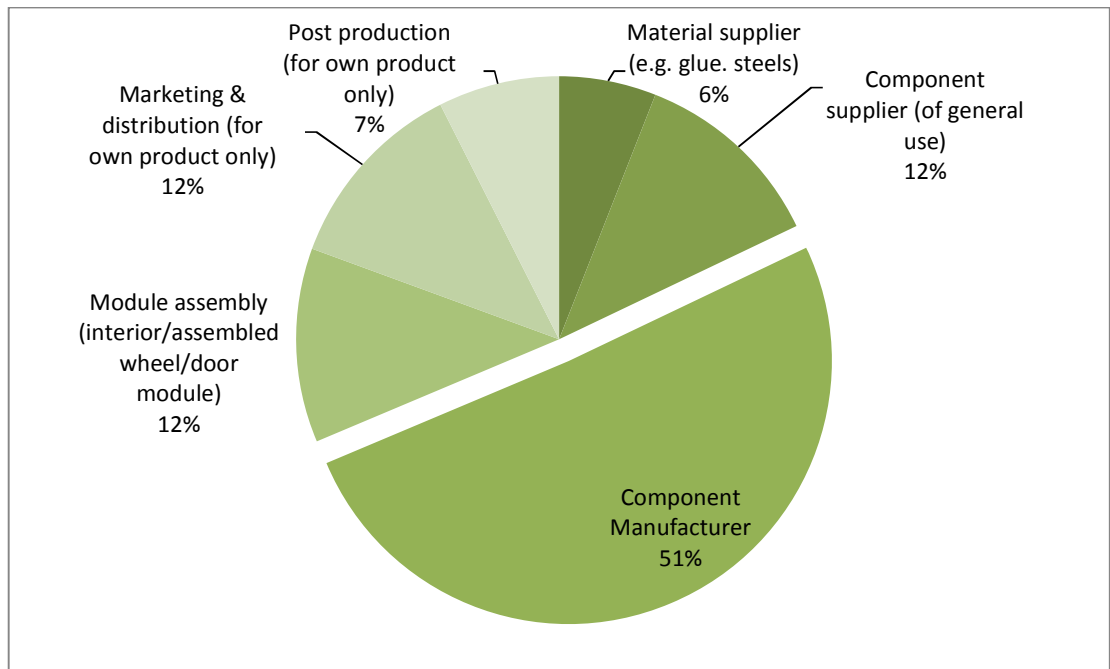


Figure 0-7. Activities Performed in the Value Chain

Discussion – The high concentration on manufacturing and the low prominence of raw materials supplier implies that South African companies are not focused on capitalizing on a competitive through vertical integration. This may make it difficult to compete with other economies.

4.4.8. Age of Company

Of the responses received 48 companies are 21 years and older, while 12 companies are between 11-20 years old and 7 companies are between 6 – 10 years old. Only 2 companies are between 1-5 years old. The average age of the firms is 17.2 years. The age of the companies suggest a mature industry with majority of companies having progressed through the phases of economic sanctions of the 1970 and the import substitution policies imposed in the post-apartheid era. It also implies that the companies would be well established and possess great experience and appropriate networking opportunities.

The relatively few new companies suggest the possibility of barriers to entry in the market and the explicit control of the market by the existing players or possibly new entrants from outside of South Africa.

The following graph represents the age distribution of component firms.

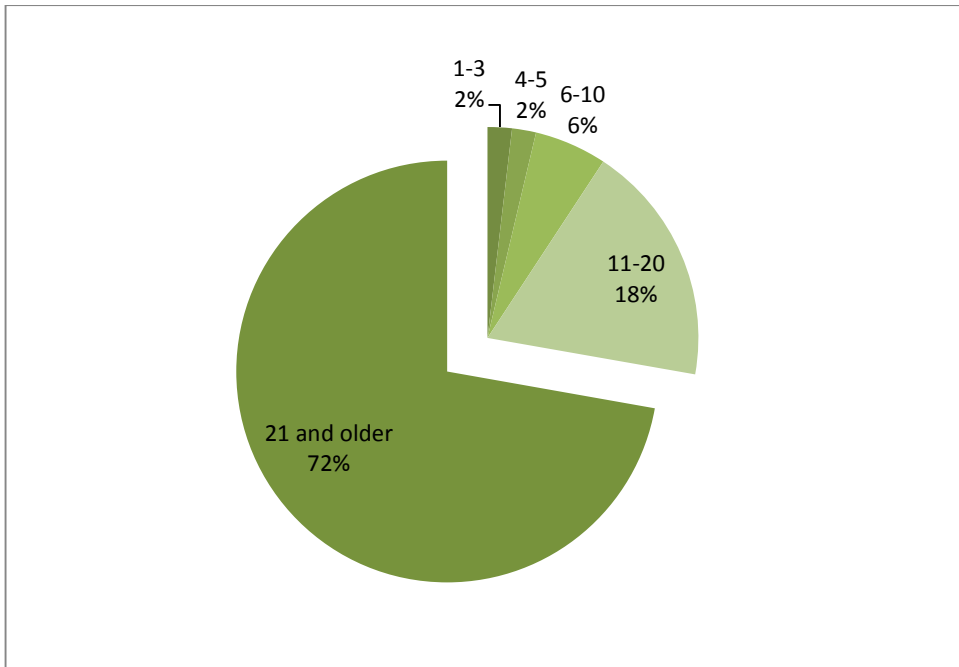


Figure 0-8. Age of Companies

Discussion – The mature industry suggests that companies have been around for some time. This could imply that they have cemented their position in the market. The result does not however capture the extent of companies that have closed down or shifted their focus away from the automotive industry.

4.5. Research objective 2 – Determine the impact of liberalisation on the industry

4.5.1. Foreign Direct Investment

Liberalisation of the South African automotive industry has resulted in increased volumes and subsequently an influx of foreign direct investment. The Automotive sector study (2007) emphasizes that outputs increase as foreign inflows are generated. This arises as an economic benefit of liberalisation. The inflow of

foreign direct investment has only been directed towards companies that already have international ties.

The study reveals that suppliers received an average of ZAR 47.6 million in foreign direct investment; 24 percent of the respondents did not receive any foreign direct investment and none of the locally owned companies received any foreign direct investments. 43 percent of the respondents received between ZAR 11 and ZAR 50 million in FDI. See fig 0.9. This leads to the conclusion that locally owned suppliers have not acquired new international partners or investors. Black (2006) argues that low production volumes in the South African industry do not justify large-scale upgrades in the domestic component industry and therefore the injection of foreign direct investment is the only way in which companies can upgrade technologies. The consequence of not upgrading would impact negatively on competition with internationally companies (Black, 2006).

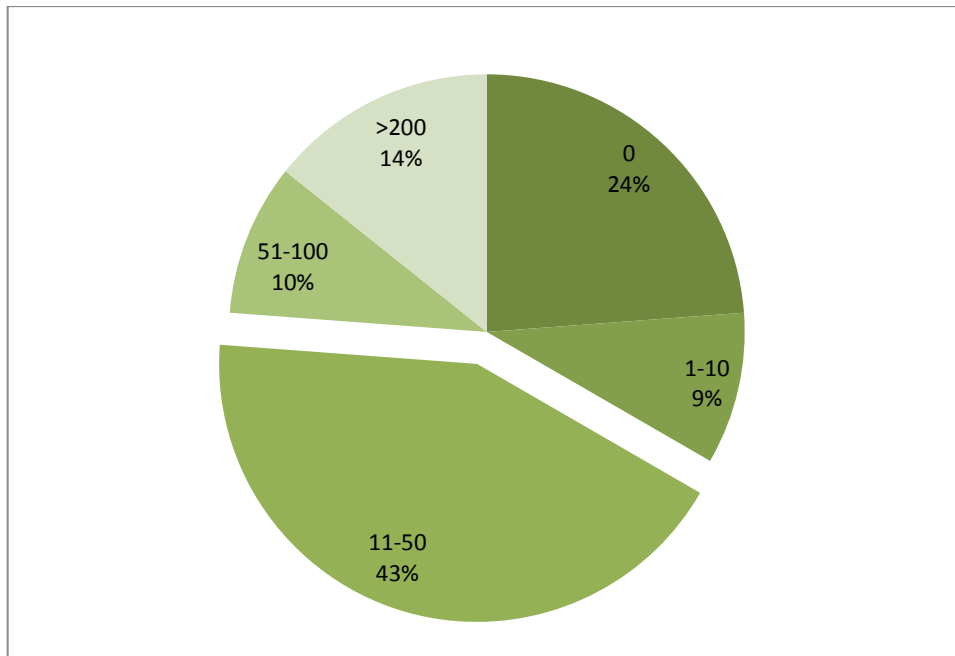


Figure 0-9. Foreign Direct Investment

4.5.2. Local content

The average local content of the South African automotive suppliers for their top product (most sold product) is 55.7 percent. Therefore 44.3 percent of the

materials and components are imported. Forty percent of the suppliers state that their top product contains in excess of 55 percent. The implication of the high import content is that it makes the South Africa automotive industry uncompetitive and supports the argument as presented in the literature review that South Africa is more expensive as a vehicle manufacturing base than Western Europe and even more expensive than China and India because of its low percentage of local content in the final product (Venter 2009a, 2009b).

Interestingly, the data also leads to a considerable difference in imported raw material content of internationally and locally owned suppliers. The former group states 42 percent of local raw material in their top products; locally owned suppliers operate with 57 percent of local raw material content in their top products. Therefore, the conclusion can be drawn that internationally owned suppliers import more materials and components parts for their products.

Tier one products show a higher local content, with an average of 68 percent. This is the only product category that differs substantially from the average.

Coming back to the above discussion that internationally owned suppliers have a higher percentage of logistics cost in their revenues, the local content of these suppliers averages 52 percent for their top product. Locally owned suppliers have a higher local content percentage in their top products, with an average of 68 percent.

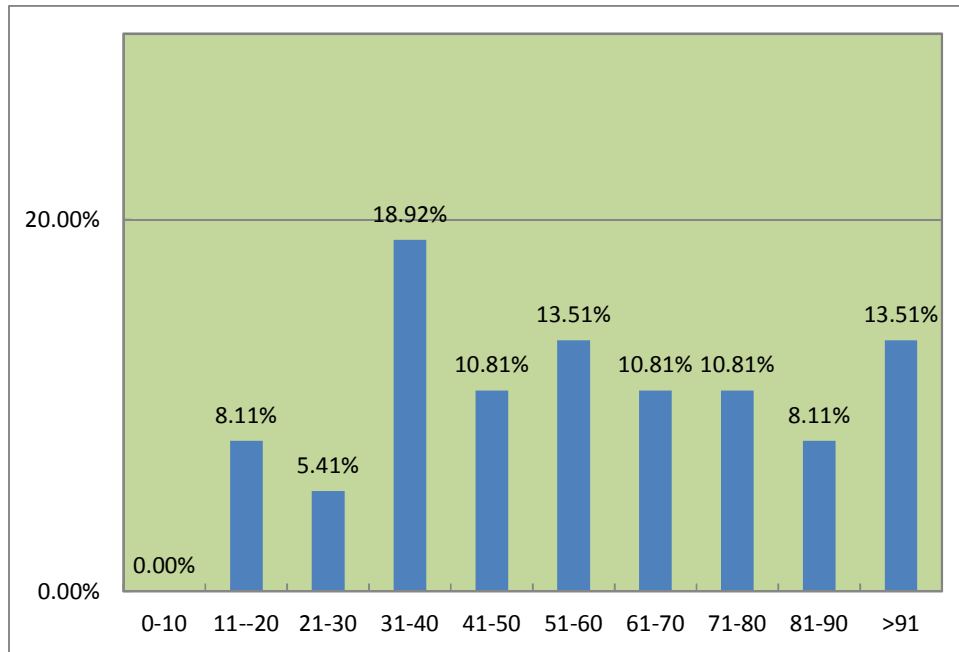


Figure 0-10, Material local Content

Discussion – FDI arises as the result of liberalisation. It could be beneficial in terms of upgrading technology. However it is evident that large scale FDI is lacking in the industry therefore the industry faces challenges when competing with global markets. The high import content arises as the result of removal of trade barriers that previously protected and encouraged local content. High import content means less support for the local industry as well as higher variability in terms of exchange rate fluctuation, fuel prices, and poor infrastructure.

4.5.3. Origin of suppliers

The data presented in fig 0.11 indicates that automotive component firm source more than 50 percent of their suppliers from foreign countries. Most suppliers are sourced from Asia at an average of 30 percent followed by Europe at an average of 27 percent and a lessor portion from North America. The high rate of imports arose as the consequence of the MIDP which promoted import export complementation scheme that promoted imports through a duty free allowance on import components. The Automotive sector study (2007) asserts that short term pressure causes domestic firms to alter product design and productivity to compete with imported parts for use in domestic markets. Furthermore the wave of

liberalisation affects the level of costs associated with the adjustment to increased competitive pressures. If liberalisation outpaces the rate at which domestic firms can adjust, there could be a negative impact on employment and production as imports replace domestic production and uncompetitive firms retrench or close.

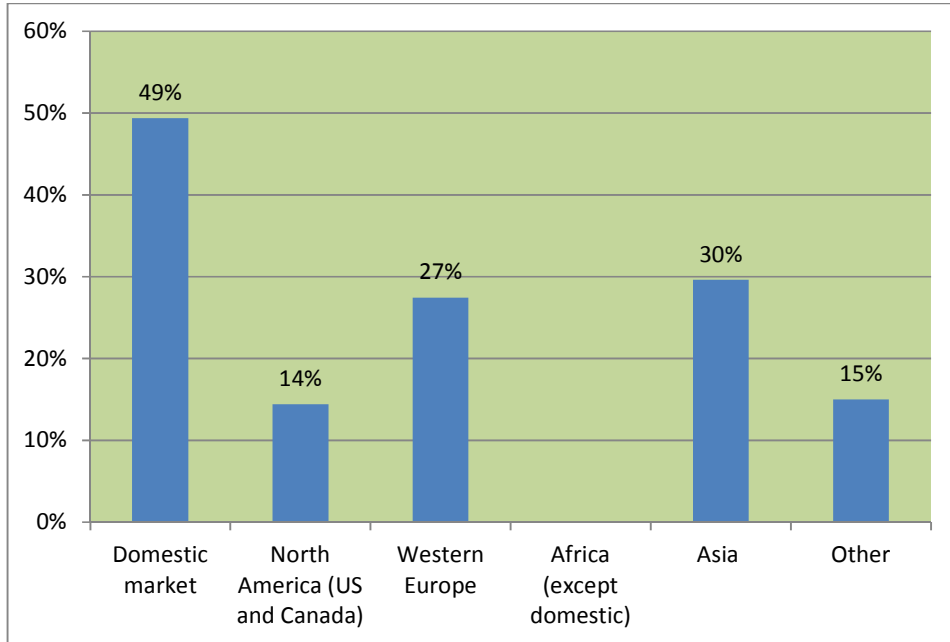


Figure 0-11. Origin of Raw Material Suppliers

4.6. Research objective 3 – Determine the impact of government subsidization of the Automotive Component Industry

From the literature review it is evident that Government influences have had a major influence on the industry in South Africa and in other countries. In this section governmental influences on the South African automotive component supplier industry is described and analysed under the various incentives offered by government, local government and international funding.

4.6.1. Once-off Subsidies

Automotive component suppliers in South Africa received an average of ZAR 3.0 million in direct government subsidies in 2012 for the purpose of investments and

start-up costs. The benefit accrued to 75 percent of the automotive component firms.

Tier one suppliers have received the highest average subsidy at ZAR 2.87 million per company and a total of ZAR 24.5million for the 2012 financial year. Internationally owned suppliers received on average ZAR 3.66 million per company and a total of ZAR 44 million. This amounts to 79.9 percent more than locally owned suppliers. The subsidies are also concentrated towards first tier suppliers and, unexpectedly, on aftermarket suppliers.

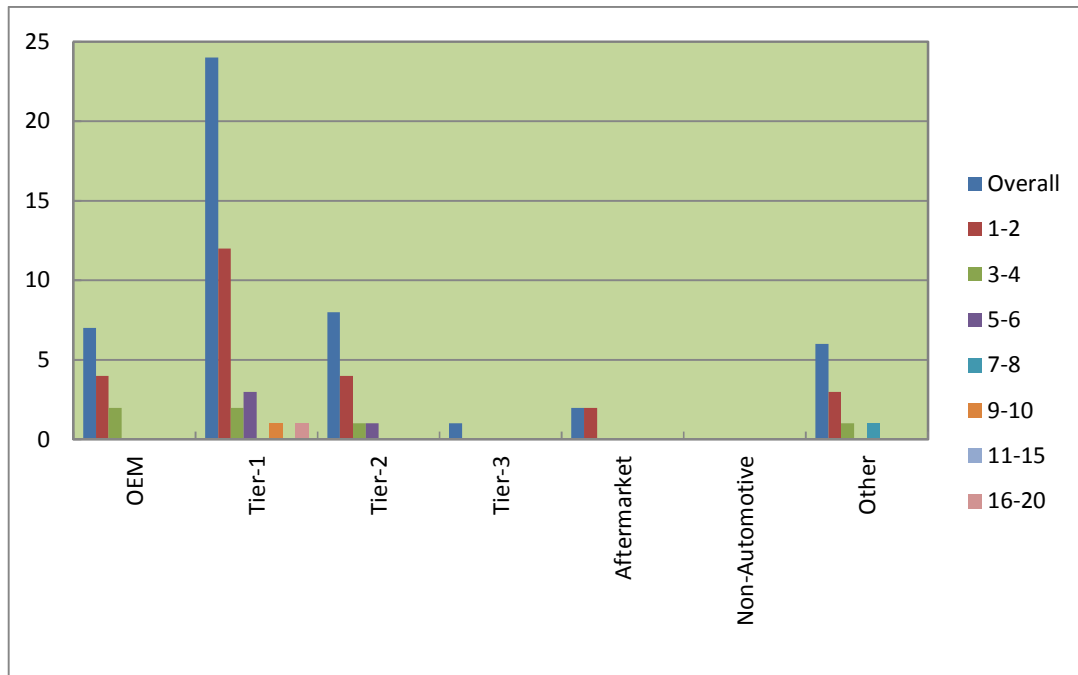


Figure 0-12. Once off Subsidies

The low levels of direct subsidies can be explained by the logic of the Motor Industry Development Program, which included programs to reduce import duties on vehicles and components, facilitate an export-import complementation scheme, access to duty drawback programs for exporters and a duty free allowance on imported components. In general the rewards were in the form of duty-free allowances rather than direct subsidies. Therefore, the amount of direct monetary subsidies is low but greater benefits accrue to the OEM rather than the component manufacturer.

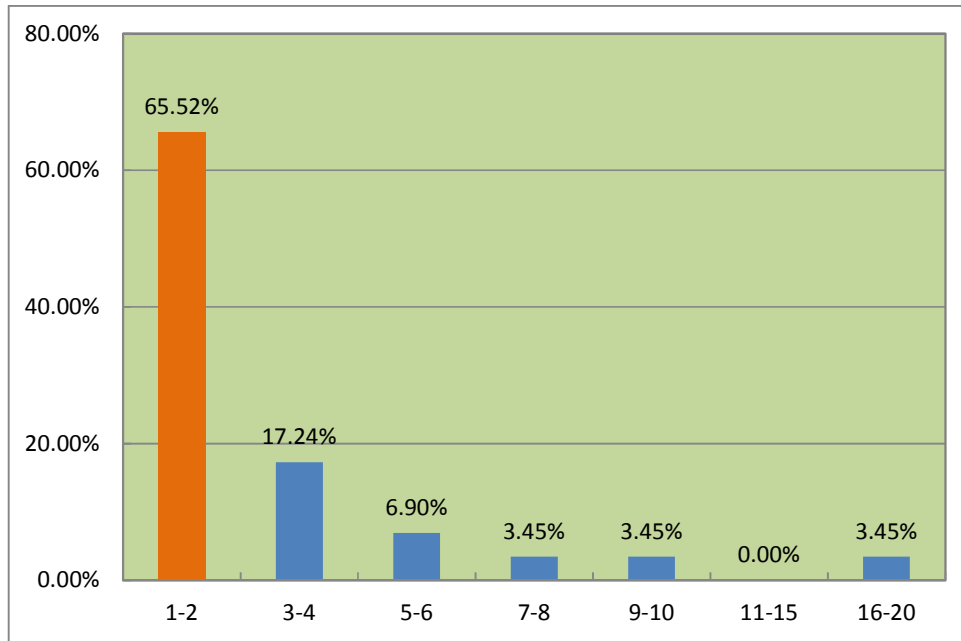


Figure 0-13. Once off Subsidies from Government

4.6.2. Export Incentives

The export incentives are assumed to stem from the MIDP (APDP) as this is the main program supporting the Automotive Industry in the period of study. Export incentives were considered most important in supporting the innovation strategy of automotive companies. However only 31 percent of the respondents have potentially received export incentives. This is because the MIDP is structured more towards the OEM who possesses the greatest propensity to export. The local component industry obtains an indirect benefit from the increase in OEM markets.

The data however supports the view of Flatters (2005) who claims a that the MIDP has provided substantial assistance to the motor industry and as the result the industry has retorted by undergoing internal restructuring resulting in substantial investments, accompanied by rapid growth of exports.

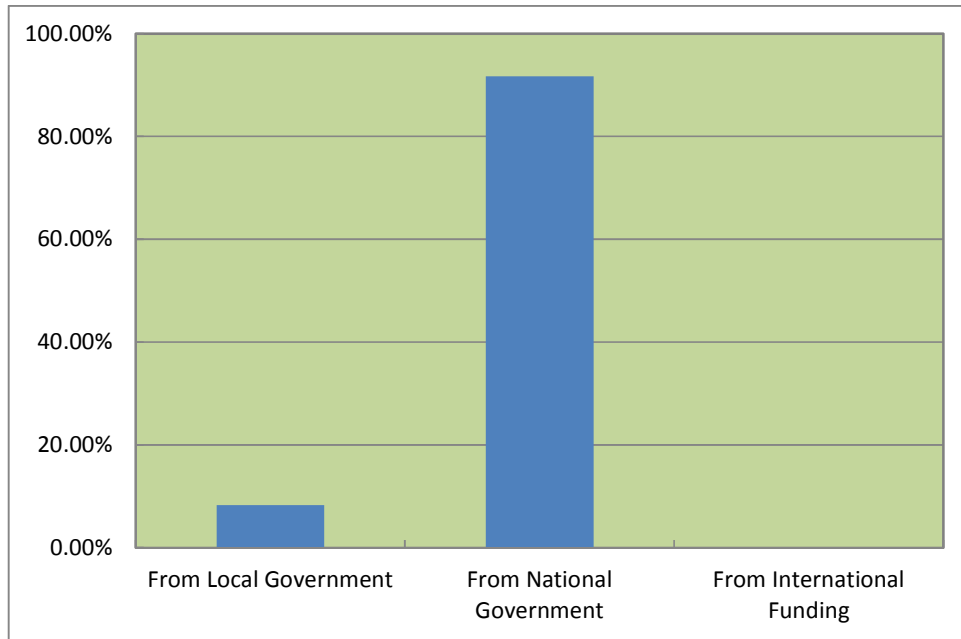


Figure 0-14. Export Incentives

4.6.3. New Product Development

The support for the development of new products was received from local government, national government and international funding, however only 27 percent of the component firms have received this benefit. National government was the major sponsors of this benefit contributing 66.67 percent of funds to component firms. Local government contributed 25.0 percent of the funds and international funding contributed the balance of 8.33 percent. New product development incentives were considered second most important in supporting the innovation strategy of automotive companies.

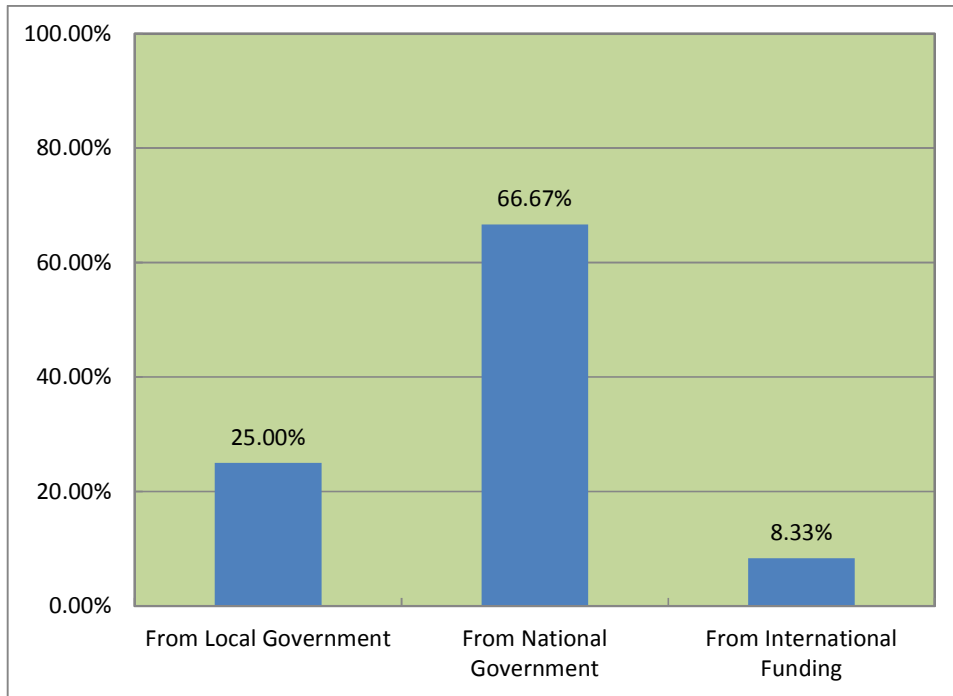


Figure 0-15. Funds to Develop New Products and Technology

4.6.4. Tax Incentives

Tax incentives were received by 23 percent of the respondents. The incentives were predominantly received from National Government at 63.64 percent while 27.27 percent were received from local government while 9.09 percent has been received from international funding.

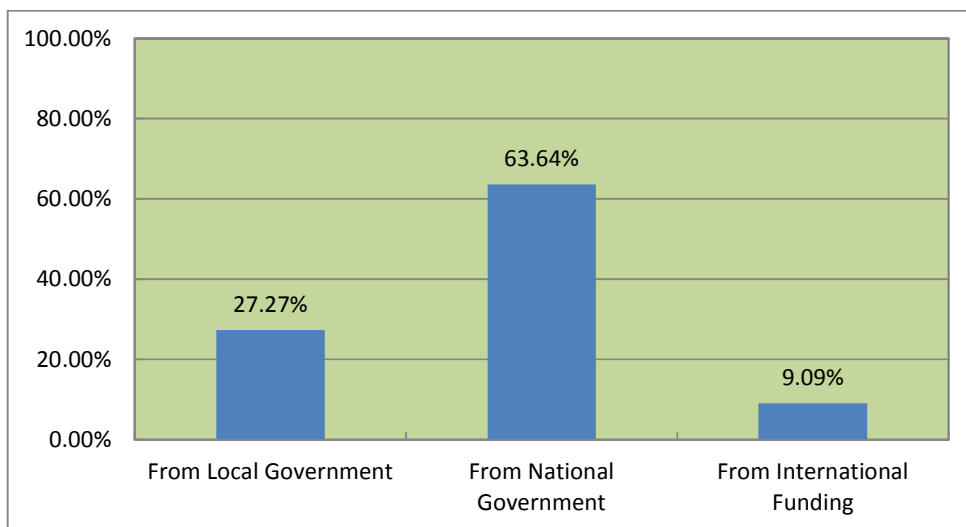


Figure 0-16. Tax Incentives

4.6.5. Training and Development Funding

A large number of component manufacturers have benefited from training and development funding. A total of 72 percent of the firms have received this benefit which accrued largely from local government. A total of 57.14 percent of funds were received from National government while 39.29 percent was received from local government and 3.57 percent was received from international funding. An interesting observation from these statistics is that training and development funding is considered least important in supporting the strategic objectives of their company.

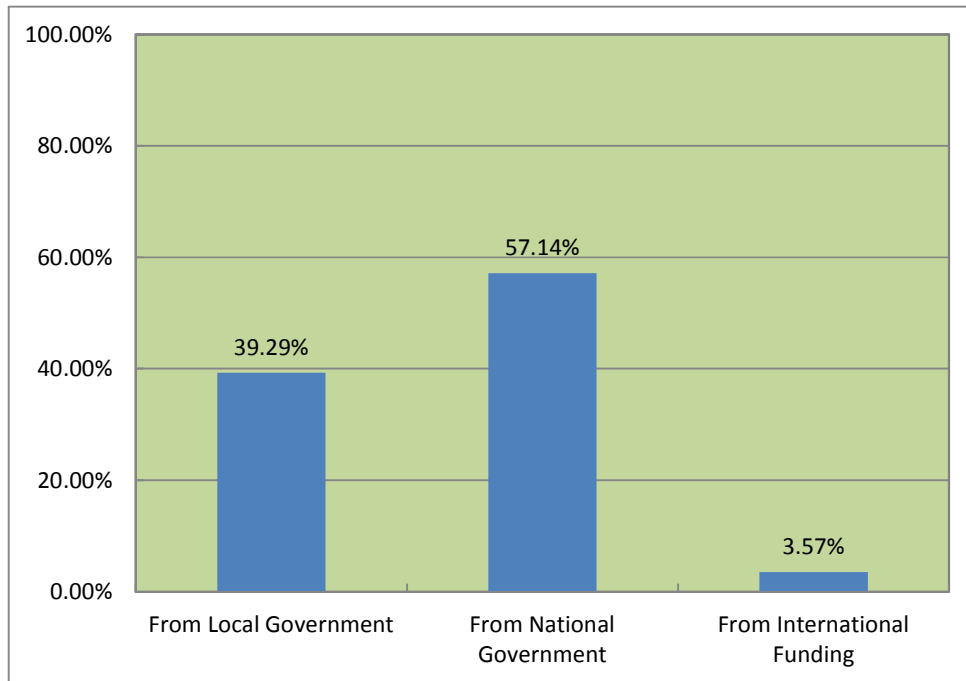


Figure 0-17. Training and Development

4.6.6. Technology Incentives

Only 7.8 percent of the respondents have indicated that they have received technology incentives from local government, national government and international funding. The benefits of technology incentives were largely received from local government. Fifty percent of the respondents indicated support from

local government while 25 percent indicated incentives from National government and 25 percent has been received from international funding.

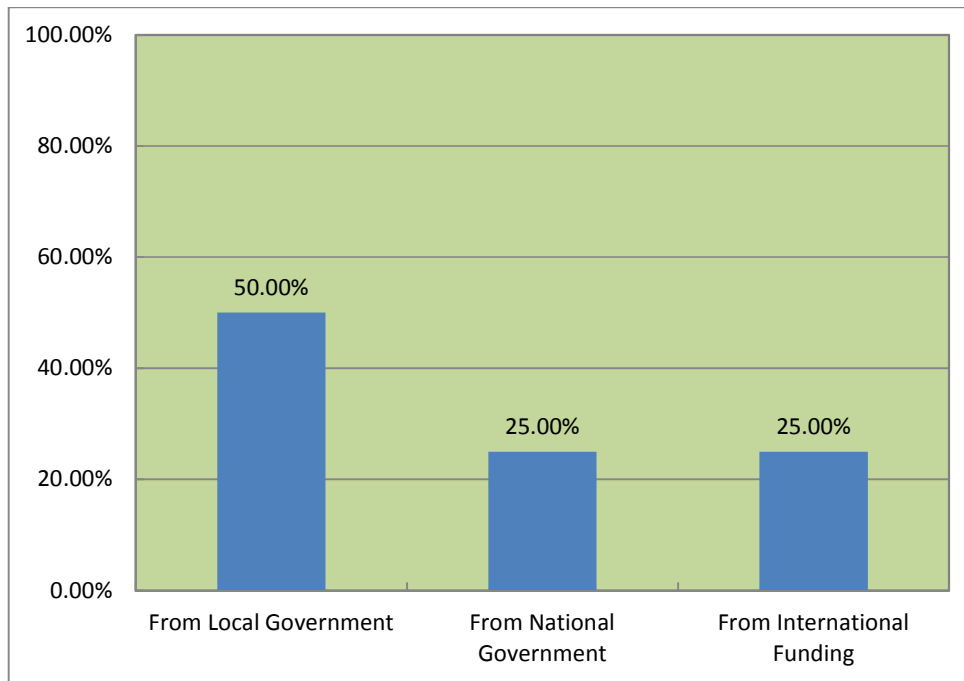


Figure 0-18. Information on Technological Opportunities

Government influences still has a major impact on the industry with the largest impact required for exports. The benefits of the MIDP are therefore still sought after to promote the strategies of the companies in the automotive component industry but more especially that of the direct exporters and indirectly for the companies who benefit from the higher volumes produced by OEMS. Funds to promote new product development are also perceived to be important to the industry in promoting the strategic objectives of the firms however the low levels of participation may indicate that companies either disqualify for the benefits or they have merely not taken up the opportunities available.

4.7. Research objective 4 - Determine the impact of competition on the local automotive component industry

4.7.1. Inbound Logistics cost

The South African automotive component suppliers spend an average of 10.05 percent of their revenues on logistics. More than 50 percent of the suppliers lie between 1 and 10 percent.

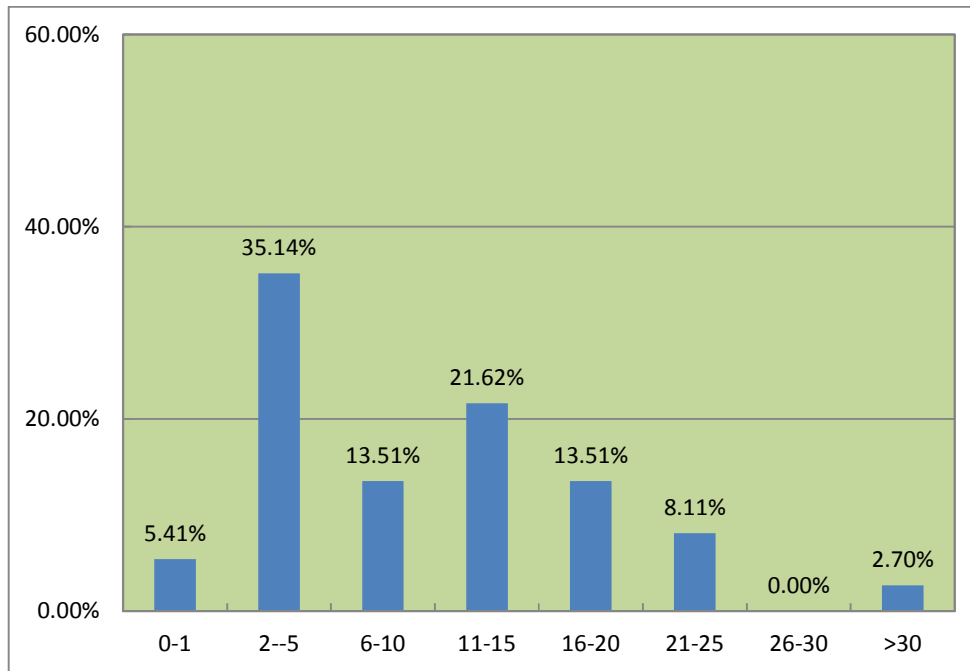


Figure 0-19. Inbound Logistics Cost

4.7.2. Number of competitors

Most companies in the automotive component industry have between 0 and two competitors in the market, refer Figure 0.20. The average number of competitors for South African automotive component suppliers is 4.0. Three clusters, each with one-third of the total, can be identified. The clusters are 1–2 competitors, 3–4 competitors and 5 or more competitors. Similar to the market share statement, it can be noted that the locally owned suppliers experience the strongest competition, with an average of 4.8 competitors, whereas the internationally owned suppliers have to cope with 3.6 competitors. From a tier-level point of view, the first tier level and the aftermarket are the most competitive. These groups average 4.8 and 5.3 competitors, respectively.

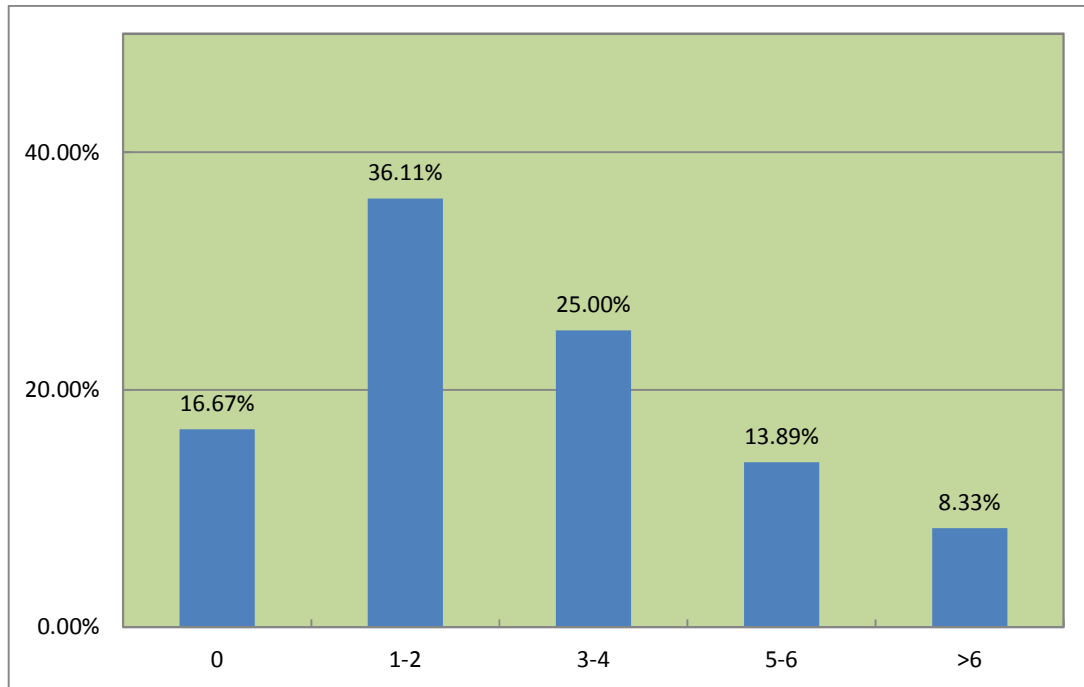


Figure 0-20. Number of Local Competitors

4.7.3. Price Competitiveness

Price competitiveness in the industry is rather concerning. 46 percent of the respondents believe that their pricing is comparable to the other developing countries; while 51 percent believe that their price competitiveness is inferior and only 3 percent believe that their pricing is superior to developing countries. The 3 percent respondents also claimed to have between 1 and 2 competitors in the market.

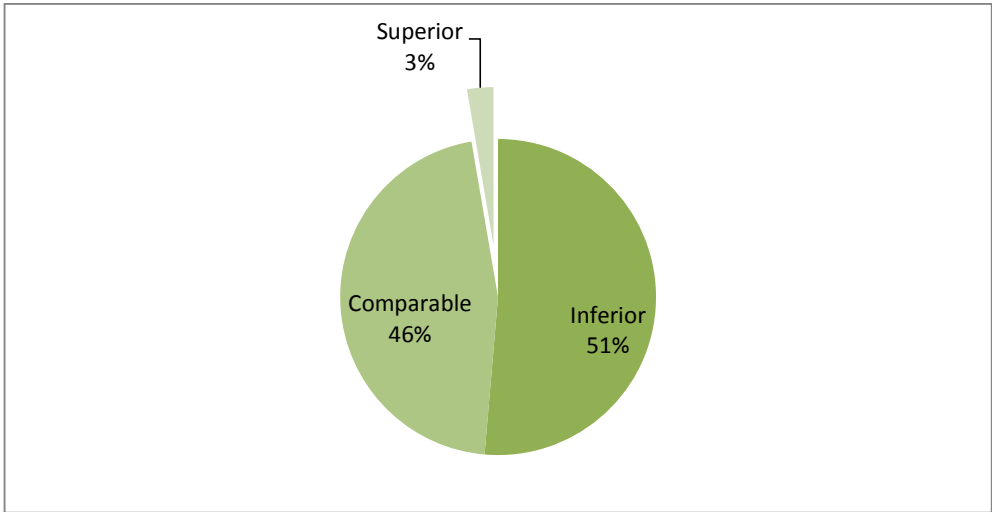


Figure 0-21. Price Competitiveness

4.7.4. Labour Costs

Approximately 84 percent of the respondents believe that their labour cost is inferior to that of other developing countries. 8 percent believe that it is comparable and only 8 percent believe that their labour cost is superior.

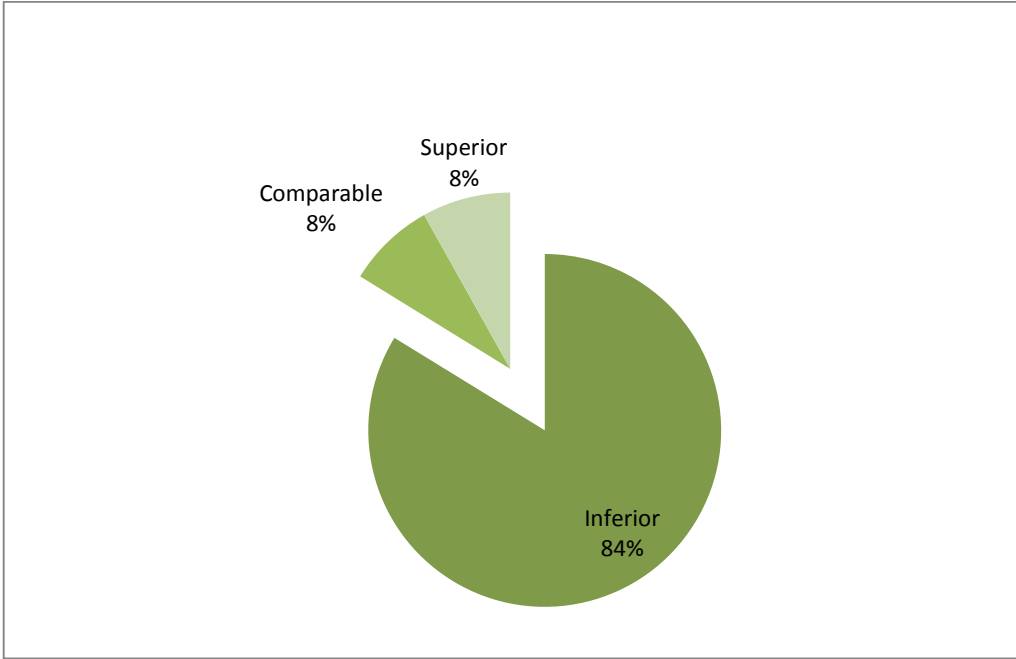


Figure 0-22. Labour Cost

4.7.5. Quality performance

Approximately 39 percent of the respondents believe that their quality is superior to that of developing countries, while 58 percent believe that their quality is comparable. Only 3 percent believe that their quality is inferior. Approximately 69.23 percent of the companies with international linkages believe that their quality is superior to developing countries compared to 26.92 percent locally owned companies. The companies that consider their quality to be inferior can be traced back to tier 1 suppliers who are internationally owned.

The conclusion from the above is that internationally linked suppliers have better quality standards and thus produce better quality parts. This supports the statements that Component manufacturers were persuaded to form relationships with Multinational Corporations (MNC) in order to meet global standards of quality, design and development.

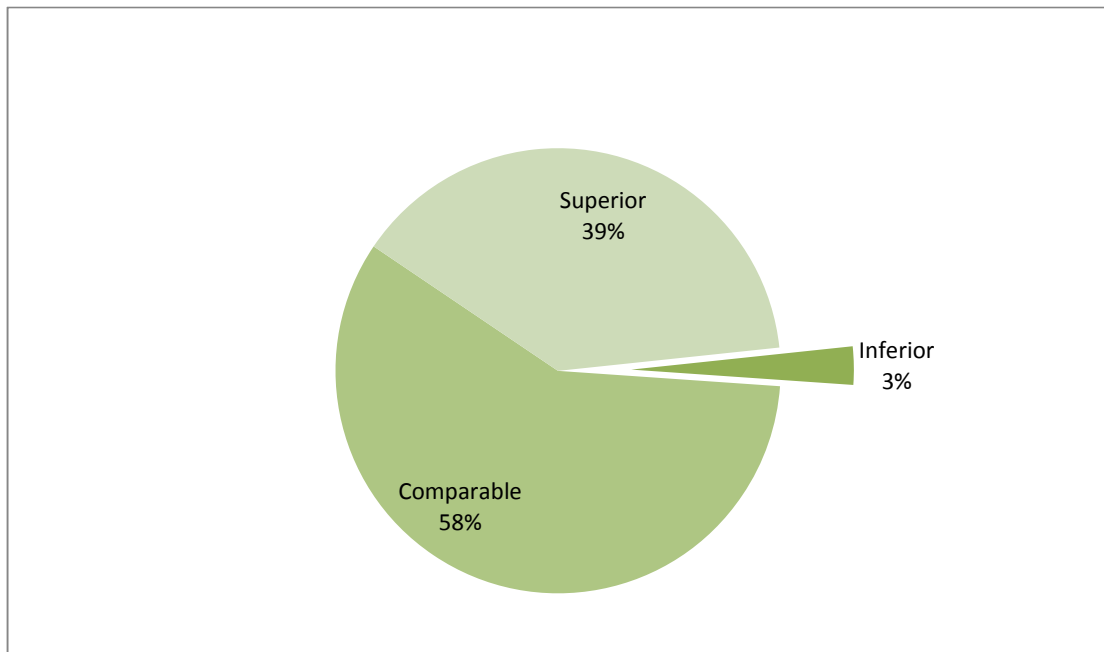


Figure 0-23. Quality Performance

4.7.6. Delivery performance

Approximately 58 percent of the respondents believe that their delivery is comparable to that of developing countries, while 39 percent believe that their delivery is superior. Only 3 percent believe that their delivery is inferior.

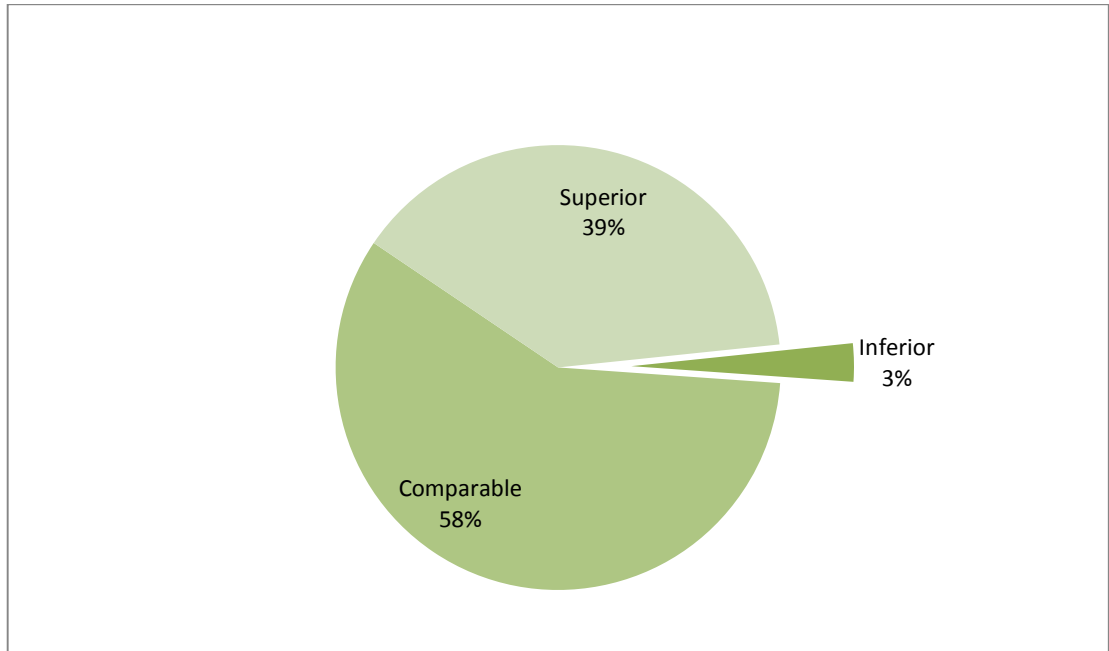


Figure 0-24. Delivery Performance

4.7.7. Strategy to access markets

The different strategies used to access markets indicate the value placed on certain elements of strategic advantages. This section is split into 3 markets, domestic market, developing markets and industrialised markets. The domestic market is the South African local OEM supply, while the developing market refers to the export to countries like India, China, Russia etc. and the industrialised markets refer to the European countries like Germany, America etc. Cost and quality appear to be the key strategy used to access the domestic markets while cost and strategic partnership become more prominent in accessing developing and industrialised markets. The implications of the above is that strategic partnership becomes more pronounced when exporting to other countries,

however there may not be a strong need for strategic partnership in accessing local market. Furthermore the element of cost competitiveness is the ultimate strategic driver used to access automotive component industry markets.

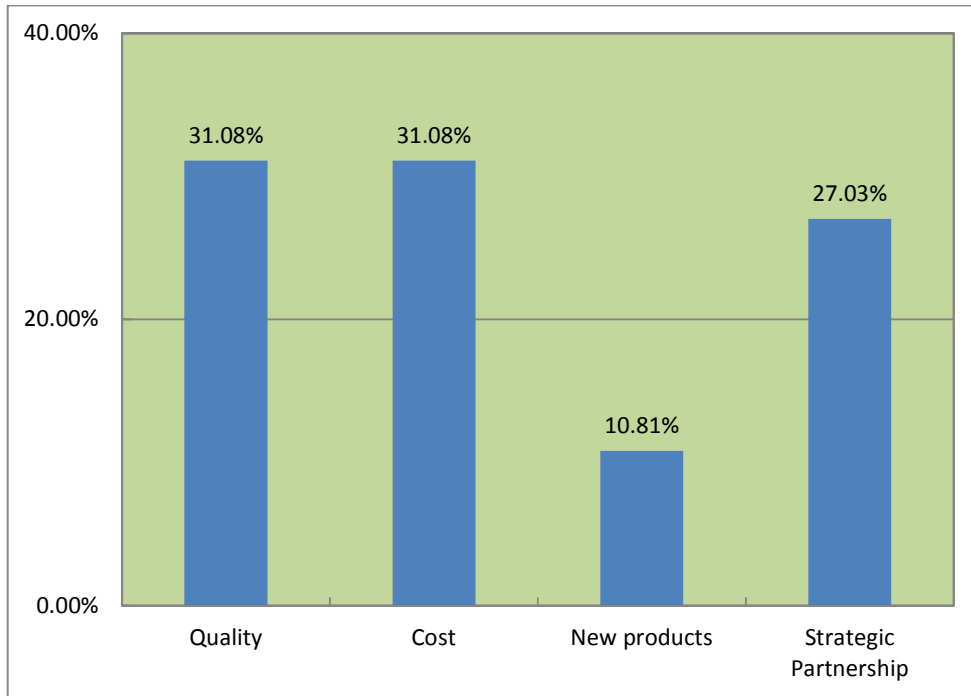


Figure 0-25. Access Domestic market

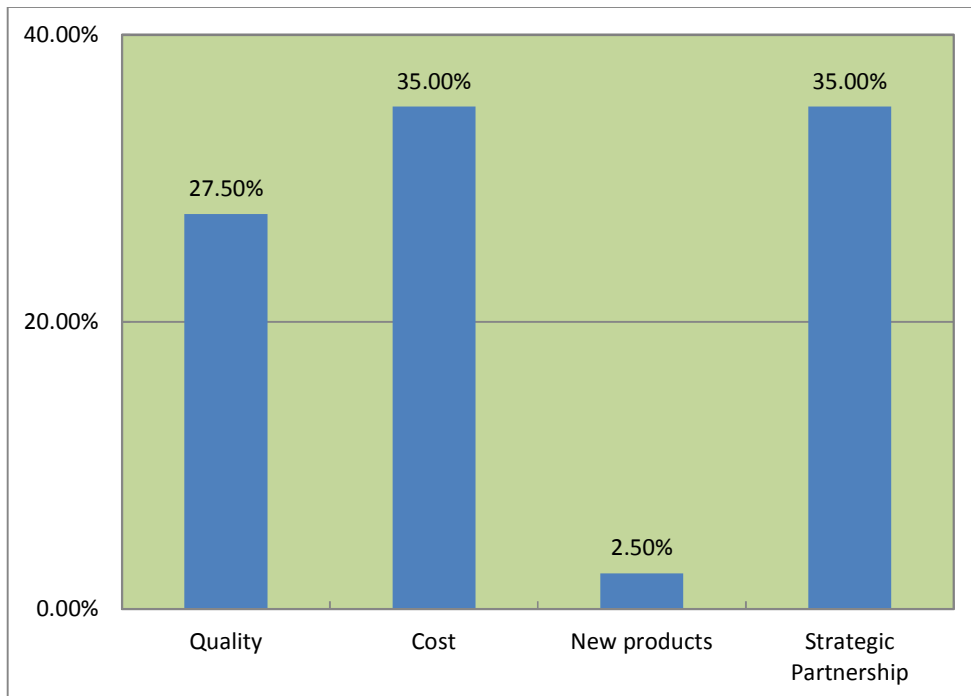


Figure 0-26. Access Developing Markets

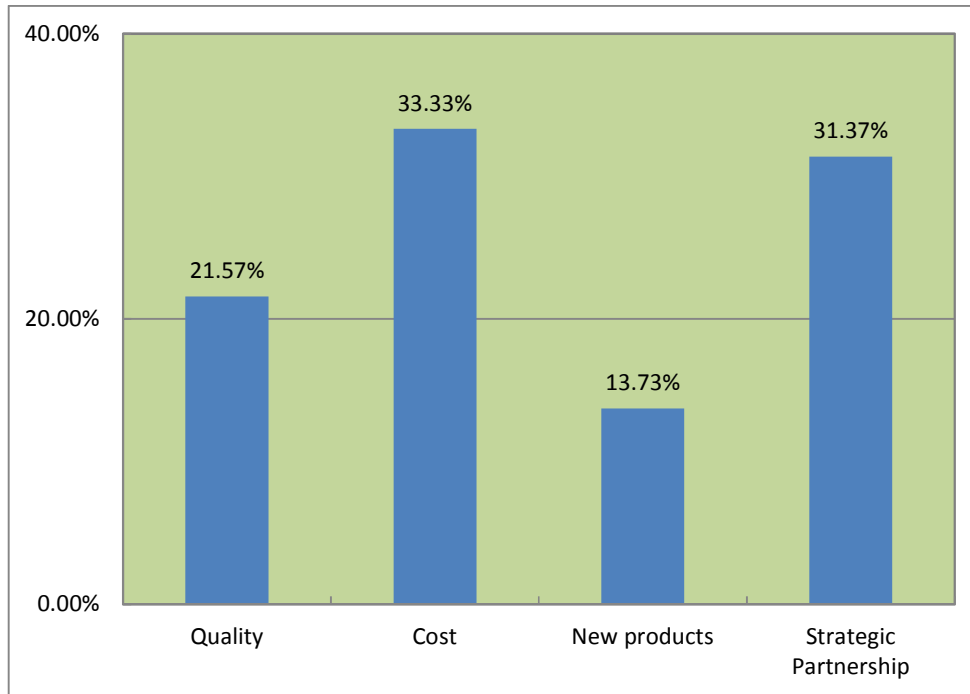


Figure 0-27. Access Industrialised Markets

4.7.8. Market Share

The average market share of the South African automotive component suppliers is 40.3 percent. More than 50 percent of the firms state that their market share is 50 percent or higher. It can be noted that there is an increasing market share starting with the locally owned suppliers towards the internationally owned suppliers. These groups average 30.5 percent 44.0 percent of market share, respectively. The other groups do not show substantial differences with regard to market share.

4.7.9. Economic adjustment

48.57 percent of respondents rate their ability to obtain price relief from customers as weak and 51.43 percent believe it to be fair while only companies believe that it is good. The results support the view held by Roland (2008), that first tier suppliers are sandwiched on one side by OEMs and consumers and on the other by financial pressures and raw-material markets.

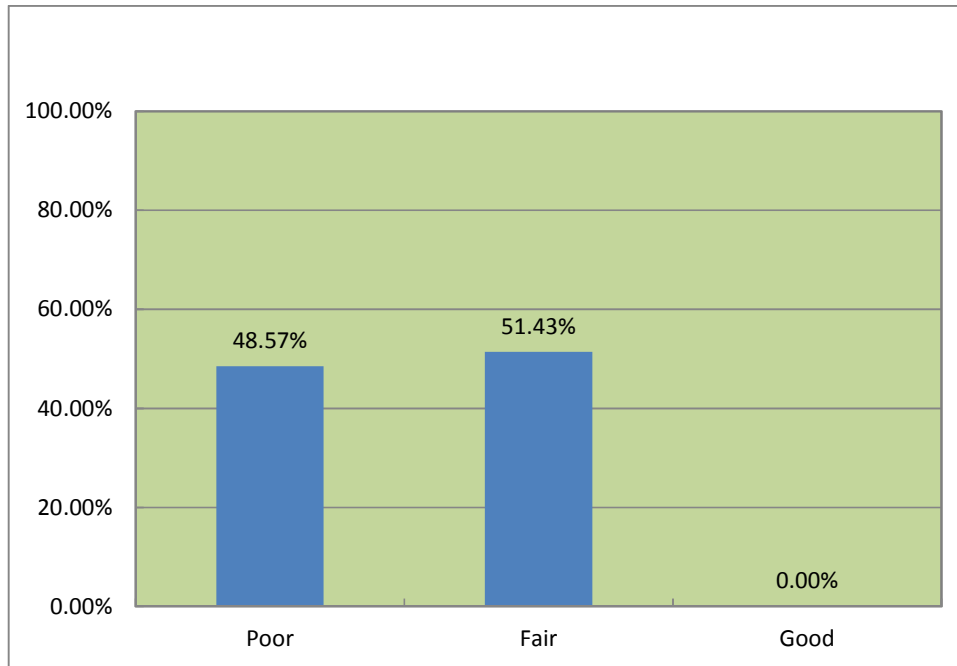


Figure 0-28. Economic Adjustments

4.8. Summary

The purpose of this chapter was to outline results of the empirical element of the study. The results were analysed to determine the various factors influencing the automotive component industry in the current climate. To a large extent the research within this field largely corroborates the literature review. However there are a few conflicting arguments on how these factors impact the survival of the industry. The overall results are used to draw the conclusion and the recommendations found in the next chapter.

CHAPTER FIVE

Findings and Recommendations

5.1. Introduction

The aim of this research was to investigate the challenges facing the industry and understand the influence on the sustainability of the automotive component industry. The theoretical aspects have been used to identify underlying aspects influencing the economic sustainability of local suppliers in the South African automotive value chain. Furthermore, the literature review expanded on the influence of globalisation and liberalisation, which was responsible for shaping the industry. The changes created a transformed industry through large-scale exposure to global markets and the reduction of market protection. The outcome was an uncertain future for the local firm and the automotive component industry at large. In order to understand the issues at hand, the following factors have been discussed:

Changes taking place in the industry

Liberalisation in the industry

Government subsidization of the Automotive Component Industry

Competition in the market to developing and developed markets

Data was collected and analysed via primary research in the South African automotive component industry. The analysis of the data leads to the research objectives which seek to understand the factors influencing the industry and the individual firm. This chapter presents a synthesis of the results and analysis of the research presented in the previous chapter.

5.2. Main Findings

The literature review presents the theoretical background to the nature of change in the automotive component industry both locally and internationally. In the South African automotive component industry, the changes have taken place in the

ownership structure, the level of operation and in their level of dependency in the area of design.

The research supports the arguments of (Barnes, 2004) with regards to companies forming alliances with global players in order to consolidate their position in the industry and ensure sustainability in the light of Globalisation. The industry has shown a tendency to go beyond mere licensing agreements and shows a shift towards global ownership. The empirical study presented in 4.2.1.2.1 found that Globalisation has transformed the industry. This is evident from results which demonstrate that majority of companies now have global links via ownership, joint ventures or licensing agreements. The local firm therefore only exists in small pockets and insignificant proportions. This leads to the conclusion that in order to survive in the South African automotive industry, most companies must form alliances with global market players. However there is still hope for the local firms especially when they have competitive advantages over foreign competitors.

Black (2011) suggests that companies form associations with foreign companies in order to access capital required for development and to make use of technology developed outside the country. The results presented in 4.2.1.21 demonstrate an industry that compares favourably in the area of technology, with the likes of developing and developed countries. The results suggest a strong correlation between ownership and level of technology leading to the conclusion that foreign linkages are important for developing the level of technology.

Whilst the level of technology is appropriate in the industry the manner in which it is obtained is questionable. Technology imported rather than developed locally results in deficiencies in the value chain as import content increases. High import content results in cost accumulation which impacts on the competitive position of the industry when compared to developing and developed countries. Therefore despite a high level of technology in the industry there still exists high import content as represented in 4.2.2.1.

A further structural change taking place in the industry is the depletion of tier 1 suppliers. The results of 4.2.2.1 show that there are less than 100 tier 1 suppliers compared to over 2000 suppliers in 1980. This suggests the transformation of the value chain and points to a decline in the number of companies operating in this

level. The decline of tier 1 participation point to the demise of tier 1 companies and or could suggest the relegation of suppliers to second tier levels as argued in the literature review.

Most companies operating in the South African automotive component industry do not develop their own designs and are therefore heavily dependent on product designs produced by lead source firms. The research supports presented in 4.2.21 supports the trend of dependency on OEM design. The trend in the global industry however is for companies to take on design responsibility and for this they are rewarded with global contracts. The South African industry however is not taking up the challenge of becoming design responsible and this could have negative consequences especially with regards to securing future business.

Chapter three presents liberalisation in a twofold manner. On the one hand liberalisation has been beneficial in removing barriers of trade which leads to increased capital and product flows and on the other hand liberalisation has resulted in increased competition with global firms thus forcing the local company to innovate or improve efficiency to survive or else face the challenge of low margins or lost business to other developing countries.

The research supports the trend of increasing foreign direct investment in the South African industry however a large section of the industry is not influenced by FDI. Furthermore the extent of FDI is not substantial enough to be of much significance to the industry. FDI is necessary to upgrade technology. Without this benefit companies face extreme challenges when competing with global markets. The evidence of this challenge is identified in the research finding under 4.6.3, where it is found that a large portion of the industry considers its competitive position to be inferior to that of developing and developed countries. It is also found that there is a correlation between receiving FDI and perception of competitiveness. Companies that do not receive foreign domestic investment are considered to perform poorly in terms of their competitiveness.

The South African automotive component firm depends heavily on imported materials, as described in 4.2.1.4.1. This can be attributable to the changing

nature of industrial policies that initially promoted local content through ISP and thereafter promoted liberalisation through the MIDP. The arguments have been presented in the literature review to suggest that high import content makes the industry uncompetitive. There is also the suggestion that the concepts of TNCs controlling the technology and thus promoting the resourcing of certain materials and components from global sources.

Higher imports would suggest higher costs as the result of import duties, packing and logistics costs and the added risk associated with long lead times and possible obsolescence. All of these factors affect the cost of the final product and makes the South African supplier less competitive. The high import content arises as the result of removal of trade barriers that previously protected and encouraged local content. High import content means less support for the local industry as well as higher variability in terms of exchange rate fluctuation, fuel prices, and poor infrastructure.

Competition based on pricing is a real issue facing the industry. The results presented in 4.2.1.4.6 suggest that South African automotive firms compare poorly to other developing and developed nations with regards to price competitiveness. This result is in conflict with the arguments presented in the literature review which suggest that trade liberalisation creates improved global competitiveness through improvements in efficiency and productivity. Nevertheless price competitiveness is a factor of input costs which leads to a theory that suggests that input costs determine the competitiveness of the company.

An alarming concern in the industry is the perception of high labour cost. This is of importance especially considering that South Africa is a latecomer to the global environment and latecomers are expected to have low labour cost as a benefit to compensate for inexperience in the market. The analysis presented in section 4.2.1.4.7 however shows that the majority of firms believe that their labour cost is inferior to that of developing countries. The composite of this argument implies that developing and developed labour cost is less expensive than in the South African automotive component industry. Therefore the local automotive firms will be disadvantaged when competing against global markets from a labour cost

perspective and contracts will most likely be awarded to low cost regions at the expense of the South African market

Contrasting views have been presented in the literature review by (Flatters, 2005) with regard to whether policies and programs supporting the industry are actually benefiting the industry or stifling its growth. It has also been established that government subsidization of the industry is a norm in developing countries and there are direct benefits to be had from these policies. The research however has established that the benefits of the various programs may not be adequate to sufficiently support the industry.

The once off benefits averaged R3m per company and only reached 75 percent of the companies. A small percentage of 30 percent of companies have received export incentives while only 27 percent of the companies have received new product development incentives and 23 percent of the companies have received tax incentives and 7.8 percent of companies have received technology incentives. Black (2011) provides a strong argument for companies to improve technology in order to remain competitive in the South African automotive component industry. We have established that the technology levels in South Africa are favourable; however they are obtained via imports and not developed internally.

5.3. Implications for Business and Government

The following discussion points to the conclusion of the more practical applications of the research. However, the practical issues are tied to the theoretical implications and will be related to these:

Global competition – Successful competition in global markets is an important factor in ensuring sustainability of the local industry. In order to compete with other developing countries the South African firms needs to formulate strategic partnerships through joint ventures, licensing agreements and technology agreements with global market players in order to tap into the influence that they have in the supply chain. Humphrey (2004) believes that participation in global value chains can stimulate learning and the acquisition of technological

capabilities. However, upgrading is not automatically guaranteed simply by participating - it requires active effort and investment by firms and support from public agencies (Humphrey, 2004).

Trade Policies - While policies supporting the local industry has its merits in promoting the industry, it does however create a level of dependency which stifles the competitiveness of companies and their ability to compete in a free market. It is therefore paramount that the design of policy takes cognisance of the issues facing companies and the industry at the grass root level. Furthermore the importance of communication at all levels is vital in order to take account of the interests of all parties. This will ensure the independence in the process and prevent the fostering on vested interest by independent bodies.

Local content: The high dependency of the local industry on imported goods and component may be attributable to the deficiencies in the local supply chain's technological capabilities, capacities or costs. It would serve the industry well to focus on improving technology which drives down costs and improves capacities. Vertical integration of operations incorporating raw material supply may strengthen the competitive position of the local suppliers and improve the demand for cost effective highly advanced local components and materials. This would be an alternative to implementing trade policies which are more succinct in their support for the component firm.

Logistics cost: Closely allied to the high import content is the issue of logistics costs which contributes to the cost burden of the local firm. This cost finds its way up the value chain to the OEM and causes the final product to be less competitive than the costs in countries with favourable logistics rates. Logistics costs are heavily influenced by the state of the country's transport infrastructure. Focus should be placed on the improvement of this sector of the industry in order to create more efficient and effective According Humphrey (2004) trade policy should focus on the support and the development of infrastructure since well-developed infrastructure aids reliability of supply, improves efficiency and contributes towards overall competitiveness;

Competitiveness - Local companies need to be agile enough to absorb fluctuating demand conditions and promote lean operations in order to be or remain cost competitive in a high cost environment.

Other perspectives on issues like South Africa's advantage in terms of African markets and the impact of the BRICS association has not been explored sufficiently in light of its prominence to the industry.

5.4. Arrears for future research

The nature of the study and the results of this research are profound in the current climate prevailing in the global industry and more especially in the South African automotive component. However there is much uncertainty with regards to the factors shaping and affecting the industry. Further investigation into the topic is therefore required and the following recommendations may be useful in uncovering the issues facing the automotive component firm in the dynamic industry.

The current research focuses mainly on the South African Component Industry with sporadic references to the global industry. A more valuable insight can be gained by extending the research to the global industry. Useful comparisons and lessons can be learnt from a broader environment. Furthermore advanced trends in the global environment may provide key indicators for possible outcomes in the local industry.

The nature of the study is more suited to a longitudinal study rather than a cross sectional study undertaken in this research. This form of study would be useful in evaluating and gauging the success and failure of government policies over time. An understanding of the factors will be useful in formulating and recommending future policies for creating a sustainability industry. Furthermore an analysis of firms' strategic activities over time will enable researchers to establish the trajectory being followed by the respective firms and confirm whether companies in the industry are becoming more successful or whether they are falling into oblivion because of the rapid changes taking place in the industry. As mentioned above,

the longitudinal approach of the survey should be used in further research. This would incorporate the time factor and allow for growth observations. Through this dynamic approach, implications of the different governance levels could be identified in order to improve the factors for the economic sustainability.

Gathering of financial data is key to understanding the sustainability of the industry, however the researcher was of the opinion that requesting financial data may compromise the response rate as respondents would either be loath to supplying this data or may not have this readily available at the time of encountering the survey. Personal interviews with respondents would be recommended in order to ensure reliable input into the survey and this would also overcome this challenge of response apathy.

Larger sample size always increases the statistical significance of the results and any attempt to get additional firms to participate in the study is always recommended.

5.5. Limitations and arrears for further research

The limitation in this field of research arises through the scarcity of data available on the South African automotive industry. It is also evident that much of the data available was collected through research in the industry by renowned researchers who have been instrumental in advising the government on policies over the years. Much of the research was used in the formulation of policies to support the local industry. An unbiased view on industry is seldom challenged.

In order to overcome this limitation, a quantitative study was conducted in order to gather data from the industry. The gathered data however cannot be used for the generalisation of the findings. Nevertheless, the findings give clear indications and direction because of the structure of the respondents and the firms. Due to the limitations in the completeness of the responses in the survey the analysis of the data is also limited.

In order to understand the financial trends and position of the industry, one would have to secure data relating the financial position of the company over time, the analysis of this data will aid in further analytical reasoning for the assessment of sustainability

For further analysis with a regression or factor analysis the data is not satisfactory because of the fact that especially financial data has not been requested due to the possibility that this information would jeopardise the response rate due to company policies and secrecy issues.

The next issue relates to benchmarking figures that are needed to evaluate the measures for economical sustainability. Access to data from the developed countries and other emerging markets are needed in order to make judgments and discuss developments.

In addition to the limitations with regard to the data, there are several research requirements with regard to the further development of the conceptual model. Despite the complexity of the model, it should be possible to update the model by integrating new factors and removing old factors. In addition, it is worthwhile incorporating the OEMs' view and environmental aspects into the model. This should be done in order to cope with the developments in the automotive value chain. Furthermore, the dependent variables need to be advanced in order to take into account revenue, cost and financial structures.

5.6. Conclusion

The sustainability of the automotive component suppliers has been the subject for much research over the years. Furthermore the evolution of the industry has been described as showing the transformation from an industry characterized by local protection policies to one exposed to wanton Globalization. The impact of globalization has been discussed at large as it formed the key contributing factor impacting on the sustainability of the Automotive Component Industry in South Africa. Globalization however has been discussed in the light of liberalization of markets which signalled the turning point for the industry. The changing nature of

the business and the shift towards Multi-National Corporations was seen to have transformed the industry and has led to a shift from local thinking to global competition. The research confirmed the transformed nature of the industry and has highlighted the factors that impact the sustainability of the industry. The current industry faces many challenges from a technology and competitiveness point of view however there certainly are options available to owners, government, and policy makers to influence the industry in order to cement their position in the global arena.

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Survey: Factors affecting the sustainability of the Automot

The factors affecting the sustainability of the Automotive Component Industry in South Africa.

Informed Consent Letter 3C

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

Dear Respondent,

MBA Research Project
Researcher: Jeffrey Komarasamy (082 906 7165)
Supervisor: Muhammed Hoque (031 260 8690)
Research Office: Ms P Ximba 031-2603567

I, Jeffrey Komarasamy am an MBA student, at the Graduate School of Business and Leadership, of the University of KwaZulu Natal. You are invited to participate in a research project entitled "The factors affecting the sustainability of the Automotive Component Industry in South Africa". The aim of this study is to understand the impact of Globalisation and Liberalisation on the sustainability of the Industry.

Through your participation I hope to understand the challenges facing the Industry.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey/focus group. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about 10 minutes to complete, I hope you will take the time to complete this survey.

Continue button below.

I Agree

Please indicate your current position in the company

- MFI
- CEO
- Senior Management
- Middle Management

Please indicate the age of your company. (in years).

- 1-3
- 4-5
- 6-10
- 11-20
- 21 and older

Please state the type of market you operate in.

- OEM
- Tier-1
- Tier-2
- Tier-3
- Aftermarket
- Non-Automotive
- Other

Please indicate the type of ownership of your company. (This question relates to the equity holders in your company)

- Locally owned South African supplier
- Locally owned South African supplier using international patents / licenses.
- Joint Venture (JV) of locally owned South African and international supplier.
- Internationally owned supplier
- Other

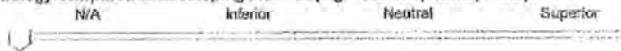
If internationally tied please indicate the FDI (Foreign Direct Investment) in the last 5 years. (in ZARm)

- 0
- 1-10
- 11-50
- 51-100
- 101-200
- >200

Please indicate the estimated percentage of your company's sales according to the following categories:

	Percentage
Products manufactured by your unit according to design specifications provided by external buyers (Original Equipment Manufacturing — OEM)	<input style="width: 40px; height: 15px;" type="text"/>
Products developed and designed by your unit according to performance requirements of buyers (Original Design Manufacturing — ODM).	<input style="width: 40px; height: 15px;" type="text"/>
Products developed and designed by your unit and sold under your own brand (Original Brand Manufacturing — OBM).	<input style="width: 40px; height: 15px;" type="text"/>
Other	<input style="width: 40px; height: 15px;" type="text"/>

How would you rate your firm's technology compared to developing markets (e.g. Thailand, China, India)?



Is your machinery and equipment behind or ahead of the average developing markets (e.g. Thailand, China, India) ?

- Ahead
- Behind
- Average

Unknown

Please state the number of Local competitors in your market.

- 0
- 1-2
- 3-4
- 5-8
- >8

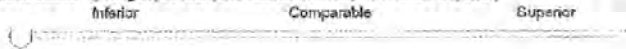
Please state your market share for 2012, [%]

- 1-10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71-80
- 81-90
- 91-100

How would you rate your price competitiveness as compared to the developing markets (e.g. Thailand, China, India)?



How would you rate the South African labour cost including all influences compared to the developing markets (e.g. Thailand, China, India)? (influences are salaries, wages, strikes, industrial actions, unionization, etc.)



How would you rate your product's quality performance compared to the other developing markets (e.g. Thailand, China, India)?



How would you rate your product's delivery performance compared to the other developing markets (e.g. Thailand, China, India)?



Please indicate which strategy is mainly used to access each of the markets.

	Quality	Cost	New products	Strategic Partnership
Access domestic market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access market in other developing countries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access markets in industrialized markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In the Automotive Component industry, which of these activities in the value chain did you perform in 2012?

- Material supplier (e.g. glass, steels)
- Component supplier (of general use)
- Component Manufacturer
- Module assembly (interior/assembled wheel/door module)
- Marketing & distribution (for own product only)
- Post production (for own product only)

How would you rate the Supplier-Customer linkages in terms of information flows in your business?
(Please specify your general impression)

N/A Not sufficient Sufficient Value adding

|-----|-----|-----|-----|

How would you rate your ability to secure economic price adjustments from customers? (Please specify your general impression)

Poor Fair Good

|-----|-----|-----|

Please state the amount of Supplier development activities you have received and invested in 2012.

Received	No. of Days
Given	<input type="text"/>

Please state the number of Horizontal Upgrades in the value chain your company has done in the last three (3) years.
(Horizontal upgrade means for example that a new product category was developed)

- 0
- 1-2
- 3-4
- 5-6
- 7-9
- 9-10
- >10

Please state the ONCE-OFF monetary support you had received by the government (and/or any governmental related organizations) in 2012.

(This includes support received for investments, start-up cost, etc.)
[ZARm for 2012]

- 1-2
- 3-4
- 5-6
- 7-8
- 9-10
- 11-15
- 16-20

If your company has benefited in 2012 from any of the following supporting schemes to competitiveness, innovation or technology dissemination, please indicate which of them have been important to support your company's innovation strategies. (Mark with a X all that apply)

	From Local Government	From National Government	From International Funding
Tax incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Funds to develop new products and acquire technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Export incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information on technological opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Training and Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please state the Inbound Logistic Cost of your business in 2012.
[% of Revenues for 2012]

- 0-1
- 2-5
- 6-10
- 11-15
- 16-20
- 21-25
- 26-30
- >30




Please indicate the origin of suppliers in 2012 (estimated percentage on total purchases)

- Domestic market
- North America (US and Canada)
- Western Europe
- Africa (except domestic)
- Asia
- Other

Percentage

Please indicate your average percentage local content for your top selling product (% of total material cost for 2012)

- 0-10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71-80
- 81-90
- >90

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National Association of
Automotive Component
and Allied Manufacturers
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Gatekeeper's Letter

Date: 27 September 2013

Student Name: Jeffrey Komarasamy

Student Number: 211528514

Re: Request for approval to conduct a study on the Factors Affecting the Sustainability of the Automotive Component Industry in South Africa

Dear Mr. Komarasamy,

As per your request, NAACAM grants you permission to conduct a study on "The Factors Affecting the Sustainability of the Automotive Component Industry in South Africa", which will include information pertaining to the general nature of business gathered from member companies. This will pertain primarily to trends and benchmarking against other economies.

Permission is granted with the understanding that the results of the study will be handled in strict confidentiality and the names of NAACAM member companies are not to be specified. The results, therefore, will be consolidated. In addition, NAACAM would naturally receive a copy of the results of said study for their records.

Good luck and kind regards,

A handwritten signature in black ink, appearing to read "Robert Houdet", is written over a horizontal line.

Robert Houdet : Executive Director

President: M. Poole
Executive Director: J.R. Houdet



11 October 2015

Mr Jeffrey Komarasamy (211528534)
Graduate School of Business and Leadership
Westville Campus

Protocol reference number: HSS/09C9/018M
Project title: The factors affecting the sustainability of the Automobile Component Industry in South Africa

Dear Mr Komarasamy,

Expedited Approval

I wish to inform you that your application has been granted Full Approval.

Any variation/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

Take this opportunity of wishing you everything of the best with your study.

Yours faithfully


Dr Shunika Singh (Acting Chair)
/ms

cc Supervisor: Mr Muhammed Hoque
cc Academic Leader Research: Dr E Munnipo
cc School Administrator: Ms Wendy Clarke

Humanities & Social Sciences Research Ethics Committee


Dr Shunika Singh (Acting Chair)

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Future Campuses: in Edgewood in Howard College in Pietermaritzburg in Westville