UNIVERSITY OF KWAZULU-NATAL

ANALYSIS OF GLOBAL COMPETITIVENESS IN THE LIGHT MOTOR VEHICLE COMPONENT INDUSTRY OF SOUTH AFRICA

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Abstract

The automotive industry's global competitiveness has been acknowledged by the South African government and therefore the sector has been identified as a key economic growth sector. The success of the domestic automotive component industry is dependent on efficient business platforms which is essential for the industry to become progressively more internationally competitive, grow exports, stimulate economic growth and create more jobs.

The research problem addressed in this study was to establish an in-depth understanding of the extent of South Africa's global competitiveness in the automotive component manufacturing industry, identifying the factors influencing the component industry's competitiveness and its impact on economic growth and sustainability of the component industry. A comprehensive literature review was executed to obtain a clear understanding of South Africa's global competitiveness in the automotive component industry.

To achieve the objectives of the study and effectively answer the research question, it was necessary to approach the research from different angles. The research approach to this study was both exploratory and descriptive, therefore both qualitative and quantitative research approaches were executed.

The findings of this research clearly indicates that the automotive industry in the medium to long term is dependent on government regulations and policies for the survival of the industry. The findings further highlighted that localisation as a key factor behind successful integration of the South African automotive component industry into the global market.

The results obtained from both the qualitative and quantitative research indicated that there was a consensus on many issues regarding the role of government strategies and policies in creating a competitive advantage for the component industry and the importance of government's intervention in stimulating the industry's competitiveness. The respondents were virtually unanimous in indicating that the component industry zealously anticipates further changes in government policy in order to increase competiveness of the automotive component industry in the global supply chain.

The study also found that there is a need for tariff protection or the industry will collapse in the face of global competition due to increased cheap imports into South Africa.

Despite the challenges of globalisation, leaders in the South African automotive component industry remain positive about the future growth of the industry.

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List of Acronyms and Abbreviations

ACM	Automotive Component Manufacturers
ACMA	Automotive Components manufacturing Association of India
AIEC	Automotive Industry Export Council
AIDC	Automotive Industry Development Centre
AIS	Automotive Incentive Scheme
APDP	Automotive Production and Development Programme
BCG	Boston Consulting Group
BERA	Business Economic Research Adviser
BMI	Business Monitor International
BRIC	Brazil, Russia, India, China
BRICS	Brazil, Russia, India, China, South Africa
CAGR	Compound Annual Growth Rate
CBU	Completely built up
CKD	Completely knocked down
DTI	Department of Trade and Industry
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GM	General Motors
GDP	Gross Domestic Product
GOI	Government of India
IA	Industrial Assembly
IPAP	Industrial Policy Action Plan
IPT	Industrial Product Tax
IRCC	Import-duty Rebate Credit Certificate
ITAC	International Trade and Administration Commission
JIT	Just in Time
KZN	KwaZulu-Natal
LCV	Light Commercial Vehicles
MIDP	Motor Industry Development Plan
MNC	Multinational Corporations
NAACAM	National Association of Automotive Component and Allied Manufacturers

NAAMSA	National Association of Automobile Manufacturers of South Africa
OEM	Original Equipment Manufacturers
OICA	International Organization of Motor Vehicles Manufacturers
R&D	Research and Development
ROCE	Return on Capital Employed
SAABC	South African Automotive Bench Marking Club
SA	South Africa
SME	Small Micro Enterprises
TCA	Thematic Content Analysis
TMC	Toyota Motor Corporation
TNC	Transnational Company
TRIMs	Trade-Related Investment Measures
TSA	Toyota South Africa
WTO	World Trade Organization

CHAPTER ONE
Orientation

1.1 Introduction

The scope of opportunities for well-established industries have increased as a result of globalisation. Competition begins to shift from a national to an international focus when business expand into foreign markets to increase market share. Increased participation in the global market means that firms have also become increasingly subject to fierce global competition. Due to globalisation, international competition has increased performance standards in areas of cost, quality, service delivery, dependability, flexibility and productivity. Hitt, Ireland and Hoskisson (2001:16) noted that global standards are not fixed, but require continuous improvement from a company and its employees. This is applicable to the automotive industry, which has experienced considerable turmoil not only globally but also in South Africa.

The stagnant performance of the South African automotive industry, led to a process of structural changes prior to 1995, aimed at increasing value added production and enhancing global competitiveness. The government promoted structural changes to the domestic automotive industry by opening the economy to international competition through a program of tariff reduction and export orientation. The South African strategy of becoming a globally competitive automotive industry therefore focused on improving competitiveness.

The automotive component industry is an integral part of the South African economy and a key driver of exports. The decline of automotive component manufacturer’s competiveness would have a direct impact on the country’s exports and negatively impact on the growth strategy of localisation within the industry. The study aims to establish the global competiveness of the South African automotive component industry and the factors that influence competitiveness.

This chapter outlines the overview of the research topic and the rational of the study. The aims and objectives that the research seeks to address are clearly defined.

1.2 Background to the problem

The global automotive industry is regarded as the world's largest manufacturing industry because it has been the foundation of the manufacturing industry in the United States of America, Japan and various parts of Western Europe, since the conclusion of the Second World War. It is a key sector of the world economy, registering a growth rate of 30% over the past decade (Business Monitor International, 2012). Lamprecht (2006) noted that given the significant impact the automotive industry has on the economy, governments, both national and regional, from across the world have been instrumental in attracting international automotive companies to establish manufacturing facilities in their regions.

Developing countries, which are increasingly integrated into the value chain of global automotive role players, have to respond to the direct impact of the major global trends on their operations as well as to compete with one another for sourcing and outsourcing opportunities (Automotive Industry Export Council, 2013).

Business and Economics Research Advisor (2004) stated that the globalization of the automotive industry has gained momentum since 1995 through the building of facilities in countries which are foreign to the initial manufacturers and the formation of mergers between multinational automotive assemblers. The global automotive industry is experiencing the effects of change in an accelerated way due to the globalisation of production. Original Equipment Manufacturers (OEMs) have implemented cost-cutting strategies fundamentally driven by certain major underlying global trends.

The development of niche markets and the proliferation of models could create new opportunities in emerging markets and lower-cost producing countries. It is within this changing environment that many developing countries like South Africa are seeking to establish themselves as producers of vehicles and automotive components (Ndamase and Steyn, 2011). The South African automotive sector has played a pivotal role in South Africa's rapid economic and industrial development, being a significant contributor to the growth of the economy.

Gastrow (2012:5896) asserted that government policy intervention in the South African automotive industry has changed the nature of the relationship between OEMs and automotive component manufacturers and transformed the focus of the industry from being inwardly to outwardly orientated. Kohpaiboon (2009) stated that within the global reality of over- capacity South Africa has to increasingly brand itself as an attractive production hub for niche vehicle platforms. South Africa’s competitive advantages, like its proven small and flexi-run production capabilities, allow it to fit into the broader global strategies of parent companies.

The South African automotive component industry exposes itself directly to global competition, as it sees itself linked into the global automotive value chain. This competitive force is responsible for substantial performance upgrades in the South African automotive component industry, while at the same time it limits opportunities to increase value and output. The benefits of engaging in global value chains are clear to the South African automotive component industry, but the long-term sustainability and development of the industry remains in question (Barnes and Morris, 2008:33).

1.3 Rationale for the study

A successful automotive industry is often regarded as a symbol of a country’s economic success. The automotive industry plays a fundamental part in the economic well-being of South Africa (DTI, 2012). The SA automotive sector has played a pivotal role in South Africa’s rapid economic and industrial development, contributing 7% to the Gross Domestic Product (GDP) of SA in 2012 (AIEC, 2013). It is imperative that the South African automotive component industry remains internationally competitive to avoid international competitors from easily penetrating the South African market.

In 2012 South Africa was ranked 23rd in the world in terms of vehicle production, with a 6% market share. The South African automotive industry is relatively small in global terms, with less than 1% of the global market share, but the industry has shown steady growth, representing 92% of Africa’s vehicle output in 2012 (AIEC, 2013). The nominal value of vehicle and automotive component exports from 1995 to 2011 amounted to R685.3 billion, reflecting a compounded annual growth rate of 20.5% over the 16 year period (NAAMSA, 2012).

Maxton and Wormald (2004) assert that nowadays OEMs control 25% of the value of the products exiting their assembly plants. The balance of 75% is in the hands of their suppliers, who supply OEMs with modular systems, subsystems and components.

This clearly indicates that this study is important for the following reason:

- A flourishing automotive industry is often seen as a representation of the economic success of a country and the industry plays a vital part in the economic well-being of South Africa. This study will focus on establishing South Africa's global competiveness and identify the factors that impact on South Africa's global competitiveness in which improvements could stimulate competitiveness in the South African automotive component manufacturer sector.
- The field of automotive global competitiveness is extremely dynamic. The study of the relevant literature and of new developments and strategies will contribute to the body of knowledge and provide new insight into this field.

1.4 Problem statement

The global automotive industry is dominated by a few OEMs. Concentrated competition among the OEMs for improved market share has resulted in challenges as well as opportunities for emerging economies that are able to provide the double benefits of factor-cost savings and colossal growth potential. According to Gastrow (2012:5899), the pace of development and the level of complexity in the global automotive industry have expanded exponentially over the past decade. The automotive industry's global integration has developed at the level of design, as OEMs require greater design and development support from component manufacturers, which requires global sourcing capabilities at each location.

The global automotive industry can be characterised by economies of scale and low unit costs due to its technological advancement both in terms of manufacturing processes and product development.

The automotive industry is governed by major global trends, due to the diverse approaches and cost cutting strategies of the leading OEMs in the Triad economies, which are intended to balance automotive supply and demand. These global trends and structural pressure are induced by mergers and acquisitions, global production over-capacity, outsourcing strategies and the devising of new technology and innovations. The trends have had a significant impact on the development and future of the automotive value-chain role players in developing countries (AIEC, 2013).

Automotive component manufacturers have assumed a large degree of power within the supply chain, by taking an increasing role in innovation and production, but the control largely remains with the OEMs. Since 1975 automotive production has doubled. The fragmentation of production into emerging markets has affected not only the OEMs but has also impacted on automotive component manufacturers. Component manufacturers were forced by lead firms to follow their customers. The automotive industry demonstrates distinctive feature in terms of globalisations, such as the high concentration of lead firms and the existence of strong regional patterns combined with an absence of technological standards due to the variation of the markets (Joshi and Dixit 2011).

Kearney (2009) asserts that one of the reasons for the rapid changes in the automotive industry is global over-capacity. The magnitude of this over-capacity is significantly evident in the automotive component sector because of the nature of the changes in the value-chain relationships between the OEMs and the automotive component manufacturers.

South Africa’s entry into the global economy was planned, with trade liberalization occurring in stages alongside a range of industrial policies designed to increase productivity and promote exports, resulting in South Africa being able to seize the opportunities and overcome many of the challenges presented by globalisation. South Africa’s automotive industry is strongly influenced by the OEMs; therefore the increasing orientation of the OEMs towards exports has fundamentally changed the structure of their own operations as well as that of the automotive component industry (Barnes, 2010).

The automotive industry continues to increase its share of the South African trade balance, reiterating its status as the leading manufacturing sector in South Africa.

The South African automotive market has changed since 1995, with the implementation of the MIDP, with increased imports affecting the country's trade balance on the one hand, but on the other, increasing exports amounting to 12,1% of South Africa's total exports in 2012 (AIEC, 2013).

It is asserted by Pitot (2011) that for the South African automotive industry to improve its competitiveness, it has to rationalize the vehicles and components it manufactures to achieve higher volumes from a much smaller range of products. The OEMs perceive increasing local sourcing levels in South African manufactured vehicles as a prerequisite for establishing a more sustainable and competitive production base. It is uncertain whether or not component manufacturers in South Africa have a future from an economic perspective and whether they can sustain their competitiveness in the globalised automotive value chain, especially when trade barriers like import regulations and imposed duties are being minimised.

The research problem in this project seeks to establish an in-depth understanding of the extent of South Africa's global competitiveness in the automotive component manufacturing industry and to identify the factors that influence South Africa's global competitiveness.

1.5 Research questions

The problem statement illustrates that automotive component manufacturers in emerging markets face various challenges. South Africa's global competitiveness in the automotive component manufacturing industry is uncertain; therefore in order to investigate South Africa's global competitiveness, the following research question needs to be answered:

1) What are the factors that influence South Africa's global competitiveness in the light vehicle component manufacturing industry?
2) What is South Africa's global competitiveness in the automotive component industry?
3) What impact will global competitiveness have on the economical sustainability of automotive component manufacturers in South Africa?
4) What is the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market?
5) What should be the specific role of South African government's policy framework and interventions?

1.6 Research objectives

In the context of this research problem, the objectives of this research are to:

i. Identify factors that influence the global competitiveness of South Africa's automotive component industry;
ii. Investigate South Africa's global competitiveness in the automotive component industry;
iii. Determine the impact global competitiveness will have on the economic sustainability and growth of the automotive component industry in South Africa;
iv. Analyse the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market;
v. Establish government's interventions in stimulating industry competitiveness by changes in policy and the impact of such changes on the competitiveness of the automotive industry.

1.7 Research design and methodology

The research design follows both an exploratory and descriptive approach. Exploratory research will be carried out by means of a study of the relevant literature and, descriptive research conducted using quantitative and qualitative empirical surveys.

The research will be conducted using both quantitative and qualitative empirical surveys. The complexity of this study is such that the application of a single method would not answer the research question effectively, which is why it is necessary to approach the research problem from different angles. Hence a mix between the qualitative and quantitative approaches will be executed to identify the factors that influence South Africa's global competitiveness in the automotive component industry. For the purpose of this study, secondary data will be obtained from the literature review and primary data will be obtained by administering a questionnaire and conducting personal interviews

The described research design and methodology will be discussed in detail in chapter 4. This chapter is more focused and will bring out more clarity to the nature of the research.

1.8 Benefits of the research

1.8.1 Expected contribution to the body of knowledge

Owing to local conditions, the automotive component industry encounters factors that impact on the sector's competiveness. The study aims to identify those factors that impact on the industry's competitiveness and determine the extent to which South African automotive component manufacturers have to deal with these factors. Possibly significant factors will be identified and recommendations made to the automotive component industry to overcome whatever problems are unearthed, to improve the competiveness of the industry. Since the field of automotive global competitiveness is extremely dynamic, the study of literature, trends and new policy and strategy developments and the research will contribute to the body of knowledge and provide insight into this field.

1.8.2 Government

The study will be beneficial to government in determining the impact policies and strategies are having on the competitiveness of the component sector. The significant factors identified could provide guidelines to government policy reviews aimed at improving the competiveness of the automotive component sector. Government has a vested interest in ensuring the growth of the industry through global competitiveness and in enhancing South Africa's competitiveness with other BRIC countries. Hopefully, valuable lessons may be learned from this study.

1.8.3 Societal benefits

The study will lead to a better understanding of the automotive component industry's competiveness in relation to the global industry and the emerging markets in other BRIC countries. The specific details of the study will be of interest to the industry, as many automotive manufacturers have BRIC countries as trading partners. It will be of interest to determine South Africa's competiveness in relation to other BRIC countries and the factors that influence the competitiveness. The areas identified in this study will enable stakeholders to effectively develop resources and capabilities to grow the competitiveness of the sector and hence create jobs to the benefit of South African society as a whole.

1.9 Boundaries and limitations of the research

The limitations of this study was that only component manufactures who were members of NAACAM were included in the study. According to NAACAM, currently only 68% of automotive component manufactures are members of NAACAM. Although the members of NAACAM make up 68% of the population of the automotive component manufacturers, they are not a random sample of all automotive component manufacturers, therefore the findings cannot be generalised to all automotive component manufactures in South Africa.

1.10 Outline of the study

This sections provides an overview of the research framework and outlines the structure of the research. Each chapter is presented in a table, outlining the contents and relevance to the study. Figure 1.1 outlines the flow of the study.

Figure 1.1: Research strategy framework

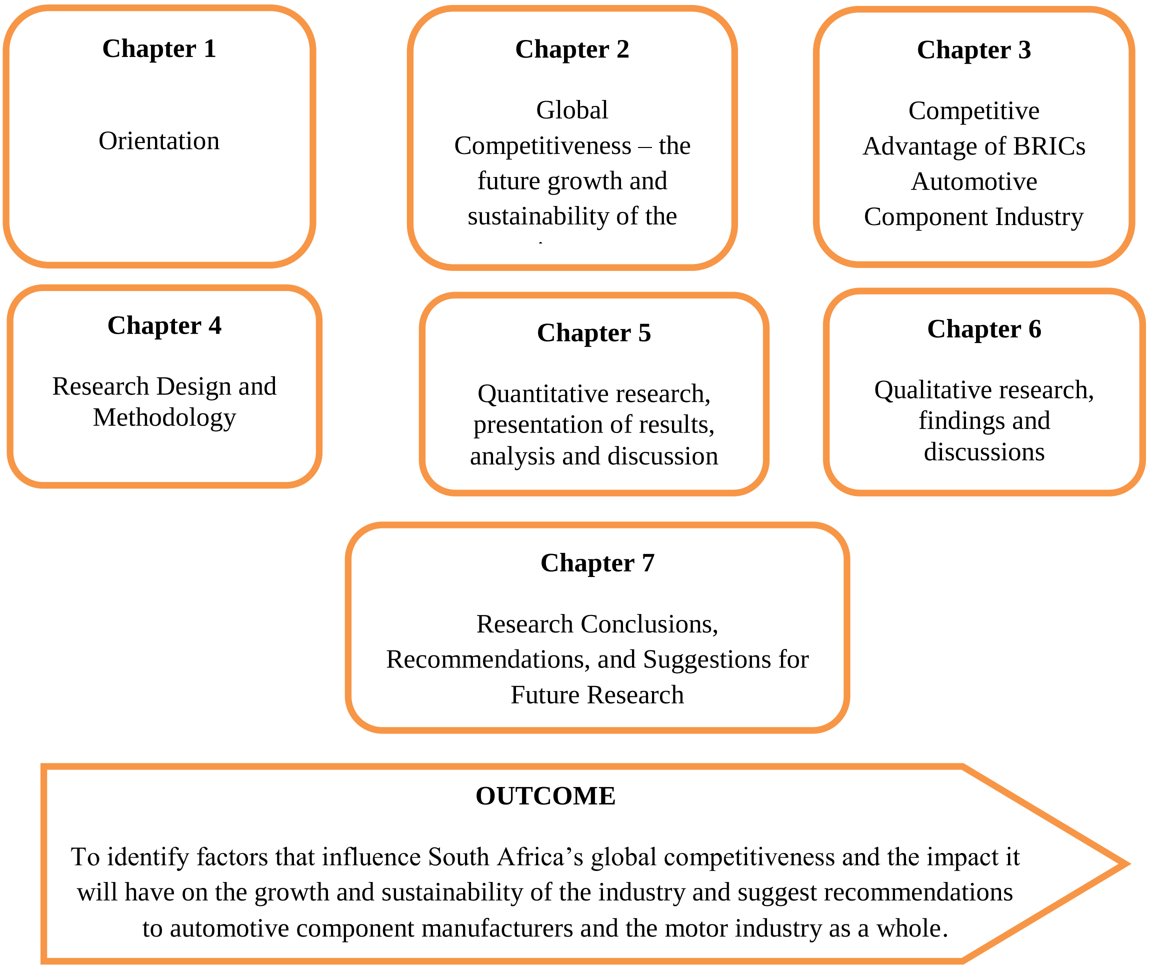


Table 1.1: Outlines the contents of each chapter

CHAPTER 1	INTRODUCTION • Background to the problem • Rationale of the study • Research questions • Benefits of the research • Outline of the study
CHAPTER 2	THE GLOBAL AND SOUTH AFRICAN AUOTMOTIVE INDUSTRY • Global automotive industry • South African automotive industry • Automotive component industry • Competitiveness of the automotive component industry
CHAPTER 3	BRICs AUTOMOTIVE COMPONENT INDUSTRY • Overview of the BRICs automotive industry • Growth trends in the BRICs markets • BRICs strategies to revolutionise global markets • Comparative analysis of the BRICs automotive markets • Automotive component manufacturing in BRIC countries • Government policies in developing BRIC countries
CHAPTER 4	RESEARCH DESIGN AND METHODOLOGY • Meaning of research • Problem statement and research objectives • Research methodological approach • Research design • Sampling • Empirical research
CHAPTER 5	QUANTITATIVE RESEARCH PRESENTATION and ANALYSIS • Introduction • Sample statistics • Presentation of primary finding in relation to each research objective • Summary of analysis and discussions
CHAPTER 6	QUALITATIVE RESEARCH FINDINGS and DISCUSSIONS • Introduction • Thematic analysis of qualitative data • Identification of core themes • Discussions of the identified themes • Summary of discussions
CHAPTER 7	RESEARCH CONCLUSIONS, RECOMMENDATIONS and SUGGESTIONS FOR FUTURE RESEARCH
REFERENCES APPENDICES	

1.11 Summary

Chapter one outlined the research strategy framework that this study has undertaken, highlighting the rational for this study. The key objectives, importance and benefits of the study were introduced to provide further understanding. The structure of the study was present diagrammatically with brief notes on each chapter content.

To identify South Africa's global competitiveness in the light motor vehicle component industry and the factors that influence South Africa's global competitiveness, a literature review, quantitative research and qualitative research is presented in the following chapters. This is needed to gain an understanding of the present state of the industry, analyse inferences and make recommendations.

CHAPTER TWO

The global and South African automotive industry "Global competitiveness – the future growth and sustainability of the automotive component industry"

2.1 Introduction

The automotive industry is the most global of all industries with its products spread around the world and dominated by a small number of businesses with international recognition. Morris, Donnelly and Donnelly (2004:129), outlined that the global automotive industry has experienced major changes in the last two decades, which has emerged as a result of the pressures of globalization, the development of modularization and the introduction of lean manufacturing practices. These changes has impacted on the relationships between original equipment manufacturers (OEMs) and their suppliers, predominantly those in the first and second tiers, known as automotive component manufacturers (ACMs) - the key focus of this research.

The automotive industry in South Africa remains regulated and protected despite liberalization efforts by the government since 1995. On the back of prevalent government support the automotive industry in South Africa has been successful in the export market. The concerning factor of the South African automotive industry is that the local industry is facing important challenges caused by globalization and intense competition from emerging economies.

Chapter 2 reviews the literature by various academics, authors and industry experts on global competitiveness of the automotive component industry, providing an synopsis of the global automotive industry, highlighting it characteristics, maps the supply chain structures and analyses the major trends and developments impacting on the performance of the automotive industry.

The South African automotive industry is analyzed with respect to its integration into the global automotive industries value chain, outlining South Africa's key trading partners and detailing the evolution of government policies and intervention for the industry.

The automotive component industry is analyzed with respect to the impact of change in the auto component sector, the principles driving global competitiveness, the key factor impacting on competitiveness and the challenges in relation to the competitiveness of the automotive component sector.

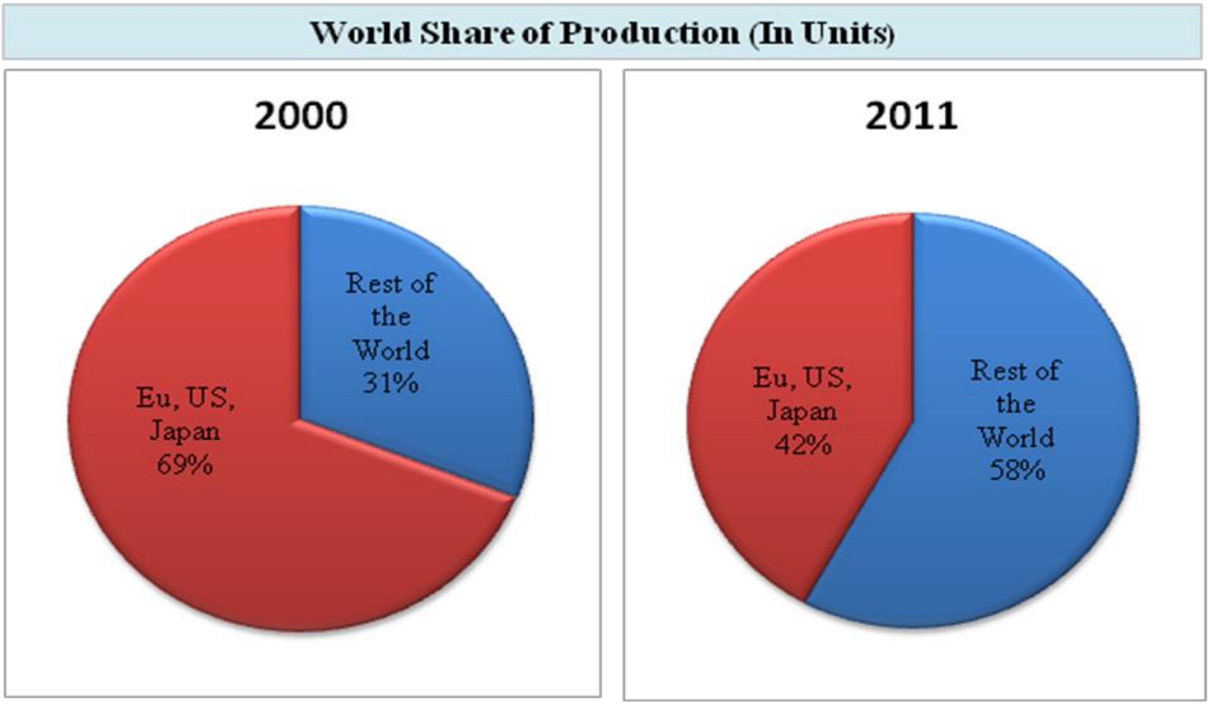
2.2 The Global automotive industry

2.2.1 World automotive industry

Alfaro, Bizuneh, Moore, Ueno, and Wang, R. (2012:9) outlined that the most significant trend in the automotive industry today, is the shift of automobile production to the emerging markets. The driving factor for this shift to developing countries is due to the rapid growth of the automobile demand in the developing world and the lower labour costs in developing countries. Alfaro, et al. (2012:8), emphasizes the fact that due to rising incomes in China, India and Brazil, burgeoning middle classes are investing in ownership of automobiles. Power (2010), noted that for the first time in 2010 emerging markets accounted for over half of the light vehicles sales.

As illustrated in figure 2.1, emerging markets shares has grown by 1.3% and forecast predicts further growth in 2012. Eisenstein (2010) concurs with the industry forecast of growth in the emerging markets, and he further outlined that by 2014, one third of the world automobile demand maybe in the BRIC markets. Eisenstein (2010) further stated that due to automotive production being a bulk gaining industry, transportation costs of the final product to the end user is significant, hence location to close proximity of the end user is advantageous, therefore many emerging markets maintain tariffs to favor domestic manufacturing.

Figure 2.1: Emerging markets share in automotive production



Source: OICA 2013

Traditional OEM's based in matured markets, like the US and Japan, see global shift of the centre of gravity to emerging markets as a challenge due to emerging markets being characterized by many competitors and low margins (Schwartz, 2008). The OEMs based in emerging markets are able to respond to local demands and new niches, like rapidly growing ultra-low cost cars segment, which is canalizing sales of traditional vehicles. The demand for inputs like raw materials and energy by the automotive manufacturers in the growing emerging economies have increased, hence the cost of the industry is also rising (Kearney, 2009).

2.2.2 The international political-legal environment

Politics has become a distinguishing factor in many international business decisions, in terms of market development and the investment strategy. Gillespie (2004) stated that government plays the principle role in host countries in terms of initiating and implementing policies regarding the operation, conduct and ownership of businesses.

Doole and Lowe (2004) defines political risk as being a result from a sudden or gradual change in the local political environment that is counter-productive to foreign investment. According to Doole and Lowe (2004) government actions that constitute potential political risk to firms may fall into three focal areas:

i. *Operational restrictions*: these could be exchange controls, employment policies, and insistence on local shared ownership;

ii. *Discriminatory restrictions*: these tend to be imposed on purely foreign firms from a particular country, which include things as special taxes and tariffs, compulsory subcontracting and loss of financial freedom;

iii. *Physical actions:* these actions are direct government interventions like nationalisation, a forced takeover by the government, expropriation or damage to property or personnel through riots and war.

Doole and Lowe (2004) further emphasized that recent trend in trade agreements; privatization and market reforms indicate a move towards the removal of trade impediments. Governments on every continent have allowed global competition to blow through their economies since the 1970s. Multinationals have rushed into countries were policy makers have lowered the tariff barriers and permitted foreign investment, with state of the art technologies and products, enormous financial resources and the world's best management talent and systems.

Bhattacharya and Michael (2008:87) conducted a study over a period of three years up to 2008, which included 50 companies in 10 developing countries. The study indicated that home-grown companies that staved off challenges from multinational companies in their core businesses, have become market leaders and often seized new opportunities prior to foreign players. Bhattacharya and Michael (2008:90), highlighted that six common elements were established in local companies that have been successful in developing countries:

i. *Create customised products or services* – the local companies possess a deep understanding of the consumers' preferences and the structures of the raw materials, components and finished goods in which they operate in their home markets;

ii. The local companies are thus able to develop tailored offerings and learn to create a large variety of products or services cost-effectively;

iii. *Develop business models to overcome key obstacles* – smart local companies are adept with innovative strategies to overcome roadblocks, including a lack of distribution channels or the existence of infrastructural hurdles, and yield competitive advantages in the process;

iv. *Deploy the latest technologies*: local companies turn globalisation to their advantage by developing or buying the latest technologies. New technologies keep operating costs low enabling companies to deliver good quality products and services;

v. *Take advantage of low-cost labour and train staff in-house*: local companies find innovative ways to benefit from low-cost labour pools and to overcome shortages of skilled talents;

vi. *Scale up quickly:* local companies go national as soon as possible to obtain economies-of-scale benefits hence prevent challenges from local rivals;

vii. *Invest in talent to sustain rapid growth:* local companies possess management skills and talent that multinational companies often underestimate.

The benefits of globalization have allowed local companies to close the gaps in technology, capital and talent with the rivals of the developed world. South African-owned automotive component suppliers could well adopt the approach described above to play a bigger role in the automotive supply chain and improve their global competitiveness.

2.2.3 Globalisation defined in the context of the automotive industry

Globalisation can be seen as the most important economic issue and challenge for management in the past decades and future years. Globalisation brought along the increased mobility of productions factors, the increased world-wide convergence of consumer behaviour and lifestyles, a closer integration and interdependence of national economies and the increase disintegration of economic and political boundaries. Hough and Neuland, (2007).

The term ‘globalisation’ is used to describe the increasing interconnectedness that exists between countries as *“states and societies become increasingly enmeshed in worldwide systems and networks of interaction”* (Held and McGrew, 2003: 3).

According to Haynes (2008), globalisation encompasses the fields of economics, politics, technology and culture. Loots (2001:3) define economic globalisation as *“the increasing internationalisation of the production, distribution and marketing of goods and services.”* Loots (2001:3) further emphasizes that economic globalisation is driven by the reduction of transport and communication costs, fewer policy barriers to trade and investment, and increased access to, and transmission speed of, information and technology

De Lange (2002:14) described globalization as the increasing integration of various sectors in today’s world resulting from the revolution in communication technology and progressive lowering of trade barriers. De Lange (2002:14) further highlighted the striking aspect of globalisation is the way big companies have now become international rather than national role players within a global economy resulting in a wider economic gap between developed economies and developing economies.

Black (2009:492), highlights that the central feature of globalization is the geographic expansion of production to new countries and regions, which includes the fragmentation of complex production processes resulting in the emergence of a new division of labour.

Transnational corporations in the automotive industry have been among the pioneers in the governance of spatially dispersed networks of assembly plants and supplier firms. Given the key role of international firms in the automotive industry in most developing countries, the approach in which a national or regional industry is integrated into global value chains has significant implications. On the one hand, the sector could be elevated to a new level, characterized by growing investment, expanded production, and generalized upgrading. This optimistic outcome may be tempered by a decline in local ownership and the relegation of domestically owned firms. But under different circumstances, national clusters comprising both foreign and domestically owned firms could also be relegated to the periphery of regional and global automotive networks (Black, 2009:494).

2.2.4 Overview of the global automotive industry

The global automotive industry is dominated by a few OEMs, mainly concentrated in the Triad countries of North America, Western Europe and Japan. These regions have matured markets and are characterized by vehicle over capacity, cost pressures and poor financial performance. Concentrated competition by the OEMs for improved market share resulted in challenges as well as opportunities for developing countries that are able to provide the twin benefits of factor-cost savings and colossal growth potential (Phaho, 2008:66).

AIEC (2013:21) outlined that the major global trends have risen, due to diverse approaches and cost-cutting strategies of the leading OEMs in the Triad economies, which are intended to balance the automotive supply and demand sides. These underlying global trends and structural pressure include mergers and acquisitions, global production over capacity, outsourcing and outsourcing strategies, the devising of new technology and innovations. These major global trends have a significant impact on the development and future of the global automotive value chain role-players as well as on the developed and developing automotive producing countries.

Developing countries which are targeted in order to add value to the global strategies of multinational companies attract large scale investments in production facilities for CBUs and automotive components. Governments around the world have realized the benefits that automotive investments generate and the multiplier effect of the industry in terms of economic growth, development and technology transfer, hence governments have placed intense focus on promoting their countries as a prime destination for automotive investment (Sturgeon, et al., 2009:11).

The world vehicle production grew by 5.3% to 84.1 million vehicles in 2012, reaching a new record. Since 2006 Toyota Group held the first place, however in 2011, this was lost to General Motors mainly due to the earthquake that affected Japan and disrupted vehicle production to a large extent. The Volkswagen Group also overtook Toyota Group, having major presence in many emerging economies. Western Europe production levels have declined by 9.2% from 2011 to 2012, but reflected an upturn in NAFTA of 17.2% and Japan of 18.4%. The economic crisis has affected the entire automotive value chain, both upstream – including suppliers and downstream- including vehicle transport and maintenance.

The main areas of growth in the automotive industry are the emerging economies, with the market share rising from 16% in 2000 to 54% in 2012. The rapid rise of the automotive sector in the East has resulted in a dramatic change of the world order, which has seen the major share of automotive manufacturing move from East to West (AIEC 2013:10).

2.2.5 Key characteristics of the global automotive industry

According to Humphrey and Memedovic (2003:2) the automotive industry has consistently been one of the most global of all industries since the Industrial revolution.

AIEC (2012:10) noted that in 2010 the world population of motor vehicles passed the one billion unit mark. The USA registered the most vehicles at 239,8 million, with China accounting for just more that 78 million, Japan 73,9 million and India 20,8 million. Fishwick (2005:262), emphasized that in every major economy in the world, the global automotive industry is the key sector of the economy. The automotive manufacturing sector, including the automotive component manufacturers comprises of over 5% of the world's total manufacturing employment.

BMI (2012) noted that the global automotive industry is regarded as the world's largest manufacturing industry and it is widely considered the 'industry of industries' because it has been the foundation of the manufacturing industry in the United Stated of America, Japan and various parts of Western Europe, since the conclusion of the second World War. The global auto industry is a key sector of the world economy, registering a growth rate of 30 % over the past decade

OICA (2013) statistics indicated that the world vehicle production for 2012 was 84.1 million vehicles (all types). This figure indicates a growth of 5% from 2011. Asia maintained the leadership with a total production reaching 43.7 million units in 2012, followed by America at 20 million and Europe with less than 20 million. This level of output is equivalent to a global turnover (gross revenue) of almost 2 trillion euro. The automotive industry is a major innovator, investing 85 billion euro in research and development and production globally.

The automotive industry plays a key role in the technology level of other industries and of society and is one of the largest investors in research and development. Vehicle manufacturing and its use is a major contributor to government revenues around the world, contributing over 430 billion Euros annually in the top 26 vehicle productions countries globally (Kearney, 2009). As stated in Lamprecht (2006), the global automotive industry is technologically advanced both in terms manufacturing processes and in product development. The global automotive industry can be characterized by economies of scale and low unit costs despite the increasing complexity of the fundamental product. OICA (2013), highlighted that the global automotive industries, together with its stakeholders are committed to contributing to an integrated approach to a cleaner environment.

Given the significant impact the automotive industry has on the economy, all governments, both national and regional, from across the world have been instrumental in attracting international automotive companies to establish manufacturing facilities in their regions. It is within this changing environment that many developing countries, like South Africa, are creating for themselves a role as manufacturers and exporters of vehicles and automotive components (Lamprecht, 2006).

The global automotive industry is currently led by the main automotive manufacturers, Toyota, General motors, Volkswagen, Ford, Honda, PSA, Nissan, BMW and Chrysler, which function in an international competitive market. According to Bera (2004), globalization of the automotive industry gained momentum since 1995 owing to the building of facilities in foreign countries and the formation of mergers between multinational automotive assemblers.

The level of concentration in the industry between 2011 and 2012 is illustrated in the table 2.1

Table 2.1: World ranking of total vehicle production

WORLD RANKING OF TOTAL VEHICLE PRODCUTION		MANUFACTURER: PASSENGER CARS ONLY	UNIT PRODUCTION CARS	
2011	**2010**		**2011**	**2010**
1	2	General Motors	6,867,465	6,266,959
2	3	Volkswagen	8,157,058	7,120,532
3	1	Toyota	6,793,714	7,267,535
4	4	Hyundai	6,118,221	5,247,339
5	5	Ford	2,639,735	2,958,507
6	6	Nissan	3,581,445	3,142,126
7	8	PSA	3,161,955	3,214,810
8	7	Honda	2,886,343	3,592,113
9	10	Renault	2,443,040	2,395,876
10	9	Suzuki	2,337,237	2,503,436
11	11	Fiat	1,804,523	1,781,385
12	13	Chrysler	507,517	340,205
13	14	B.M.W.	1,738,160	1,481,253
14	12	Daimler AG	1,443,419	1,351,372
15	15	Mazda	1,103,632	1,233,862
16	16	Mitsubishi	1,016,876	1,056,666
17	23	Dongfeng Motor*	*Under review*	350,041
18	18	Tata	627,881	579,052
19	20	Geely	*Under review*	802,319
20	24	Beijing Automotive	*Under review*	13,138

Source: Compiled from OICA (2012).

To clarify the world ranking in table 2.1, it should be noted that the listed unit production excludes the manufacture of light commercial vehicles (LCVs), heavy commercial vehicles (HCVs) and heavy buses. For example, in 2010, the total production (including cars, LCVs, HCVs and heavy buses) General Motors was 8 476 1920 and 8 557 351 for Toyota. In 2011, total production for General Motors was 9 146 3408 and 8 050 181 for Toyota. Therefore the number one world ranking manufacturer for total car production in 2010 was Toyota and 2011 was General Motors, because Toyota produced more vehicles in 2010 and General Motors produced more cars in 2011.

Barnes and Morris (2008:40), highlights that the automotive industry is one of the largest and most advanced scale industries in terms of output levels and direct and indirect employment. Maxton and Wormald (2004:3) agree with Barnes and Morris (2008:35) that the industry is one of the most vital economic sectors and the world's largest single manufacturing activity.

The global automotive sector builds 60 million vehicles annually, which requires the employment of 9 million people directly in making the vehicles and the vehicle components, hence, the global automotive sector accounts for over 5% of the world's total manufacturing employment. In addition to the direct employees about five times more are employed indirectly in related manufacturing and service provisions. The output of 60 million vehicles is equivalent to a global turnover (gross revenue) of almost 2 trillion Euros (OICA, 2013).

Dannenberg and Kleinhans (2004) commented that 9 million people who are employed in the global automotive industry, contributes 15% of the word's gross domestic product that is made up of both automotive assemblers and automotive component manufacturers. Dannenberg and Kleinhans (2004) further commented that globally, the value creation characterized by automotive progress and production (excluding sales, replacement components and service) is expected to grow in the region of 2.6% annually for the next 12 years, that is, from EUR 645 billion in 2004 to EUR903 billion in 2015. The global growth rate of 2.6% is of major concern to the South African market, as the South African automotive component manufactures export into 35 international markets. For example, "EU represents 47.7% of South African automotive component exports" (DTI 2005:5).It is crucial that South African automotive assemblers and automotive component manufacturers remain globally competitive in a gradually growing global economy.

It is crucial to note that the global financial crisis has negatively impacted on the global vehicle production in 2008, which fell by 16% and South African new vehicle sales fell by 28.3% year on year in November 2008. The economic crisis as resulted in job losses worldwide, that has also impacted on the automotive component manufacturing sector in that volumes have dropped in line with vehicle production, which has resulted in the downsizing of both the business and the workforce (Damoense. and Agbola, 2009).

2.2.6 Trends in the global automotive sector

Foreign direct investment (FDI), global production and cross border trade has increased since the late 1980s there has been an increase in foreign direct investment, global production and cross border trade, facilitated by trade and investment liberalization through the World Trade Organization (WTO) agreements. Economies like India, China and Brazil offer potential markets with a surplus of low cost labour. FDI is encouraged in these countries with the aim of supplying local markets and exporting to developed countries (Gastrow, 2012:5896).

According to PWC (2009) eleven assemblers from the United States, European Union and Japan dominate global production, enhancing mergers, acquisitions and equity based alliances during the 1990s. The iconic status of the automotive sector means that political backlash results when local producers are threatened by imports and lead firms and unions have a political sway (Power, 2011).

There are few generic components or systems that can be used in the automotive sector without customization. Customization is a requirement due to the high level of inters – relationships in the performance characteristics of the components that differ in every model. There are relatively few standardized parts used in the automotive industry, creating limitations to the design platforms. These limitations impact on the economies of scale (production), economies of scope (design) and adversely impacts the supply chain (Sturgeon, et al., 2009). Gastrow, (2012:5897) emphasizes that regardless of an increase in globalization, local and national markets have remained important because local conditions necessitate local adaptations, which impacts on the knowledge requirements for local models and local innovation activities.

According to Schwartz (2008), the global value chain have strong co-ordination capabilities, with huge buying power, which is dominated by the global top ten automotive groups who exercise control over production and supply chains. Schwartz (2008), further notes that the key trends in the evolution of the global value chain has been the formulation of large global suppliers that support several assemblers through global production networks. First tier suppliers have assumed a large degree of power within the supply chain, by taking an increasing role in innovation and production; however the control largely remains in the hands of the assemblers (Becker, 2006).

Outsourcing serves as a driving force for suppliers to take more risk and favors suppliers who can innovate, provide quality and access inexpensive capital. Suppliers, who account for 75% of the manufactured cost of the vehicle, represent the assembler's largest target for cost reduction, which impacts on the innovation strategies of suppliers (Damoense and Agbola, 2009:287).

2.2.7 Role of the new global automotive supplier base

Sturgeon, et al. (2009:18) highlighted that a greater degree of global integration in the automotive industry has developed at the level of design, as global firms have sought to leverage design efforts across products sold in multiple end markets. Fishwick (2005:264) stated that globalization has resulted in the creation of two classes of suppliers in the automotive industry, global and local suppliers. In the past, lead firms either exported parts to off shore assembly plants or were dependent on local suppliers in each production location. This focus has now changed, a new class of supplier has been added, the global supplier. Sturgeon, et al. (2009:18), highlighted that this trend has expanded the field of customers for many large suppliers to the automotive industry. Most of the top suppliers now serve US, European and Japanese lead firms and have had to adapt to the different approaches these firms take to vehicle development and to forming and maintaining supplier linkages. Lead firm globalisation has also meant globalisation for suppliers, as demands for local production are now often part of winning contracts.

A concentrated industry structure gives power to a few giant firms, hence extremely concentrated firm structure in the industry creates high barriers to entry and limits the upgrading prospects for smaller firms. The top-down approach for design and specifications requirements on components allows lead firms to create its own standards, hence driving up transaction costs for suppliers and making investment in technology and production equipment more customer specific. This creates little room for smaller companies to improve their prospects in developing their own unique products and technologies (Sturgeon, et al., 2009:19).

Table 2.2 below illustrates the vehicle production by company and the percentage share of global production.

Table 2.2: Vehicle productions by manufacturer (2001-2011)

Company	Production (Units) 2001 (000 000)	Production (Units) 2003 (000 000)	Production (Units) 2006 (000 000)	Production (Units) 2009 (000 000)	Production (Units) 2011 (000 000)
General Motors	7.6	8.2	8.9	6.4	9.1
Toyota	6.0	6.2	8.0	7.2	8.1
Volkswagen Group	5.1	5.0	5.7	6.1	8.1
Ford	6.7	6.6	6.3	4.6	4.8
Hyundai	2.5	2.7	2.5	4.6	6.6
Honda	2.7	2.9	3.7	3.0	2.9
PSA group	3.1	3.3	3.4	3.0	3.5
Nissan	2.6	2.9	3.2	2.7	4.6
Chrysler			2.5	0.9	2.0
Renault	2.4	2.4	2.5	2.3	2.8
Fiat	2.4	2.0	2.3	2.4	2.4
Daimler AG	4.4	4.2	2.0	1.4	1.5
Total of above	45.5	46.4	51.0	44.6	56.4
Other manufacturer	10.1	13.1	17.3	14.9	22.4
Total	55.6	59.5	68.3	60.5	78.8

Source: Compiled from OICA (2012).

Table 2.3: Vehicle manufacturer share of global production (2001-2011)

Company	Share of global production 2001 (%)	Share of global production 2003 (%)	Share of global production 2006 (%)	Share of global production 2009 (%)	Share of global production 2011 (%)
General Motors	13.6	13.8	13.0	10.6	11.5
Toyota	10.8	10.4	11.7	11.9	10.3
Volkswagen Group	9.2	8.4	8.4	10.1	10.3
Ford	12.0	11.0	9.0	7.6	6.0
Hyundai	4.5	4.5	3.7	7.6	8.4
Honda	4.9	4.9	5.4	5.0	3.7
PSA group	5.6	5.6	5.0	5.0	4.4
Nissan	4.7	4.9	4.7	4.5	5.8
Chrysler			3.7	1.5	3.4
Renault	4.3	4.0	3.7	3.8	3.5
Fiat	4.3	3.4	3.4	4.0	3.0
Daimler AG	7.9	7.0	2.9	2.3	1.9
Total of above	81.8	78.0	74.7	73.7	71.57

Source: Compiled from OICA (2012).

Table 2.3 indicates that in 2001, the 11 lead OEM's from 3 countries, Japan, Germany and USA produced more than 2.4 million vehicles each and together they accounted for 82% of the world vehicle production. In 2006 the statistics indicate that the situation has not changed much, however 12 OEM's produced more than 2 million vehicles each and together accounted for 75% of the world vehicle production. The situation in 2011 shows a decline in the share of the global production percentage of the 12 lead OEM's by 10.5% from 2001 to 2011. It is also evident that the emerging manufacturers are growing with an increase of 12% global production share from 2001 to 2011 (OICA, 2012).

2.2.8 Vehicle production trends

Global Vehicle production has more than doubled since 1975 from 33 to 78.8 million in 2011 (OICA, 2012). Sturgeon, et al. (2009:22) noted that the pace of growth was stimulated by opening of new markets in India and China and emphasized that while 7 countries accounted for 80% of the world production in 1975, 11 countries accounted for the same share in 2006.

According to Gastrow, (2012:5895), since the mid 1980s many industries have been shifting from a series of discrete rational industries to a more integrated global industry. Power (2011) stated that global integration embeds firms in a larger regional and global scale system of production and innovation, hence the automotive industry is in the midst of profound transition.

The table 2.4 illustrates the growth in the automotive industry in the emerging markets.

Table 2.4: Motor vehicle production of selected countries 2006-2011

Motor vehicle production, selected countries, 2006-2011
in 000 units and in % for growth rate

	2006	% Growth Rate 2005 to 2006	2008	% Growth Rate 2007 to 2008	2010	% Growth Rate 2009 to 2010	2011	% Growth Rate 2010 to 2011
China	7 277	22	9 345	5,2	18 264	32,4	18 418	0,8
India	2 016	14,4	2 314	2,7	3 536	33,9	3 926	10,4
Republic of Korea	3 840	6,4	3 806	-6,8	4 271	21,6	4 657	9
France	3 169	-4,8	2 568	-14,8	2 229	8,9	2 242	0,6
Brazil	2 611	13,8	3 220	8,2	3 648	14,6	3 406	0,7
Mexico	2 045	2,4	2 191	4,6	2 345	50,2	2 680	14,4
Russia	1 503	10,4	1 790	7,8	1 403	93,5	1 988	41,7
Germany	5 819	6,8	6 040	-2,8	5 905	13,4	6 311	6,9
Spain	2 777	4	2 541	-12	2 387	10	2 353	-1,4
Canada	2 571	0,3	2 077	-19,4	2 071	39	2 134	3,2
Japan	11 484	1	11 563	-0,3	9 625	21,3	8 398	-12,8
United States	11 292	-4,5	8 705	-19,3	7 761	35,4	8 653	11,5

Source: Compiled from OICA 2012

As illustrated in table 2.4 much of this global growth in the industry resulted from the growth in the emerging markets in Asia (mainly China, the Republic of Korea and India), Latin America (mainly Mexico and Brazil) and Eastern Europe (mainly the Russian Federation). Large developing countries, like China, India and Brazil offer large and growing markets; hence it becomes profitable and desirable for assemblers to either produce vehicles specifically for these market requirements or to adapt existing models for use in these markets (Gastrow, 2012:5900).

Gastrow (2012:5896) further outlined that the impact on globalization resulted in the shift from east to west, both in terms of production and consumption and will continue to reshape the industry to a greater distribution of production activities around the globe, but this remains structured along the lines of regional and national markets that are ‘nested’ within this global framework.

2.2.9 Globalisation drivers in the automotive industry

Globalization reflects a business orientation based on the belief that the world is becoming more standardized and that peculiarities between national markets are not only fading but, for some products, will ultimately dwindle. The outcome of globalization can be identified as a process that culminates in international market entry and expansions, resulting in national markets becoming increasingly similar and economies of scale becoming increasingly important. The inefficiencies of duplicating product development and manufacture in each country become more apparent hence the pressure to leverage resources across borders gains urgency. The need for strategy integration becomes priority because of the escalating number of customers operating globally as well as comparable competitors throughout major markets (Czinkota and Ronkainen, 2007:191).

The phrase, ‘think global, act local’, encapsulates the true nature of globalization, in which the need to balance standardization and adaptation to a particular situation is acknowledged. The challenge facing industry to develop into effective global players is the turning of widespread international presence into a global competitive advantage. The critical success factor in achieving global competitiveness to is offer added value to global customers by providing benefits that are significantly better than local competitors (Doole and Lowe, 2004:180–190).

Czinkota and Ronkainen (2007: 190), outlines that both internal and external factors will create the favorable conditions for the development of strategy and resource allocation on a global basis, which can be divided into market, cost, environmental and competitive factors.

- **Market factors** – include educational backgrounds, income levels, lifestyles, use of leisure time and aspirations.

- **Cost factors** – avoiding cost inefficiencies and duplication of effort are two of the most powerful globalisation drivers.
- **Environmental factors** – include government barriers and technological revolution.
- **Competitive factors** – to remain competitive the marketer may have to be the first to do something or be able to match or pre-empt competitor's moves.

It is important not only to identify key success factors but also to project and identify emerging key success factors.

2.2.10 Global competitive forces in the automotive industry

Kaplinsky and Morris (2000) outlined that the implications of industrial activity becoming globally isolated has been a shift in the sphere of competence of some developing countries, hence ethereal functions like design, R & D, logistics and financial services have become concentrated in developed countries, while the process of production and the tangible activities of transforming goods have become contracted in developing countries. Gillespie, et al., (2004) emphasized that for firms to be successful in global markets, they need to understand their potential buyers, and be able to compete effectively against other firms from different countries. Popular brands that have been built in many local markets may be difficult for a foreign newcomer to dislodge, due to customer loyalty

Market liberalization has been embraced by most developing countries, were strict controls previously existed. There are several reasons for this change in attitude toward competition in the emerging world. The pressures to liberalize markets are external; hence many countries in the emerging world have joined the WTO and needed to remove barriers to imports in order to comply with WTO regulations. Much of the pressure to liberalize is internal, as governments have set their sights on export markets. Due to the acceptance of competition in the national market, local companies are forced to increase their international competitiveness. Multinational corporations are expected to boost export expansion, with their technology expertise, extensive financial resources and global market intelligence (Oxford Intelligence Business Analysis, 2003).

2.2.11 Changes in the global automotive industry

Humphrey and Memedovic (2003:5), outlined that the spread of vehicle production in emerging economies experienced rapid expansion in the boom years of 1990s, when these economies developed considerably. Alfaro, et al. (2012:8), highlights that the number of vehicles globally grew as much as three times faster than the human population. Humphrey and Memedovic (2003:21), further emphasized that the impact of globalization in developing countries was a result of changes in the industry value chain, although changes in the trade and investment policies and international strategies of leading business was contributing factor.

Humphrey and Memedovic (2003:20), and Alfaro, et al. (2012:9), acknowledge the following factors as key factors impacting on the automotive industry:

- Changes in trade and investment policies
- The globalisation strategies of leading businesses
- Adjustments in the automotive industry value chains

According to Humphrey and Memedovic (2003:6) growth in the automotive industry in the 1990s became known as emerging markets, where numerous independent automotive industries in Brazil, Mexico, ASEAN region (Malaysia, Thailand, Philippines and Indonesia), India and China limited imports of vehicles and components. Due to trade liberalization, in 1990 import restrictions were phased out and import tariffs reduced., however, investment control measure came under increasing threat, like meeting the local content requirements and foreign exchange balancing. During this same period, the major multinational OEMs altered their production and sales strategies; hence the emerging countries gained importance to help the multinational accomplish their plans. Growing markets in emerging countries meant wide spread vehicle productions costs and cheap production sites for the global OEMs (Humphrey 2003:127).

The view of (Humphrey and Memedovic, 2003:7) is supported by Fishwick (2005:262), who stated that the automotive manufacturing industry in North America, Japan and Western Europe, have faced a mature market that is plagued with stagnant demand, overcapacity tough price competition and low profitability.

Therefore many OEMs have invested in manufacturing facilities in emerging economies, in order to reach local consumers and ascertain lower costs of vehicle production. Table 2.5 indicates the extent to which leading OEMs have expanded their production capacity in developing countries.

Table 2.5: Light vehicle assembly plant investment in emerging markets by Triad region (North America, European Union and Japan) OEMs (late 1990s)

Country	*General Motors*	*Ford*	*VW Group*	*Daimler/ Chrysler*	*Fait*	*Renault*	*PSA Group*	*Toyota*	*Nissan*	*Honda*
Mexico	X	X	X	XX					X	X
Argentina	X	X	X	X	XX	X	X	X		
Brazil	XX	XX	X, XX	X	X	X	X	X		X
Malaysia							X	X	X	
Thailand	X	X						X	X	X
Indonesia	X							X		X
Czech/Slovak			X		X	X				
Poland	XX	X								
Hungary	X									
India	X	X	X	X				X		X
China	X	X		X			X		X	X

Source: Humphrey and Memedovic (2003:7)

Notes: X= number of plants operational by late 1990. XX= two light vehicle assembly plants owned by the company in the same country.

Table 2.5 indicate the light vehicle manufacturing plants owned by the top ten companies in 11 major developing countries. Brazil and India are typical examples of haste to invest in developing markets. Post 1994, Brazil saw an influx of vehicle manufacturers. India saw major investments by 1997 were 10 OEMs established manufacturing facilities with a capacity of 660 000 vehicles per annum. The total growth of vehicle sales over the period 1996 to 2002 was 4.7%, resulting in global production overcapacity (Humphrey and Memedovic, 2003:9).

Barnes and Morris (2008:32) concluded that one of the main reasons for rapid changes in the automotive industry is global production overcapacity.

The magnitude of this overcapacity is significantly evident in the automotive component sector, because of the nature of changes in the value chain relationships between OEMs and automotive component manufacturer.

“To what extent do global companies still rely upon their home markets for their production and marketing systems being replaced by regional systems rather than truly global ones?” (Humphrey and Memedovic, 2003:9). This question is pertinent in understanding the environment of globalization in the automotive industry, and the consideration of policy preferences for developing countries within the global automotive markets.

The benefit of globalization for the global automotive manufacturers is dependent upon the increase standardization of models across the markets. Due to the increase in complexity of passenger vehicles manufacturing, components like engines, gearboxes and electronic systems become more complicated to produce, hence economies of scale becomes vitally important in areas of component manufacturing and vehicle design (Bhattacharya and Michael, 2008).

2.2.12 Overcapacity in the global automotive industry

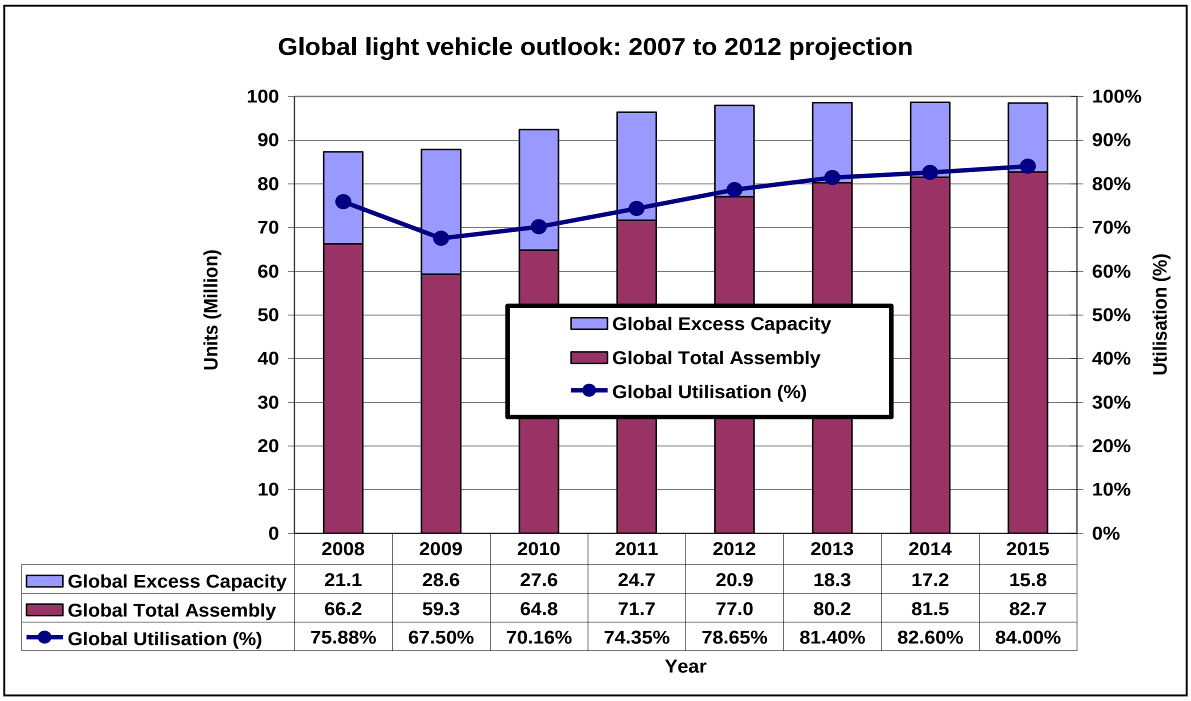
Overcapacity means that production capacity exceeds market demand for the products capable of being manufactured. The intensity of the competitiveness challenge is unlikely to dissipate and the global automotive industry is confronted with some major challenges going forward (Lamprecht, 2006).

The leading consequence of the overcapacity of vehicles, is that manufacturers in their pursuit to keep capacity utilisation high produce into the growing inventories of unsold cars (around 1.5–2 months in most markets), and then employ sales incentives, such as discounts, high trade-in prices and free upgrades, to maintain their market share. Initially, the problem was confined to the North American market, which after the recession of 2001 has seen an increasing “war of attrition” between the manufacturers. The root cause is a chronic inability to adjust output to demand and link the production schedule to actual customer orders. While Henry Ford founded the industry on the premise of making vehicles as efficiently and inexpensively as possible, this mass production “volume-push” approach is no longer viable in current settings of saturated markets.

Several manufacturers have understood the necessity to link production to customer demand and have successfully initiated "build-to order" (BTO) programs (ACMA 2013:22).

ACMA (2012:7) outlined that since 2009, the global automotive industry has endured one of the worst downturns. OEMs globally have consolidated, restructured and slimmed down but yet they still have too many brands and too many plants. Though global capacity levels are expected to improve over the next few years, they are expected to remain sub-optimal. Even as OEMs are struggling with excess capacity, the slow economic growth in the Western markets will keep the demand condition rigid. A combination of excess capacity and rigid demand conditions will result in continuing intense pricing pressures on the OEMs, who have employed a variety of cost reduction strategies which have directly impacted on automotive component suppliers. The figure 2.2 reveals the global excess capacity of vehicles produced.

Figure 2.2 Global vehicle outlook of global excess capacity



	2008	2009	2010	2011	2012	2013	2014	2015
Global Excess Capacity	21.1	28.6	27.6	24.7	20.9	18.3	17.2	15.8
Global Total Assembly	66.2	59.3	64.8	71.7	77.0	80.2	81.5	82.7
Global Utilisation (%)	75.88%	67.50%	70.16%	74.35%	78.65%	81.40%	82.60%	84.00%

Source: Barnes and Hartogh (2009)

Vehicles production capacity has substantially exceeded global vehicle demand resulting in substantial overcapacity, which has placed severe financial pressure on the multinationals that dominate the industry. As indicated in figure 2.2, global excess is forecasted to decline from

20.9 million in 2012 to 15.8 million in 2015; however there is a significant forecasted growth of global assembly of 6 % during the same period.

Even though the decline in overcapacity, the extent of this overcapacity could mean that large multinationals with such excess capacity could very easily wipe out all of South Africa's vehicle production and still be nowhere near to resolving their excess capacity issues (Alfaro, et al., 2012:9).

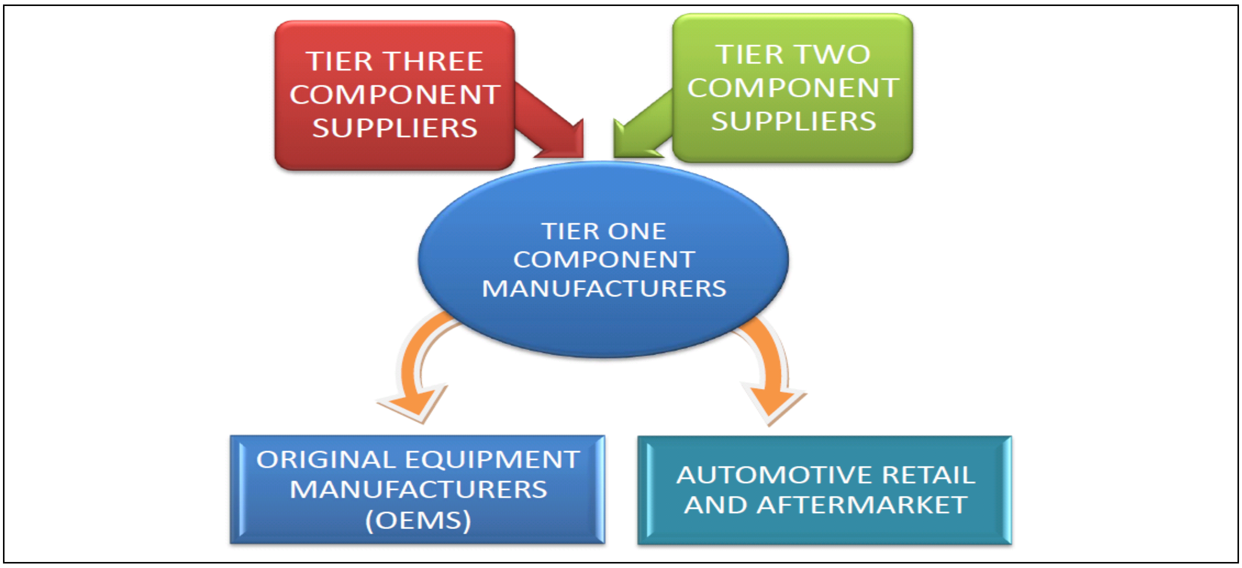
Therefore if one considers the South African domestic automotive sectors total production of 539 424 units for 2012, it is clearly evident that there are significant challenges ahead, because South Africa's automotive sector could disappear and there will be still sufficient vehicle production globally to meet current global market demand (AIEC, 2012:20).

2.2.13 Supply chain structures in the global automotive industry

According to Barnes and Morris (2008:32) the global automotive industry can be divided into three broad sectors. The first most visible grouping is the original equipment manufacturers (OEMs), who manufacture the vehicles and related products. The second segment is the automotive component manufactures (ACM) that produce automotive components and accessories that are used in the manufacturing and assembly process of the vehicles. The third extensive segment is the independent parts and accessories distributors, who support the aftermarket sales and services of the industry.

The global automotive industry supply side is composed of expansive segments with distinct requirements as illustrated in figure 2.3 and defined in table 2.6.

Figure 2.3: Categories of businesses in the automotive supply chain.



Source: Compiled by the researcher

As illustrated in figure 2.3, automotive component manufacturer's suppliers have on average three different tiers of supply, within automotive component manufacturing. Tier one component manufacturers have direct supply of components from both tier two and tier three suppliers. Tier one automotive component manufacturers supply components to original equipment manufacturers (vehicle manufacturers) and automotive retail and aftermarket.

Chandler (1998) noted that OEMs prefer to deal with a single source of supply because a large supplier base results in increased expenditure in administration, increased design costs and quality problems. Suppliers are organized into tiers, where the first tier suppliers form part of the OEM design team for the design of the assemblies and components. Second tier suppliers assist first tier suppliers in the designing and production of the components.

Humphrey (2003:130) outlined that the roots of growth in the trade and volume in the automotive industry has been transformed by global trade and investment liberalization, especially in the 1990s. Developing countries like South Africa started dismantling protective instruments, such as investment controls and tariff protection (on imports and exports), trade of automotive products shifted to developing countries.

Humphrey and Memedovic (2003:22) outlined the composition of the different parts of the global automotive industry in table 2.6, who have distinct requirements. OEMs, global mega suppliers and tire one suppliers, require global reach, innovation and design capabilities, including considerable financial resources. Second tier suppliers have a tendency towards internalization. The third tier suppliers, competences requirements are lower, with lower returns. The aftermarket offers a completely different route to customers, where business is much more fragmented, access is easier and price is very competitive.

Table 2.6: Global automotive industry capability requirements

Category	Industry Description
Vehicle Assemblers (OEMs)	Original Equipment Manufacturers (OEMs), manufacture the vehicles and related products. Motor vehicle assemblers require an increasing scale to spread costs of vehicle design and branding, while innovation and design capabilities remain critical.
Global Mega Suppliers (tier 0.5-suppliers)	These firms are sometimes referred to as 'tier-0.5 suppliers, as they supply major systems to the assemblers and they are closely linked to the assemblers than first tier suppliers (e.g. Toyota Boshoku is a global mega supplier, as they supply Toyota with completed interior units). Global mega suppliers need design and innovation capabilities in order to provide "black-box" solutions for the requirements of their customers. (Black-box solutions are solutions created by the suppliers using their own technology to meet the performance and interface requirements set by assemblers).
First Tier Suppliers (ACMs)	The first tier suppliers are generally assumed to be supplying components directly to the OEM production facility. They are often involved in sub assembly and produce components which are core to the vehicles (engine, body sections, and electronic systems) and require design and engineering capabilities. These firms work in closer partnership with OEM's and operate in secure long term contracts. First tier suppliers are generally owned subsidiaries of multinational corporations (due to the nature of global supply contracts enforced by the OEM's), while a handful remain SA owned operations.
Second Tier Suppliers (Component Suppliers)	Second tier firms generally supply either the OEM directly or supply critical components to first tier firms. They are either producers of scale or involve specialist higher value activities that are needed in automotive production and require process engineering skills in order to meet cost and flexibility requirements. The majority of second tier suppliers to the automotive industry are SA owned operations, which produce a full range of components for the domestic and international markets

Third Tier Suppliers	Third tier firms often supply second or first tier suppliers rather than OEM's directly. It is common for them to be producing lower value and lower volume products using technology and processes that are not necessarily unique. They are often subject to much shorter term contract arrangements.
After market	A significant segment of the automotive value chain is the market for replacement parts. Firms in this sector are price competitive and access to cheaper raw materials is a key driving factor. Consumers procure directly through independent retailers and repair shops. Aftermarket also distributes and retails substitute motor vehicle components, which are other than the original parts and accessories.

Source: Adapted from Humphrey and Memedovic (2003:22) and Barnes and Johnson (2004:24)

Changes in the component industry have resulted in considerable restructuring of the component industry. Global mega-suppliers were created in the 1990s with the merger and acquisitions of multinationals; hence they became responsible for designing vehicle systems and delivering to global locations. They have resumed responsibility for the organizing of the other tiers of the value chain and developing supply systems in different locations. The automotive component sector is increasingly concentrating on companies that have the design capability to present systems and sub-assemblies across different markets (Barnes and Johnson 2004:24).

Barnes and Morris (2008:32), emphasized that the pace of development and the level of complexity in the global automotive industry has expanded exponentially over the past decades. The growth in complexity has resulted in serve pressure on OEMs which lead to the change in relationship between the OEMs and the component manufacturers.

OEMs require greater design and development support from component manufacturers, which requires global sourcing capabilities at each global location, which has resulted in the creation of a so-called tier 0,5 supplier. The tier 0,5 suppliers need design and innovation capabilities in order to provide solutions created by the suppliers using their own technology to meet the performance and interface requirements set by OEMs (Humphrey, 2003:23).

2.2.14 Integration of South Africa's automotive industry into the global context

Loots (2001) outlined that in the early 1990s when South Africa re-integrated into the international economy, the survival chances of South Africa's manufacturing industry was questioned. South Africa's, entry into the global economy was planned, with trade liberalization occurring in stages alongside a range of industrial policies designed to increase productivity and promote exports, resulting in South Africa being able to seize the opportunities and overcome many of the challenges presented by globalisation.

South Africa's integration into the global economy transpired during a era of political instability, which resulted in the country not benefiting significantly from increased levels in foreign direct investments (FDI) (Loots, 2001). Despite the state of the South Africa's manufacturing sector at the end of the apartheid era, the countries globalization was driven by trade, hence industrialization gained momentum. In terms of exports, the export of manufactured goods *"increased by an annual average of 6.7% between 1990 and 2005, up from 2.9% in the preceding two decades"* (Manuel, 2007: 12).

According to Kaplinsky (2005), the impact of globalisation on the industrial output is significant, in terms of the types of goods that are made, however, the greatest impact globalisation has, is on the production process, as it has transformed the way industry is organized.

Africa produced a total of 586 396 vehicles in 2012. South Africa produced 539 424 vehicles, which equates to 92 % of Africa's total vehicle production in 2012 (OICA 2013). This is relatively small in international terms, with less than 1% of the global market share. According to table 2.7, new global motor vehicle production in 2012 reached 84 141 209 units, a growth of 5.3% from 2011. The South African vehicle manufacturing industry's share of world production has risen steadily in recent years from 0,61% in 2010 to 0,67% in 2011, with a 0,07% decline in 2012 (OICA 2013).

Table 2.7: South Africa's automotive industry's performance in a global context

	2007	2008	2009	2010	2011	2012	% change 2011
Global vehicle production (million)	73,15	70,76	61,71	77,61	79,99	84,141	+ 5,3%
SA vehicle production (million)	0,535	0,563	0,374	0,472	0,533	0,539	+ 1,3%
SA share of global production (%)	0,73%	0,8%	0,61%	0,61%	0,67%	0,6%	- 11,7%

Source: Adapted from OICA (2013)

The South African automotive market is relatively small when compared to its size and production ability to global markets; however South Africa is in a position to provide competitive advantages to international concerns. The global automotive industry is governed by major global trends and developments of the supply side (production) meeting the needs of the demand side (sales). Due to globalization of production, the automotive industry is experiencing the effects of change in an accelerated way. These challenges are induced by mergers and acquisition, global production over capacity, outsourcing and sourcing strategies, new technology and innovation, as well as environmental requirements. These implications have major impact on developing countries like SA (AIEC, 2013:17).

Developing countries, increasingly integrated into the global automotive value chain of global role players, not only have to cope and incorporate the direct impact of the major global trends on their operations, but also have to compete with each other for sourcing and outsourcing opportunities. Due to this fast changing environment that many developing countries like SA are seeking to create a role as producer of vehicles and automotive components, with the focus on export markets (AIEC, 2012:54).

2.3 Detail understanding of the South African automotive industry

2.3.1 Overview of the automotive industry in South Africa

Ford and General Motors entered the South African automotive market as manufacturers in 1920, which resulted in the establishment of the local automotive industry in South Africa (Hartzenberg and Marudzikwa, 2002).

After 1920, the first four decades saw rapid expansion and many new manufacturers entered the market. In 1960, South Africa became the largest vehicle manufacturer amongst developing countries, producing 87 000 vehicles annually by 8 OEMs in South Africa (Hartzenberg and Marudzikwa, 2002).

South Africa has emerged from small beginnings to become the 22nd largest manufacturer of vehicles in the world, while representing 92% of Africa's vehicle output in 2012 (OICA 2013). South Africa is host to 4 European vehicle manufacturers namely, Mercedes Benz, BMW, Renault, and Volkswagen, who are wholly owned subsidiaries. Toyota, General Motors, Nissan and Ford are Japanese and other multinationals manufacturers that are 100% controlled subsidiaries (DTI 2012).

The SA automotive sector plays a pivoted role in South Africa's rapid economic and industrial development, contributing 7% to the Gross Domestic Product (GDP) of SA in 2012. South Africa was ranked 23rd in respect of global vehicle production with a market share of 0.6% in 2012 (AIEC, 2013:7). Significant investment programmes driven by export plans have been implemented by all OEMs, with the capital expenditure by the OEMs from 1995 to 2011 amounting to R 43.5 billion. The nominal value of vehicle and automotive component exports from 1995 to 2011 amounted to R 685.3 billion reflecting a compounded annual growth rate of 20.5%over the 16 year period (NAAMSA, 2012). South Africa had a vehicle parc (number of registered vehicles) of 10,61million at the end of December, 2012, of which 6.11 million or 57,6% comprised passenger cars (AIEC, 2013:7).

The SA automotive industry is strongly influenced by the OEMs, like everywhere else in the world; hence the industry structure is closely aligned with OEM strategies in both domestic and global markets. The increasing orientation of OEMs towards exports has fundamentally changed the structure of their own operations as well as the automotive component industry (Barnes, 2010).

SA participation in the World Trade Organization (WTO), its special relationships with the EU and it competitive advantages have facilitated the industry's integration into the global sourcing strategies of the multinational automotive corporations (AIEC, 2013:9).

Globally, flexibility is considered an essential competitive advantage for fast model changes and for successful niche marketing, both of which require the same platform to produce low volumes in a specific model derivative (AIEC, 2012:9). The SA automotive industry has retained its capability, where single production facilities manufacture a range of products at competitive prices to satisfy the domestic and export markets.

2.3.2 South Africa's main trading partners

With vehicle production becoming globally integrated, South Africa forms part of the vital international supply chain. South Africa's main automotive trading partners (exports plus imports) for 2012 reflected the country's global linkages with the OEM parent companies in Germany, the USA and Japan (AIEC, 2013:86). Table 2.8 ranks the South African automotive industry's top 10 automotive trading partners for 2012 versus 2011.

Table 2.8 South Africa's main automotive trading partners- 2011vs 2010

COUNTRY	TOTAL TRADE 2012 (R billion)	TOTAL TRADE 2011 (R billion)
1. Germany	56,12	57,24
2. USA	29,49	27,39
3. Japan	24,51	21,94
4. UK	10,95	9,47
5. Thailand	9,70	7,24
6. China	9,22	6,38
7. Korea Rep South	8,66	8,15
8. India	6,88	5,39
9. France	4,59	4,27
10. Spain	4,25	5,89
Other	58,53	49,64
Total trade	**222,9**	**203,0**

Source: Adopted from AEIC (2012:78)

Germany is South Africa's main trading partner comprising of R56.1 billion or 25.2% of South Africa's total automotive trade in 2012, followed by the USA with R29.5 billion or 13.2% and Japan with R24.5 billion or 11%.

South Africa’s total trade has grown by from 2011 to 2012 by R19.9 billion or 8.9% (AIEC, 2013:86).

2.3.3 South African automotive industry trade balance

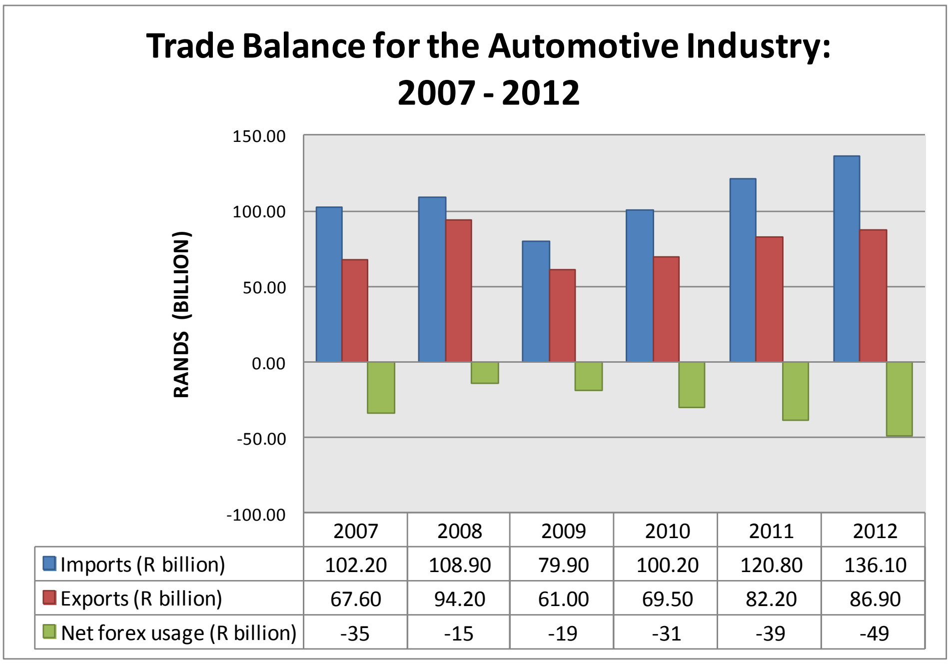
Globalisation is all about production sharing and the motor industry is possibly the most global of all industries. No national motor manufacturer can exist in isolation, except if very large markets, as domestic market existence only is too small and the economies of scale demands that each country be tied into a global network. Understanding of the trade balance of the automotive industry is critical as it underpins any policy attempts at improving export performance or reducing the dependence on imports (Kaggwa, et al., 2007).

Despite significant increase in export of CBUs and automotive components, the South African automotive industry has remained a net user of foreign exchange, due to the importation of products not manufactured in the relatively small domestic market. Capital intensive components like engines, gearboxes and interior electronic components are mainly imported and remainder sourced in the domestic market, hence the industries reliance on imported tooling, global designs, technological sophisticated plant and machinery and high value automotive components contributed to the large outflow of foreign exchange (Damoense & Simon, 2004).

The automotive industry continues to increase its share of the South African trade balance reiterating its status as the leading manufacturing sector in South Africa. The South African automotive market have changed since 1995, with the implementation of the MIDP, with increased imports affecting the country’s trade balance on one hand, but increasing exports resulting in automotive exports comprising 12,1% of South Africa’s total exports in 2012. The export sector is the engine of South Africa’s growth into the global economy and in this regard the automotive industry is a contributor par excellence (AIEC 2013:61).

Figure 2.4 and table 2.9 reveal the details in respect to the domestic automotive industry’s trade balance.

Figure 2.4: Trade balance of the automotive industry 2007- 2012



Source: Adopted from AEIC (2013:33)

Table 2.9 Trade balance of the automotive industry 2007- 2012

Year	Imports (R billion)	Exports (R billion)	Net forex usage (R billion)
2007	102,2	67,6	(34,6)
2008	108,9	94,2	(14,7)
2009	79,9	61,0	(18,9)
2010	100,2	69,5	(30,7)
2011	120,8	82,2	(38,6)
2012	136,1	86,9	(49,2)

Year	Imports (R billion)	Exports (R billion)	Net forex usage (R billion)
2012	**136,1**	**86,9**	**(49,2)**
EU	62,6	34,0	(28,6)
NAFTA	10,7	20,9	10,2
AFRICA (incl. SADC)	0,2	17,8	17,6
MERCOSUR	4,5	1,5	(3,0)
OTHER	58,1	12,7	(45,4)

Year	Imports (R billion)	Exports (R billion)	Net forex usage (R billion)
2012	**136,1**	**86,9**	**(49,2)**
CBUs	49,6	50,0	0,4
Original equipment components	51,4	36,9 (Combined)	(49,6) (Combined)
Aftermarket components	35,1		

Source: Adopted from AEIC (2013:33)

Automotive components exports have remained the most significant development for the automotive industry and its trade balance, as exports have been growing by a compounding annual rate of 19.5% since 1995 up to 2012. South African automotive industry's trade deficit has widened to R 49.2 billion in 2012 compared to R38.6 billion in 2011 (AIEC, 2013:33). The domestic automotive industry's trade balance under the MIDP reflects that exports have increased from R 54.7 billion in 2006 to R86.9 billion in 2012, a growth of 36.8%. However during the same period, imports have also grown from R88.5 billion in 2006 to R136.1 billion in 2012, a growth rate of 35%. In 2008, vehicle exports value exceeded the automotive component export value for the first time and this trend has continued into 2012 (AIEC, 2012:23).

A large portion of the automotive imports comprise of original equipment components, which are subsequently exported as completely built up vehicles after significant value adding processes. Since automotive products manufactured in South Africa include import elements, products produced for exports experience some compensation in terms of costs of the imported parts and materials. The variety of several models available in South Africa impacts on the nature of the South African vehicle parc, which is changing and has profound implications for the aftermarket (DTI, 2007a).

In 2011, Europe remained South Africa's most important automotive trading partner, accounting for R97,5 billion or 48,0% of the country's total automotive imports and exports of R203,0 billion in 2011. Hence, the principal factor set to dominate the domestic automotive industry environment in 2012 is the impact of the ongoing European debt crisis (Gastrow, 2012:5901).

Pitot (2011) highlights that for the South African automotive industry to improve its competitiveness, it has to rationalize the vehicles and components it manufacturers to achieve higher volumes from a much smaller range of products. The automotive industry is set to steadily increase the generation of foreign exchange for the South African economy, by penetrating new markets, export new products and realize new opportunities presented by trade agreements.

OEMs operating in South Africa key strategy are to expand market share through a combination of vehicle imports and domestic production. Government policies like the MIDP encouraged OEMs to import models not manufactured in South Africa and concentrate on the production of relatively high volume models. In rationalizing the vehicles and components the industry manufacturers, to achieve higher volumes from a much smaller range of products, the automotive industry has to rely on increasing imports to fill the domestic supply gap (AEIC 2011:12).

Globalisation is all about price sharing, therefore currency deviations with trading partners impact on domestic operations. The EU, the US and Japan are South Africa's main trading partners as far as the automotive industry is concerned and currency movements between the rand and these two currencies have a significant impact on the domestic automotive industry (Alfaro, et al., 2012:10). Table 2.10 indicates the movement of the rand against the currencies of the South African automotive industries main automotive trading partners.

Table 2.10: Currency Indicators for Rand versus major trading partners. (Foreign currency: Rand- annual averages)

Currency	2006	2007	2008	2009	2010	2011	2012
Euro	8,52	9,66	12,05	11,70	9,71	10,08	10,55
Index	100	113	141	137	114	118	87,6
US ($)	6,77	7,05	8,25	8,44	7,32	7,25	8,21
Index	100	104	122	125	108	107	99,5
Japan (100 Yen)	5,82	5,99	8,05	9,02	8,35	9,12	10,29
Index	100	103	138	155	143	157	127,8

Source: Adopted from AEIC (2012:24)

The South African Reserve bank is responsible for formulating and implementing monetary policy, with its primary objective of keeping inflation within a targeted rate of 3 to 6% and maintains a stable competitive currency. The global recession in 2008 affected South Africa, however sound fiscal and monetary policies minimized that impact on the domestic economy. As a result, inflation and interest rates decreased substantially in 2010 and the rand gained in strength although the currency depreciated in 2011 and 2012 again (AIEC 2013:34).

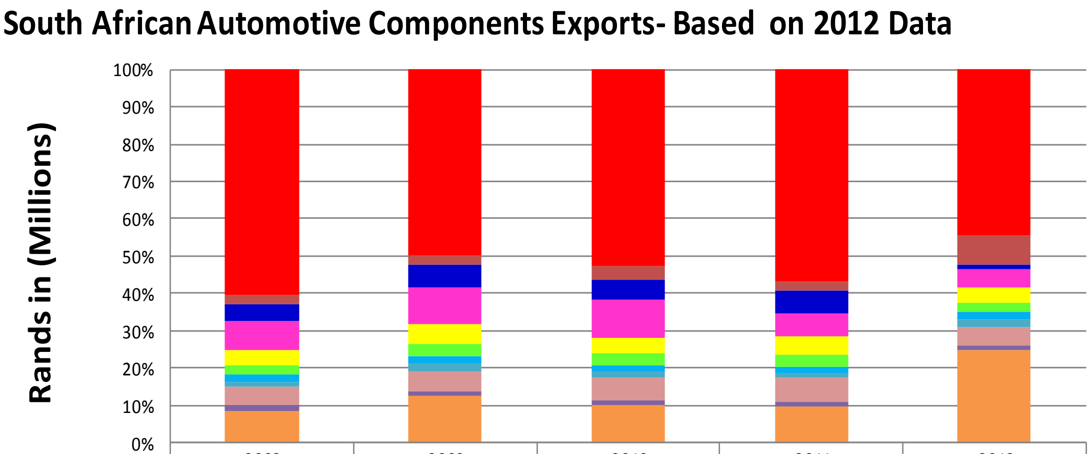
Owing to the small size of the South African automotive industry in relation to the global market, currency fluctuations will always impact on the automotive sector in terms of higher import prices or lower export prices depending on the movement of the rand. The industrial sector has not reaped the full benefit of the currency depreciation on the export side due to the weak global demand. Currency depreciation was not limited to South Africa, but impacting across emerging markets, thus further strengthening the export competitiveness (Gastrow, 2012:5900).

During 2010 rand appreciated significantly in relation to the Euro and US Dollar and this trend continued into 2011. The strong rand hampered export orientation sectors, however was very instrumental in keeping inflation contained in the domestic environment. Nominal tariffs for CBUs and original equipment components have declined gradually under the MIDP to 25% and 20% respectively in 2012, hence as automotive tariffs into South Africa are reduced, imports are gaining a larger share of the domestic market (AIEC, 2012:24).

2.3.4 South African automotive components - exports

The South African automotive component industry is a mature and multi-tiered supplier base to the OEMs. South Africa's component export capability has increased since 1995, with component exports increasing from R30,8 billion in 2010 to R38,8 billion in 2011, however in 2012 exports declined by R1.95 billion to R36.87 billion (AIEC 2012:53). Exports to the European Union alone declined by R4-billion, almost all of which related to catalytic converters, however EU still remains South Africa's largest trading partner globally, absorbing around 25% of the country's total exports. Figure 2.5 reveals the automotive component exporting ranking by component category from 2008 through to 2012.

Figure 2.5: South African component exports ranking by component category



	2008	2009	2010	2011	2012
Catalytic Converters (44,3%)	24 267	12 280	14 761	19 639	16 347
Engines (7,8%)	1 045	605	965	819	2 875
Engine Parts (5.3%)	1 853	1 554	1 505	2 058	559
Stitched Leather Seat Parts (4,7%)	3 084	2 357	2 898	2 190	1 719
Tyres (4.1%)	1 676	1 355	1 133	1 675	1 522
Radiators and Parts (2.6%)	1 026	824	951	1 118	945
Transmission Shafts / Cranks (2,1%)	782	503	415	569	771
Automotive Tooling (2.1%)	518	464	447	438	782
Silencers / Exhausts (1.55%)	1 913	1 283	1 696	2 139	1 730
Road Wheels and Parts (1.3%)	694	388	383	494	466
Other components (25%)	3 393	3 052	2 832	3 327	9 151

Source: Compiled from AIEC (2012:54)

Total catalytic converter exports from South Africa declined from R19.6-billion in 2011 to R16.3-billion in 2012. Nevertheless, catalytic converters remained South Africa's main export component in 2012. Leather exports declined by almost 20% in 2012, to R1.7-billion, from R2.9-billion in 2010. Leather was South Africa's second biggest automotive component export in 2011, but fell to fourth position in 2012. Engine parts moved into second position in 2012, at R2.8-billion, up from R2-billion in 2011. Automotive tooling also showed healthy gains, increasing by 70% from 2011 to almost R800-million in 2012.

The leather seat and kit industry is shrinking because European car manufacturers are not placing new orders in South Africa, owing to cost reasons. While the weakening rand in 2012 did manage to buoy the local component export industry, other competitive issues, such as rising labour and electricity costs, largely negated any gains made (AIEC 2012:54).

Figure 2.5 indicates that there is significant growth in the automotive component sector, but further analysis reveals that 50.6% of total exports are derived from one sub-sector, being catalytic converters. Catalytic converters remain the main component exported and the significant growth in the component export from 2010 to 2011 is largely attributed to the 33% increase in catalytic converters exports. Catalytic converters are platinum-based export sub-sector that generates very large sales in terms of Rands, albeit adding only limited value to the South African economy. The very large Rand figures are a result of the expensive precious metal of the platinum group metals, which is a key component of the catalytic converter (Barnes and Hartogh 2009). Table 2.11 highlights the automotive component export value and ranking by country 2012vs 2011.

Table 2.11: Automotive component export value and ranking by country 2011 vs 2010

Country	% of 2012 TOTAL	2012 R million	2012 Ranking	2011 R million	2011 Ranking
Germany	31,2%	11 499,6	1	13 999,4	1
USA	10.7%	3 938,1	2	3 437,7	2
UK	5.4%	2 004,2	3	2 739,5	3
Belgium	4,3%	1 571,5	4	1 721,9	5
Zambia	2,5%	1 314,2	5	802,4	11
Spain	3,5%	1 291,3	6	1 911,6	4
Czech Rep	2,6%	964,8	7	912,6	10
Netherlands	2,5%	924,0	8	1 165,1	7
Zimbabwe	2,5%	905,9	9	676,4	12
Poland	2,4%	885,7	10	1 629,2	6

Source: AIEC (2013)

It is clearly evident from Table 2.10, that the main destinations for automotive components exports remain first world markets, with Germany being the number one destination for automotive component exports, accounting for 31,2% of South Africa's total component exports. Emerging markets are starting to feature as export destinations indicating progress in the South African component manufacturer's ability to compete globally. South Africa has penetrated the African market with Zambia being the 5th ranked export market.

2.3.5 South African automotive components - imports

OEMs strategic behavior in expanding market share in South Africa is directed at optimizing their duty position. AIEC (2012:76) outline that OEMs strive to minimize duty payments and this can be achieved in a following ways:

a) OEMs can reduce or limit vehicle imports.
b) Local content in domestically produced vehicles can be adjusted upwards.
c) OEMs can undertake specified investments that qualify under the Product Asset Allowance (PAA) hence receive import credits.
d) OEMs can expand exports of vehicles and automotive components, hence by the means of increased exports, reduce the liability of paying duty on imports.

The strong focus on the sourcing of components in the domestic market and the development of the local component supplier industry is important because it reduces the risks associated with exchange rates fluctuations. The OEM's perceive increasing local sourcing levels in South African manufactured vehicles as a prerequisite for establishing a more sustainable productive base (AIEC 2012:76). Table 2.12 highlights the components imported into South Africa from country of origin.

Table 2.12: Components imported into South Africa from country of origin

COUNTRY	2008	2009	2010	2011	2012
TOTAL (R billion)	**48,1**	**30,0**	**37,9**	**43,8**	**51.4%**
Germany	36%	35%	38%	37%	35%
Japan	25%	22%	22%	24%	25%
Thailand	9%	11%	9%	9%	12%
Brazil	7%	8%	6%	6%	6%
USA	3%	3%	2%	4%	3%
Sweden	1%	1%	3%	3%	3%
China	1%	1%	1%	1%	2%
UK	4%	3%	3%	3%	2%
Czech Rep	1%	2%	3%	3%	2%
Spain	2%	3%	5%	3%	2%
Austria	2%	2%	2%	2%	2%
Other	10%	10%	7%	6%	8%

Source: Automotive Industry Export Council (AIEC 2013:85).

A large portion of the automotive imports to South Africa are comprised of original equipment components, which are then exported as completely built up units (CBU's), after significant value adding processes. Original equipment imports by the OEM's have amounted to R 51.4 billion in 2012, in line with the increased vehicle production (AIEC 2013:85). Table2.12 reveals that imports of original equipment components originated mainly from Germany, Japan and Thailand. It is evident from Table 2.12 that Germany is the principle country of origin for imported components into South Africa, contributing a total value of 35% of South Africa's total component imports by value in 2012. (AIEC 2013:85).

Table 2.13 reveals the increasing trend in the import of aftermarket replacement parts to compliment the products not manufactured in the domestic market and more particularly to service the rapidly increasing imported vehicle ownership for which most parts are imported.

Table 2.13 Top 10 replacement parts imported (R million)

Part Category	2006	2007	2008	2009	2010	2011
Tyres	1 448	2 037	2 182	1 961	2 900	3 206
Engine Parts	1 770	2 046	2 159	2 393	2 549	2 960
Automotive Tooling	2 269	2 359	2 743	2 167	1 596	2 369
Transmission Shafts /	374	491	1 556	1 116	1 076	1 302
Gauges / Instrument	761	875	2 641	978	984	1 244
Engines	402	702	1 682	816	705	1 181
Leather and Leather	1 027	1 140	1 565	1 018	1 139	1 138
Brake Parts	750	1 059	860	730	774	918
Catalytic Converters	452	418	696	632	903	823
Lighting Equipment /	473	552	662	588	746	805
Other	10 059	12 031	12 903	13 557	13 946	16 942
Total	**19 785**	**23 710**	**29 649**	**25 956**	**27 318**	**32 888**

Source: Automotive Industry Export Council (AIEC) 2012:77.

The growth of imports of cheaper products, mainly from China, has aggravated this trend. Replacement parts imports in 2011 increased by 20.4% compared to 2010 (AIEC 2012:77). It is evident from Table 2.13 that in terms of component imports, tyres and engine parts constitute the most significant proportion by value, followed by automotive tooling and transmission shafts/cranks. Automotive tooling has declined from R 2,269 million in 2006 to R 1,596 million in 2010; however in 2011 there has been 32.6% increase in imports.

By contrast tyre and engine parts have significant growth in import values between 2006 and 2011 (AIEC, 2013:86). The growth of imported replacement parts over recent years after adjusting for the stronger rand currency is even more evident in real terms.

Table 2.14 below illustrates the composition of a vehicle with the percentage of local components versus the percentage of imported components as a percentage of total material cost used in the complete assembly of a vehicle in the domestic market.

Table 2.14: Current local content levels in South African automotive industry

Component	% of Imported components	% of Local components	% Total components
Electrical/ Electronic Harnesses Starter Motors Alternators Wiper systems HVAC	14%	5%	19%
Body Bonnets Boot lids Side frames Doors	9%	6%	15%
Chassis and Drive-train Axles Differentials Drive Train Brakes	19%	14%	33%
Interior Cockpit Seats Door Panels Carpet	16%	7%	23%
Exterior Glass Paint Bumpers Mirrors	7%	3%	10%
Total	**65%**	**35%**	**100%**

Source: NAAMSA. 2011. *NAAMSA Annual Report 2009/2010*. National Association of Automobile Manufacturers of South Africa, Pretoria.

Table 2.14 implies that of the 5 major component categories that make up the total vehicle assembly, only 35% local components are used while 65% imported components are used. Black and Bhanisi (2006:26) argued that the foreign direct investment by first tier suppliers is there to engage in the assembly of imported knock down units, or draw on the domestic supplier base. Hence it is clearly evident that there is a decline in local content in domestically assembled vehicles due to the high percentage of imported components being used.

2.3.6 South Africa's integration into the global automotive industry supply chain

Ndamase and Steyn (2011), outline that the South African automotive industry transformation from local market focus to global market manufacturing was driven by the parent automotive manufacturing companies. Ndamase and Steyn (2011), further emphasized that transnational companies (TNCs) were the main agents of productive globalization due to the fact that transnational companies have the ability to establish operations anyway in the world that offers the best business environment: low cost, qualified and available workforce and availability of raw materials.

According to Sirikrai and Tang (2006:76), the characteristic of globalization is the commonality of products offered around the world, hence the strategy of global production is that the same product is manufactured and commercialized in several different countries at the same time. Globalization allows business to work with many different suppliers to get raw materials and preliminary products and each first tier supplier is dependent on a multilevel supplier chain for their production (Mutsiya, Steyn, and Sommerville 2008:1266).

The decision to produce global products requires the introduction of new quality requirements, which are associated with the upgrading of process technology. The upgrading process can be in a form of gradual improvements by replacing older tools, equipment and machinery with modern versions (Sirikrai and Tang, 2006:76).

2.3.7 Strategies, policies and interventions in the South African automotive industry

2.3.7.1 Understanding the global policy environment

Governments globally are actively attempting to promote their countries by attracting automotive investments via policy measures in recognition of the benefits that automotive investments generate with regard to economic growth, development and technology transfer. According to Black (2009:503), the trajectory of global growth in the automotive industry naturally has important implications for all emerging market producers including South Africa, which can be verified by three trends. Firstly, the share of emerging markets, both with regard to global production and automotive exports has grown colossally. Secondly, "regionalism" rather than "globalism" can be seen as a more appropriate description of the forces shaping the location of the industry internationally and thirdly, within emerging economies production locations, there is a growing concentration in a relatively small number of favoured locations.

Humphrey and Oeter (2000:44) outlined that active government support in developing countries has further encouraged industry development, however policies to develop the automotive industry in global trading environments requires the achievement of three key policy objectives.

i. It is essential to identify a regional or national automotive space, which is protected by policy requirements. These parameters must be conducive to trading partners; however in today's world most likely will be phasing down.

ii. Effective and efficient policy must ensure that the domestic automotive industry is competitive and can attract foreign direct investment. Its attractiveness is dependent on aspects like the size and growth rate of the market, the potential competitiveness as an export base, the location with respect to other markets and producing regions, and the general business environment.

iii. Policy requirements must prepare the industry for a more open trading environment, which could take the form of tariff reductions as well as reduced support in the form of trade-related investment measures (TRIMs).

Black (2009:492) noted that firms that are fully integrated into global networks operate at a larger scale with advanced technology hence the level of production is higher than those who supply protected domestic markets. Phillip and Kenneth (2012), argues that the spill overs resulting from foreign investment have mainly been of a vertical nature accruing to those suppliers who have had greater access to markets and technology as a result of being drawn into the international networks of the multinational car companies. The restructuring of production networks has important implications in the automotive industry, as trends towards "global sourcing" and "follower sourcing" has had a major effect in emerging markets where the trend is toward fewer first-tier suppliers and the greater use of foreign-owned suppliers.

Flatter (2002), noted that the significant distinguishing factor of the automotive industry from other industrial sectors is the high importance of government policies in steering its development. The policies that have driven the South African automotive sector are therefore vital to understanding the sector's history and it recent achievements.

2.3.7.2 Evolution of government policies in the South African automotive industry

The South African automotive industry distinctive feature of industrial policy affecting the sector is the effective array of selective policies that were adopted. A cause-effect relationship exists between government developmental automotive policy and the operations and market structure that apply to the domestic automotive industry. The overall regulatory regime in South Africa is therefore very important in determining the actions of the domestic automotive firms and the evolution of the automotive policy regime in South Africa has had decisive impact on the actions of the firms (AIEC 2013:14).

The origins of South Africa's inward-focused automotive industry developmental path can be traced back to the introduction of tariffs during the 20th century. High tariffs were imposed on completely built up units which resulted in OEMs establishing assembly plants in domestic markets, as the rapid growing domestic market acted as a magnet to attract foreign OEMs. Production was aimed solely for the domestic market and South African assembly plants were isolated from the global production networks of the parent companies.

According to Black and Mitchell (2002:1276), from 1961 the South African Automotive industry was built through protectionist policies to radically liberalize trade in automotive products. The first five policies, from 1961 until 1989, aimed purely at protecting the local market from imported vehicles and components and in doing so substituted imported products (Black, 2001:491). From 1980 to 1990, vehicle demand languished, resulting in total vehicle sales of less than 250 000 units per year fragmented across eight different assemblers. The MIDP was launched in September 1995, which shifted the South African Automotive industry towards increasing integration into the global value chains of the transnational auto companies (Barnes and Johnson 2004).

The MIDP was revised in 2002 with tariffs on imports of vehicles and components being substantially reduced, a duty-free allowance of 27 per cent of the wholesale value of vehicles was granted to assemblers, the minimum local content provision was scrapped and an import-export complementation scheme was introduced to allow both vehicle and component manufacturers to offset import duties against exports. The aim was to empower the local auto industry to become more competitive and to encourage global auto companies to export from South Africa in order to gain duty-free access to the domestic market (Damoense and Simon, 2004).

The new policy was specifically designed to encourage the incorporation of South African assembly and components production into global value chains. The eradication of local content requirements and the introduction of duty drawback arrangements encouraged firms to develop a division of labour between South Africa and other areas and to develop two-way flows between them (Barnes 2010).

The table 2.15 highlights the evolution of the automotive policy in South Africa from the end of World War II in 1924.

Table 2.15: Evolutions of government policies in the automotive industry

Period	Automotive policy	Key elements
1924-1960	No Policy	• No base for component production domestically.
1961 - 1980	Phase I to Phase III of LCP	• Local content policy (LCP) scheme introduced with varying mandatory weight-based domestic content targets. • Local content was measure by weight
1981 - 1994	Phase V to Phase VI of LCP	• Local content requirements amended to a value-based system • An excise duty rebate scheme was introduced.
(1995 to 2012) 1995 - 2000	Motor Industry Development Programme (MIDP: 1995- 2012) (Including the Reviews of 1998/9, 2003 and 2005)	• Local content regulations abolished. • Tariff phase-down schedule for imported vehicles (CBUs) and components (CKDs) reduced to 40 per cent and 30 per cent respectively by 2002. • Tariffs were reduced on average by 3.5 per cent and 2.5 per cent per annum respectively for CBUs and CKDs. • Import-export complementation (IEC) scheme introduced. Similar to the excise duty rebate system. • Duty-free allowance (DFA) and small vehicle incentive (SVI) schemes implemented.
2000 - 2007		• Tariff phase-down continued until 2007, reaching 30 per cent for CBUs and 25 per cent for CKDs. • Tariffs were reduced by 2 and 1 per cent per annum for CBUs and CKDs respectively. • IEC phase-down schedule begins from 2003 through to 2007. • The DFA scheme remains in operation. • The SVI scheme to be phased down and eventually discontinued by 2003. • The introduction of the Productive Asset Allowance (PAA) of 20 per cent in 2002.
2008 - 2012		• Tariff phase-down is expected to continue until 2012, reaching 25 per cent for CBUs and 20 per cent for CKDs. • Tariff rates are expected to decrease by 1 per cent per annum from 2008 until 2012. • IEC phase-down continues and is expected to reach 70 per cent by 2012. The DFA scheme remains until 2012. • The PAA remains at 20 per cent until 2009.

2013 - 2020	Automotive Production and Development Program (APDP)	Tariffs: • Import duties of 25% on light vehicles and 20% on original equipment components to be frozen at 2012 levels until 2020. • Imported vehicles from the EU pay only 18% duty Vehicle Assembly Allowance: • Duty-free import credits will be issued to vehicle assemblers based on 20% of the ex-factory vehicle price initially, reducing to 18% of the value of light motor vehicles produced domestically from 2013. • The equivalent value of this to the OEMs will be the allowance multiplied by the duty rate, 4% in 2013 reducing to 3.6% in 2015 Vehicle Assembly Allowance • Duty-free import credits will be issued to vehicle assemblers based on 20% of the ex-factory vehicle price initially, reducing to 18% of the value of light motor vehicles produced domestically from 2013. • The equivalent value of this to the OEMs will be the allowance multiplied by the duty rate, 4% in 2013 reducing to 3.6% in 2015. Production Incentive • From 2013, the Production Incentive support will start at 55% reducing progressively to 50% of value added, also in the form of duty-free import credit. • The equivalent value will be the incentive multiplied by the

Source: Adopted from DTI (2012); Alfaro, et al. (2012:10), and Damoense and Agbola (2009)

i. Emergence of the South African automotive assembly industry (1924-1960)

South Africa's first assemble car was produced by Ford Company in 1924, using imported components. Following the growth in per capita income after the end of World War II, motor vehicle assembly operation grew tremendously due to the expansion of domestic demand for vehicles. South Africa had no base for component production domestically, which resulted in an excessive foreign exchange burden. By 1958, the average passenger vehicle was built form 80% imported components, whereas the foreign exchange usage of the motor industry grew about 50% between 1956 and 1957 (Damoense and Simon, 2004).

ii. Inward orientation: Phase I to Phase III (1961-1980)

The key elements of phase I to phase III was the gradual increase in the minimum domestic content requirement on one hand the incentives for the OEMs on the other.

These incentives served as protection from import competition through high tariffs, tax incentives and import permits. The domestic content requirement increased from 15% in 1961 to 66% by 1980 (Black and Bhanisi, 2007:135). Black and Mitchell (2002:1275), stated that during this period the automotive trade deficit increased by 12%, and the key reason behind this was the industries continued dependence on imports for technology intensive components.

iii. Protected export promotion: Phase V to Phase VI (1981-1994)

Phase V, motivated export promotion in the mid 1980's due to the persistent gap that existed between foreign currency costs and earnings of the automotive industry, coupled with the depreciation of the rand (Black, 2011:188). Black (2011:188) further stated that the need for export promotion was further justified by the economy wide structural adjustment toward the end of 1980, however the local content program was intact maintaining a degree of protection.

According to Black and Bhanisi, (2007), the observations during this period indicated that by the end of phase v there was a decline in the number of OEMs (7 in phase v), continued proliferation of model variants (200 by end of phase v) and a significant increase in export of vehicles and components. Phase VI, of the program achieved the purpose of creating a fairly integrated but small locally orientated automotive industry, which benefited from a stable and growing domestic income (Damoense and Simon, 2004).

iv. Motor industry development programme (MIDP) - Integration with global markets through export strategies (1995-2012)

In September 1995 the MIDP was implemented as a sector specific part of government's new industrial policy intended to rapidly increase the international competitiveness of the domestic automotive industry and to facilitate the increased exports of CBUs and automotive components (Kaggwa, Steyn and Pouris 2007). Introduction of the MIDP resulted in a major transformation in the automotive component industry. This liberation was led by changes, such as the removal of all local content provisions, reduced tariffs and import – export complementation at OEM level (Damoense and Simon 2004).

According to AIEC (2013:17), the intention of the MIDP was to develop an internationally competitive automotive industry with the following national objectives:

- To provide high quality and affordable vehicles and components to the domestic and international markets;
- To provide sustainable employment through increased production;
- To make a greater contribution to the economic growth of the country by increasing production and achieving an improved sectoral balance.

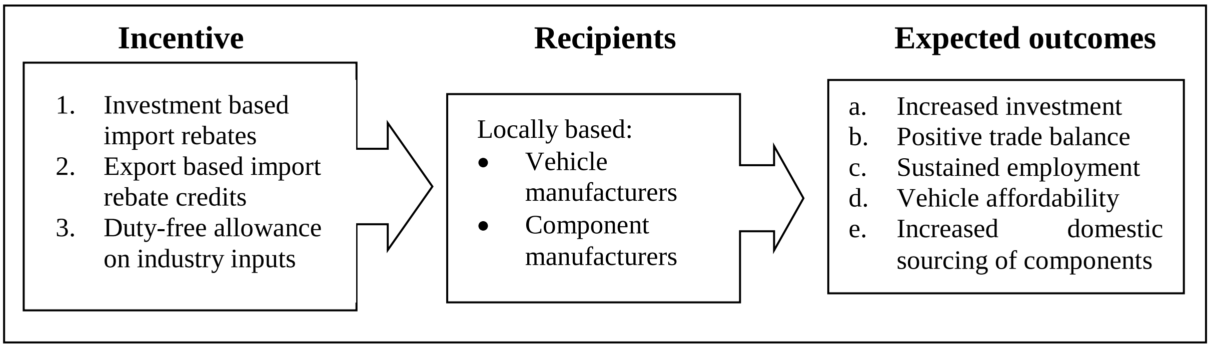
AIEC (2013:17) outlined that these national objectives were achieved by encouraging a phased integration into the global automotive industry and encourage modernization and upgrading of the automotive industry in order to promote higher productivity and facilitate the global integration process. NAAMSA (2011), highlighted that the policy instruments that were implemented to achieve the national objectives was a gradual reduction in tariff protection so as to expose the industry to greater international competition, encouragement of higher volumes allowing exporting firms to earn rebates of automotive import duties and introduction of a range of incentives designed to upgrade the capacity of the industry in all spheres.

The implementation of the MIDP had significant impact of the growth of the vehicle market with the industry peaking 714 315 units in 2006, before slowing to 617 500 units in 2007 (NAAMSA, 2007). Vehicle exports was a significant goal of the MIDP, and vehicle exports grew from 15, 764 units in 1995 to 179,859 units in 2006, reaching 272,457 units in 2011 (NAAMSA, 2011). Kaplan (2004:624) stated that the MIDP as an export-stimulating industrial policy was one of the key drivers behind the shift towards vehicle and component exports.

The import-export complementation scheme, saw import duties phase down from 75% to 40 % for light vehicles and from 50% to 30 % for components in 2003 (Black and Bhanisi 2006:24). This brought about an export focused outward orientation of the industry. This was enforced through a number of policy mechanisms which have drawn the industry into a global operating environment.

Kaggwa, et al. (2007) summarise the intentions of the MIDP in a static uni-directional model as indicated in Figure 2.6

Figure 2.6: Static uni-directional MIDP incentive model



Source: Kaggwa, M., Pouris, A., Steyn, JL., 2007:3080, Sustaining automotive industry growth in South Africa: A review of the first five years of the Motor Industry Development Programme, University of Pretoria, Vol 22.

The main objective of the MIDP was to increase the volume and scale of production through a greater level of specialization in terms of both vehicle models and components. With the introduction of the MIDP, the automotive component sector came under increasing pressure from imports as minimum local content requirements were abolished and manufacturers of light vehicles were entitled to duty free allowances for the importation of original equipment components (Lamprecht 2004). Manufacturers were offered the full value of locally contributed portions of exports back in form of import-duty rebate credit certificates (IRCC).

The IRCCs was then used to import components and offset the cost of import duties against the value of the IRCCs (Barnes and Morris 2008). Firms were therefore encouraged to rapidly develop exports and this meant a substantial reorientation of existing production and the necessity to re-position themselves in the international value chain (Damoense and Simon 2004).

The key performance indicators under the MIDP is illustrated in table 2.16

Table 2.16: MIDP key performance indicators: 1995vs 2012.

Activity	1995	2012
Capital Expenditure by OEMs	R 847 million	R 4.7 billion
Export value (vehicles and components)	R 4.2 billion	R 86.9 billion
Total vehicles exported (units)	15 764	277 893
Top vehicle export destinations	1. China 2. Zimbabwe 3. Malawi	1. USA 2. UK 3. Algeria
Top automotive components exported	1. Stitched leather seat parts 2. Catalytic converters 3. Tyres	1. Catalytic converters 2. Engine parts 3. Silencers/exhaust pipes
Top vehicle countries of origin: imports	1. Germany 2. Japan 3. UK	1. Germany 2. India 3. Japan
Productivity (Average number of vehicles produced by employee)	10,0	18,5
Automotive industry contribution to GDP	6.5%	7.0%
Number of passenger car model derivatives	356	2 159
Export destination for vehicles and components	62	152
Total vehicles produced (units)	389 392	539 538
Total new vehicle sales (units)	399 967	624 035
Number of model platforms	41	13
Models with production volumes > 40 000 units	0	5

Source: AIEC (2013:20)

The MIDP to a large extent achieved it stated objectives and its contribution to the domestic automotive industry has been regarded as positive. The programme was an interventionist programme to guide small, ineffective industries integration into the global automotive environment, facilitating the outward orientation of the domestic automotive industry through various policy mechanisms (AIEC 2013:20).

v. Automotive production and development program (APDP) – growth in production volumes and local content value addition (2013-2020)

The APDP programme came into effect as of the 1 January 2013, replacing the MIDP programme. The key motivation behind the APDP program was to build local manufacturing capacity and meet WTO requirements on subsidies. The aim of the APDP is to double vehicle production in South Africa to 1.2 million vehicle units by 2020, growing the South African automotive industry up to an anticipated global market share of over 1%. The increase in the market share will trigger additional interest and investment hence generating additional business. The APDP endeavors to shift the prominence away from an export focus to one that emphasizes value addition and scale in vehicle production. The program seeks to improve international competitiveness through re-orientation of incentives towards local manufacturing capacity building (AIEC, 2013:11).

The objective of the APDP is to create an enabling environment for the domestic industry to significantly grow production volumes and local value addition, leading to the creation of additional employment opportunities across the value chain. The APDP is intended to be supportive to the further development of world class automotive component manufacturing. The APDP would incentives automotive related production, investment and large scale vehicle manufacturing (DTI, 2012).

NAACAM (2013), outlined that the APDP will reflect a quantum leap in terms of processes, technologies and the scale on which the domestic industry has functioned. The APDP focus is to ensure the sector has a greater impact on the economy and on national employment levels by increasing local content manufacturing and sourcing more semi-finished good in the domestic automotive market.

DTI (2012) outlined the four key elements that will drive the APDP programme:

a) **Import Duty**: These tariffs are meant to provide just enough protection to justify continued local vehicle manufacturing.
b) **Vehicle Assembly Allowance**: This support is effectively providing a lower duty rate for local vehicle manufacturers and should provide enough encouragement for high volume vehicle production in line with the target of doubling production.

c) **Production Incentive**: The incentive will flow through the supply chain to the end producer, which will be the OEM or in the case of component exports or replacements parts, the component manufacturer. The value added support is planned to encourage increasing levels of local value addition along the automotive value chain with positive spin offs for employment creation.

d) **Automotive Investment Scheme**: This support will be available to encourage investments by OEMs and component manufacturers in a manner that supports equipment upgrading.

2.1 Automotive component industry

2.1.1 Brief understanding of the global automotive component industry

The auto component segment of the industry has also seen a decline growth rates between 2006 (3.4% YOY) and 2008 (1.5% YOY). The global auto component sector increased from USD 560 billion in 2004 to USD 625.2 billion in 2008, representing a CAGR of 2.8%. Majority of automotive production activities are concentrated in Japan, China, India and Thailand due to the availability of cheap raw materials and increasing demand for automotive products from the domestic market (OICA, 2013).

The impact on the developments of the first tier automotive component manufacturers and subsequently the lower tier suppliers is due to the offensive strategies of the OEMs, who aim at winning market share in an intensely competitive environment. The relationships between OEMs and automotive component manufacturers, as well as the countries in which these multinationals operate, present opportunities as well as challenges (Lamprecht, 2006).

Bigourdan (2007), stated that 75% of the parts in an average vehicle come from the automotive component manufacturer, hence a healthy supply chain is crucial. The global automotive component industry is characterized by a restricted number of large multinational global suppliers as well as large numbers of small companies supplying on a national or regional source.

Table 2.17 reveals the top 20 global automotive suppliers by automotive parts sales turnover in 2008 compared to 2009.

Table 2.17: Top twenty global OEM automotive component suppliers ranked by automotive parts sales- 2009

Company	Country Head Office	Total Global OEM automotive parts sales (US$ Millions) 2009	Total Global OEM automotive parts sales (US$ Millions) 2008	Rank 2009	Rank 2008
Denso Corp	Japan	28,731	27,762	1	2
Robert Bosch GmbH	Germany	25,617	33,901	2	1
Aisin Seiki Co.	Japan	20,585	22,224	3	5
Continental AG	Germany	18,744	25,008	4	3
Magna International Inc.	Canada	17,367	23,295	5	4
LG Chem Ltd	Korea	13,080	12,371	6	-
Faurecia	France	13,000	17,656	7	8
Johnson Controls Inc.	USA	12,800	19,100	8	6
Delphi Holding LLP	USA	11,755	18,060	9	7
ZF Friedrichshafen AG	Germany	11,748	16,891	10	9
TRW Automotive Inc.	USA	11,600	15,000	11	10
Hyundai Mobis	Germany	11,209	8,845	12	19
Valeo SA	France	10,400	10,800	13	15
Toyota Boshoku Corp.	Japan	10,250	12,338	14	12
Lear Corp.	USA	9,700	13,600	15	11
Yazaki Corp.	Japan	8,686	11,180	16	14
Sumitomo Electric Industries Ltd.	Japan	8,415	10,075	17	17
BASF SE	Germany	6,800	10,152	18	53
Hitachi Automotive Systems Ltd.	Japan	6,564	6,854	19	27
Benteler Automobiltechnik GmbH	Germany	6,560	9,309	20	16

Source: Automotive News, 2010.

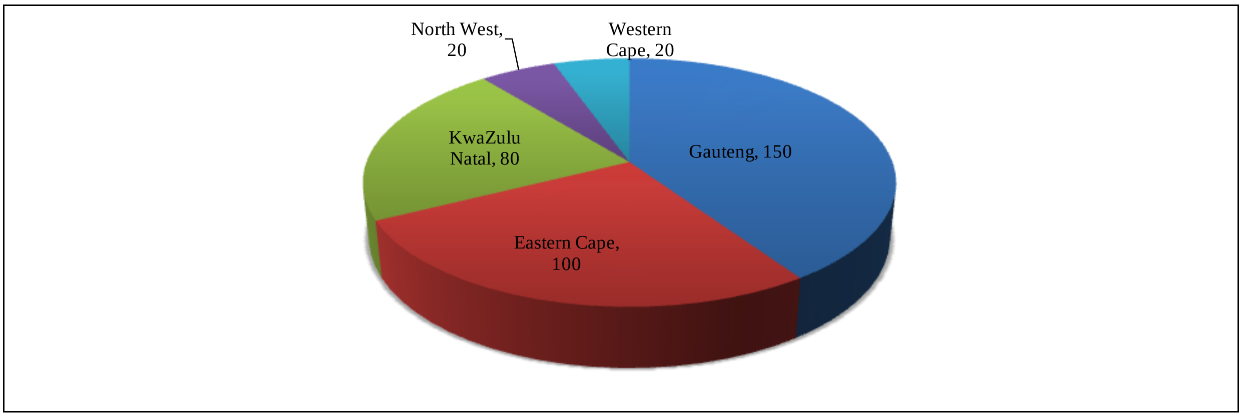
Denso of Japan, claimed the crown as the world’s largest automotive supplier, followed by Bosch in second position. Germany, USA and Japan were the 3 countries of the top 20 automotive supplier’s heavyweights of the world. The total global OEM automotive parts sales for 2009 were $ 263,611 million which indicates 18.74% decline from 2008. According to Bigourdan (2007), the profitability of the supply groups is eroding due to the increase in the price of raw materials and the continuous decrease in the prices demanded by the OEMs, who are concerned about their competitiveness.

Denso, the top supplier globally for 2009, blamed the company's slowdown in Europe to the increasing costs of raw materials, static production of vehicles and weak car sales. For Denso to cope with the rising costs of raw materials the company will requests its suppliers to absorb some of the costs, changes size and specifications of products to reduce raw material usage and reduce waste by effectively using raw materials (Bigourdan, 2007).

2.1.2 Overview of the South African automotive component industry

The automotive component industry was established in the 1920s after the first vehicle manufacturers entered the market. The automotive component manufacturers focused mainly on manufacturing components that were not cost effective to transport to South Africa, like glass and rubber (Hartzenberg and Marudzikwa, 2002). The automotive component industry has since evolved and expanded to 360 component manufacturers in South Africa with 180 considered key suppliers to local OEMs (NAACAM, 2013). Barnes and Hartogh (2009) highlighted that the geographic spread of the automotive component manufacturers is such that they are clustered in close proximity to the vehicle assemblers. There are 370 component manufacturers. Figure 2.7 indicates the location of component manufacturers per province. Gauteng houses the majority of the component manufacturers (150), followed by Eastern Cape (100), KwaZulu-Natal (80), Western Cape (20) and North West (20). They cover all the commodity groupings for vehicle manufacture viz. electronics, body parts, interiors, exteriors, chassis and drive trains (NAACAM, 2013).

Figure 2.7: Number of automotive component manufacturers per province



Source: Adapted from National Association of Automotive Component and Allied Manufacturers (NAACAM) 2013.

The National Association of Automotive Component and Allied Manufacturers (NAACAM) represent the interests of automotive component manufacturers in South Africa and provide a forum through which to formulate policies and lobbies for the benefit of the industry as a whole.

Black (2003:32) identifies four tiers of suppliers in the component manufacturing segment of the automotive industry. The first tier suppliers are generally assumed to be supplying components directly to the OEM production facility. They are often involved in sub assembly and produce components which are core to the vehicles (engine, body sections, and electronic systems). These firms work in closer partnership with OEM's and operate in secure long term contracts. First tier suppliers are generally owned subsidiaries of multinational corporations (due to the nature of global supply contracts enforced by the OEM's), while a handful remain SA owned operations.

Second tier firms generally supply either the OEM directly or supply critical components to first tier firms. They are either producers of scale or involve specialist higher value activities that are needed in automotive production. The majority of second tier suppliers to the automotive industry are South African owned operations, which produce a full range of components for the domestic and international markets (Comrie 2002).

Third tier firms often supply second or first tier suppliers rather than OEM's directly. It is common for them to be producing lower value and lower volume products using technology and processes that are not necessarily unique. They are often subject to much shorter term contract arrangements. The fourth tier is often referred to as the aftermarket fitment suppliers, as they are not directly linked to the vehicle manufacturing supply chain (Ellis 2008).

The AIDC (2010) quarterly report pointed out that some second and third tier suppliers are not exclusive automotive component firms and produce goods for other sectors but count the automotive sector as a significant customer.

2.1.3 Impact of change on the automotive component industry

Humphrey and Memedovic (2003:19) outlined that the key question for developing countries is how the changes in the global auto industry will influence the nature of the component industry? The key reason for promoting the automotive industry in developing countries was to encourage the development of the domestic automotive components industries. Ndamase and Steyn (2011), emphasized the fact that the growth of the component industry will stimulate domestic technological capability through spillover effects, reducing the balance of payments of imported components and stimulating job creation.

The domestic component industry can be further enhanced, if there was an increase in local ownership in the form of joint ventures between local companies and transnational companies. The introduction of local content requirements became obligatory to enhance local production, even though this involved uneconomic levels of production and high priced vehicles (Humphrey and Memedovic, 2003:20).

Relationships between automotive assemblers and component suppliers changed significantly due to Western companies struggling to match the competitiveness of manufacturers from Japan and emulate their production and supplier strategies. North America and Western Europe OEMs condensed there in house production levels and transferred design functions to their principal suppliers. Therefore the component industry in developing countries was significantly affected by the OEM-suppliers relationship change (Humphrey and Memedovic, 2003:20).

Restructuring in the component industry resulted in the increasing global reach of the assemblers. There was a shift in design activities from OEMs to automotive component manufacturers, were component manufacturers offered their own design solutions and moved towards a greater customization of products to needs of specific companies. The process of OEMs outsourcing shifted their focus towards component manufacturers supplying complete modules rather than individual components. This resulted in first tier component manufacturers becoming responsible for the assembly of the parts into a complete unit and also the management of the second and third tier suppliers. The change in strategy was as a result of OEMs standardizing platforms and models in order to reduce development costs, obtain economies of scale and facilitate trade between regions (Sturgeon, et al., 2009).

2.1.4 Challenges facing the automotive component industry

According to Phillip and Kenneth (2012) a transitional period ensued in the automotive industry during 2010 and 2012 after the economic downturn. Automotive component suppliers who wished to survive had to ensure major cost cutting activities. In 2010 many automotive component suppliers gained net revenue growth of 30% or higher. In 2011, revenue growth slowed to 10-15% with net income growing between 5-10% range and in 2012, net income has stabilized. Phillip and Kenneth (2012), outlined that reduced pool of skilled labour, liquidity and limited manufacturing capacity, are the key challenges facing the automotive component suppliers in the supply chain.

Liquidity- Rebuilding sales requires increased investment (capex, tooling and growth capital affecting operations), typical funded by bank debt. Gaining liquidity through asset based lending is a staple in the automotive component industry, despite nearly geometric growth in the number of private equity funds seemingly endless desires to invest in the burgeoning market. Funder need to be convinced that supplier’s volumes are sustainable before additional credit is granted.

Capacity- Insufficient capacity is an easily identified challenge, because when volumes decreased, automotive component manufacturer sold excess equipment (often as scrap) machine spare parts and idle machinery. As difficult it may be to make such cuts, bringing new capacity on line is more difficult, because the entire industry is attempting to do so simultaneously and in lockstep with demand. Supply chain is reluctant to invest as the scare of driving down prices to fill access capacity is still fresh. Financiers are reluctant to financially support equipment purchases, as the risk of volume volatility always remains.

Human resources- Having people in place is a significant issue facing the automotive component industry. In 2009 suppliers cut fixed costs at the expense of talented manpower and experienced workforce, which resulted in retrenchments, early retirements and an exodus of workers to other industries. The resulting situation is that the same people are now needed to effectively meet the ensuing volume increase, and the manpower is not available.

2.2 Competitiveness of the automotive component industry

2.2.1 Definition of competiveness in the automotive environment

Porter (1990) stated that competitiveness has emerged as a paradigm towards economic development hence he defined competitiveness as productivity with which a nation utilizes its human capital and natural resources. Porter (1990) further pointed out that true competitiveness is measured by productivity, as competiveness is a challenge as there is no single policy that can create competitiveness.

Esterhuizen (2006) concurs with various authors that competitiveness has always been a difficult and controversial concept, with disagreements about its measurement and appropriate indexes used. Ezeala-Harrison (2005) emphasized that competiveness is most often associated with trade performance and participation in the global market. Industries and firms are deemed competitive as they continue to grow their trade in the global environment, through product offerings that that are globally competitive to their competitors (Phaho, 2008:68).

In analyzing competitive performance, long term sustained performances are relevant measurement instruments; hence to be competitive in today's world is to be in a position to consistently outperform the competition by offering competitive quality, price and services (Frohberg and Hartman 1997). In view of the importance of open global trade, competitive performance in the South African automotive industry is strongly linked to the trade performance of the industry and its ability to compete in the global supply chain.

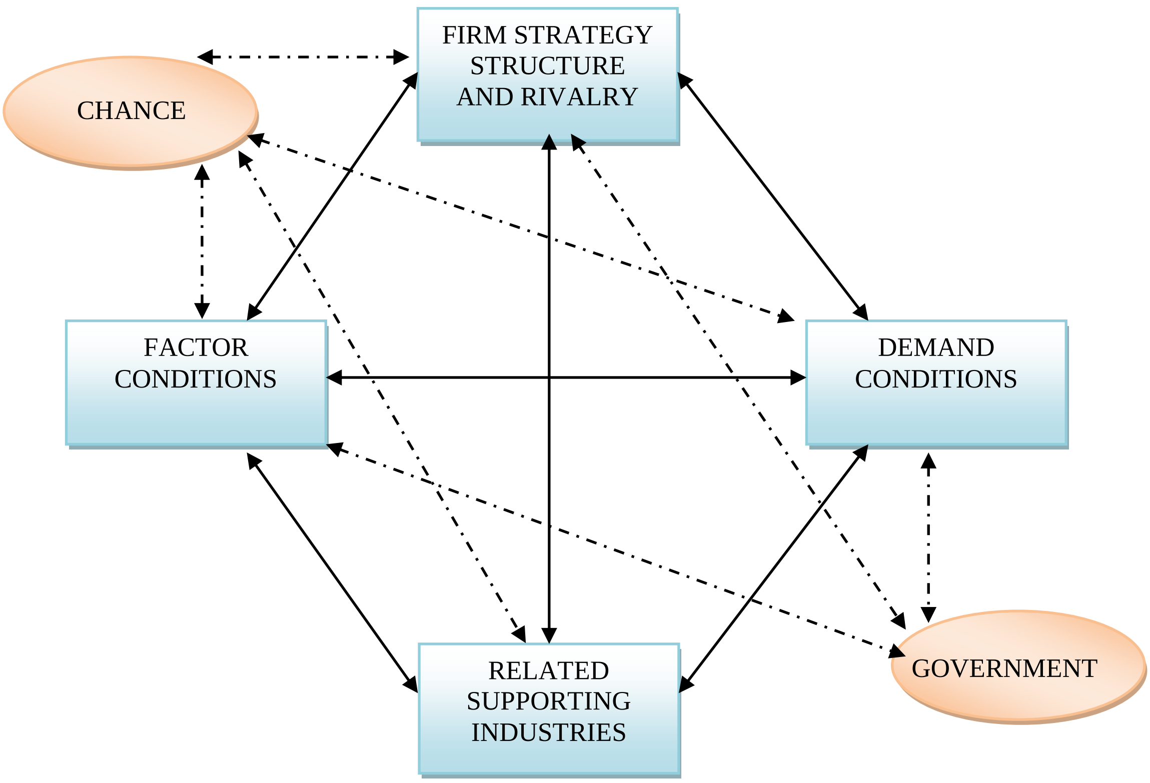
2.2.2 Theoretical principles of competitiveness

2.2.2.1 Porter's Diamond model on competitiveness

Porter (1995) argues that a nation is essentially an aggregation of industries, its economic performance is determined by the competitiveness of those industries, hence the appropriate level of analysis should therefore be the industry.

Porter (1990), analyses competitiveness through the four major dimensions of the diamond model: firm strategy and rivalry, demand conditions, related supporting industries and factor conditions. Porter (1990) concluded that due to various characteristics, countries cannot succeed in all industries; therefore it is important to identify and develop their internationally competitive industries. The diamond model provides an analytical framework with multi-measurements for industry competiveness; hence industries must focus on areas where the diamond factors are most favorable.

Figure 2.8 Porter's Diamond Model



Source: Porter M. E. 1990. The Competitive Advantage of Nations (CAN), Macmillan, London

I. **Factor Conditions** in an industry requires inputs and infrastructure necessary for competition which include:

   a. Human resources: Quality and quantity of skilled labour cost of personnel and variety of labour skill.

   b. Physical resources: accessibility of land, water, raw materials and other physical traits.

c. Knowledge resources: scientific and technical knowledge residing in research institutions.
d. Capital resources: availability of capital and cost to finance industries.
e. Infrastructure: availability and quality of infrastructure, including communication and transportation systems.

Porter (2008:82) asserted that a country has factors that are not inherited, but created by the country, which include highly educated personnel such as engineers and scientist who often involve huge investments and are therefore difficult to duplicate. Therefore their presence in a nations' economy leads to a competitive advantage.

II. **Firm strategy** is the context in which firms are created, managed and operated, given the domestic demand conditions. The main emphasis is that the strategies and structures of firms are dependent on the national environment and there are systematic differences in the business sectors in different countries that determine the way in which firms compete in each country and ultimately their competitive advantage (Smith, 2010). In a developed industry, firms will build on the strengths provided by the sources of competitive advantage and invest in improving the less competitive factors. Vicious domestic competition forces firms to innovate constantly and improve productivity hence increasing national competitiveness in the industry. Therefore, sturdy local and global competition sharpens advantages at home base and also obliges local market to trade abroad as a growth strategy (Joshi and Dixit, 2011).

III. **Demand Conditions** refers to the nature of the home market demand condition. The home demand affects the ability to compete internationally through three attributes: the nature of the buyer needs, the size and growth rate of home demand and the transferability of domestic demand into foreign markets. Saturation of the domestic market may spur firms to go abroad, forcing them to compete in the world market. Sardy and Fetscherin (2009:12) emphasized that the growth rate and size of the domestic demand can be imperative for the competitiveness of the industry, as swift domestic growth leads companies to adopt new technologies, with least fears that such technologies will make present investment superfluous.

IV. **Related and supporting industries** are those where firms coordinate activities in the value systems which include parts, services suppliers and distributors that are vertically, forwardly or backwardly integrated. Porter (1995:55) asserted that the existence of supporting and associated domestic industries that are internationally competitive can present benefits like innovation, information flows and shared technology developments which create advantages in downstream or upstream industries. Therefore, industry's success is directly linked to the nation's competitive advantage in the number of associated and supporting industries. The geographic proximity with international competitive suppliers in the home nation helps build coordination and a communication network, which in turn improves production efficiency (Smit, 2010).

The automotive industry and the automotive component industry are closely linked industries through alliances and other financial arrangements (Sardy and Fetscherin, 2009:14). This is evident in South Africa as well as other emerging and developed markets where automotive manufacturers and automotive component firms are enmeshed in a web of financial and business relationships. The automotive component industry is a determinant of the competitiveness of the automotive industry due to the fact that the global automotive industry is increasingly sourcing components and raw materials globally (Joshi and Dixit, 2011).

While the diamond is the central focus, allowance is made for two other factors, namely chance and government.

Chance refers to external events that affect or benefit the industry, which outside the control of firms and governments. Examples of chance include economic crisis, wars and major shifts in foreign market demands. Chance event can create discontinuities that can unfreeze or reshape the industry structure hence it plays an important role in shifting competitive advantage in many industries. Due to various industry natures and stages of life cycles, chance event is evaluated differently by firms; therefore firms promote continuous innovation and endeavor to seize opportunities resulting from chance events (Joshi and Dixit, 2011).

Government is responsible for setting up policies and regulations for industry activities in a country, hence they are directly responsible for improving the well-being of citizens as well as achieving economic and political stability (Porter, 2008:82). According to Porter (1990:618), government can influence factor conditions by imposing subsidiary policies, capital market regulations and educational policies. Domestic demand conditions can also be influenced by establishing product standards or regulations that direct customer needs. Competition laws, tax policy and other regulatory statutes can affect both supporting industries and firm structure and strategy.

According to (Davies and Ellis, 2000:1190–1193), the heart to competitive advantage of nations may be found in the following five central propositions:

i. A nation must reach the innovation-driven stage of development if prosperity is to be attained and sustained.

ii. International success cannot be based on the comparative advantage brought about by an abundance of basic factors. Instead, it must be built on the upgrading of a nation's industries through innovation, product differentiation, branding and marketing.

iii. A nation's prosperity is determined by the performance of the firms for whom it is a home base.

iv. In order to achieve sustained prosperity those firms must operate within clusters or related industries, which have strong diamonds in the home nation

v. Outward foreign direct investment is a manifestation of an industry's competitive strength and the nation's prosperity, while inward investment is a sign of relative weakness

Davies and Ellis (2000:1205) outlined the five central propositions and Porter concluded that an industry requires the combination of all four of the central propositions to achieve a competitive advantage and the central propositions must be mutually supportive in order to be successful. Porter (2008:80), emphasizes that the main function of the strategist is to understand and cope with competition, hence competition for profits goes beyond established industry rivals to include potential enterants and substitute products as competitive forces. An industry's structure is defined and shaped by the nature of competitive interaction within the industry. Industries may differ from each other however the underlying drivers of profitability are the same. The configuration of the five forces differs by industry; therefore numerous factors can affect the industry profitability in the short run.

The strongest competitive forces determine the profitability of an industry and become most important to strategy formulation. Therefore, industry structure grows out of a set of economic and technical characteristics that determine the strength of each competitive force (Hill, 2007).

2.2.3 Competitiveness in the automotive industry

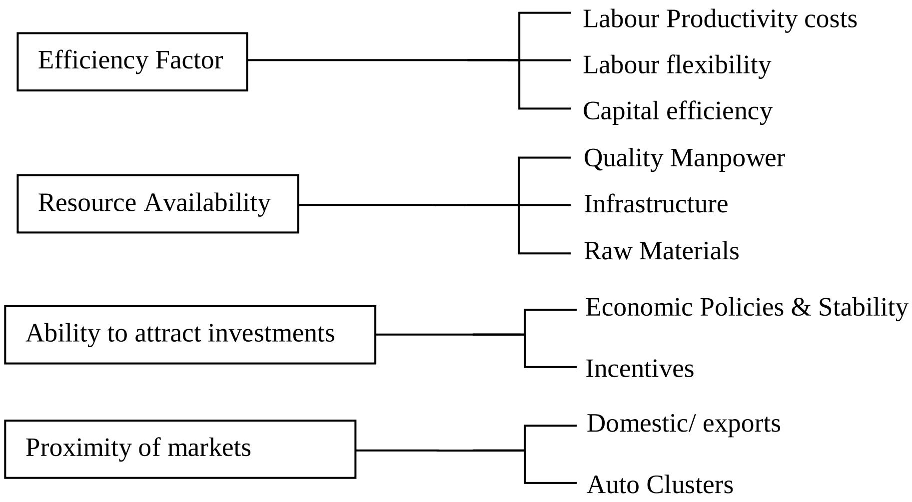
The important mechanisms underlying the globalization process lies in the transfer for advanced manufacturing capabilities, (both levels of productivity and quality) to low wage economies or developing economies (Sutton, 2005).

The National Manufacturing Competitiveness Commission's National manufacturing Strategy (2006), list six factors that impacts on the manufacturing competitiveness of an automobile industry:

i. Higher import duties including inverted duty structure on raw materials.
ii. Higher incidence of indirect taxes
iii. Sub-optimal levels of operations
iv. Lower operational efficiencies and higher transactional costs
v. Lower labour productivity and higher cost of capital
vi. Inadequate infrastructure

Other factors that contribute to competitiveness of a country can be summarized in figure 2.9

Figure 2.9: Key factors for Competitiveness



Source: Adopted from Joshi, M. and Dixit, S. 2011. Enhancing competitiveness of the Indian Automobile Industry: A study using Porter's Diamond Model. Management and Change, Vol. 15 (1&2). [Online]. Available: http://ssrn.com/abstract=1977444. (Accessed: 1 April 2013)

The five aspects that facilitate competitiveness focus on efficiency, radical innovation, incremental change and proficiency, which qualify them to be indicators of competitiveness. Mutsiya, et al. (2008: 1265), highlights five aspects that facilitate competitiveness:

1. People: those who perform product introduction,
2. Process: activities by which the people and tools create product introduction,
3. Control: the mechanisms by which the introduction of new products is controlled,
4. Structure: relationships between the people who perform product introduction,
5. Technology/tools: tools that are used in product technology

Competitiveness is affected by operations through the development and implementation of strategies that involve quality management, process efficiency improvement, new process technology, customer – supplier collaboration and uses of bench marking which has a significant improvement on the performance of companies (Sirikrai and Tang, 2006:77).

Sirikrai and Tang (2006:77) emphasizes that for countries that are pursuing export oriented industrialization policies, industrial competitiveness is an important issue because market competition requires companies to procure and apply resources to create value.

The value addition to be achieved, companies must put emphasis on faster and more efficient development processes, more cost effective design cycles, and efficient delivery times (Ndamase and Steyn 2011). Supplier development programmes are required to maintain a capable and high performance base with collaborative inter organizational communication , which it an important supporting factor in transforming an organization’s efforts to develop improvements in its suppliers performance, hence retaining its competitiveness in the industry (Mutsiya, et al., 2008: 1267).

South Africa’s unique range of vehicle operating conditions coupled with some sophisticated research and development resources are recognized around the world for providing competitive vehicle testing and development opportunities. Operating conditions include varying and readily accessible climate conditions, altitudes and road surfaces from high-speed circuits, off-road tracks, deserts to cold mountains. Accelerated durability testing can be carried out at all times of the year, all within easy reach of laboratories and testing services available at some of the lowest prices in the world.

Globally, flexibility is considered an essential competitive advantage for fast model changes and for successful niche marketing, both of which require an ability to use the same platform to produce low volumes in a particular model derivative. The South African automotive industry has retained its capability where single production facilities manufacture a range of quality products at competitive prices to satisfy the domestic and export markets. Given this flexibility, South Africa has a unique competitive advantage when it comes to low volumes and hence the ability to produce short production runs more competitively compared to many other countries where production is set up for long, high-production runs. These advantages are often compelling in terms of creating multidirectional trade, as South Africa has limited domestic demand to warrant economic production of a broad range of models per OEM.

2.2.4 Factors Impacting the Automotive Sectors Competitiveness

I. Globalization and market convergence

Due to the consequences of liberalization, national markets have become increasingly globalized, which gave companies a chance to expand to new markets.

However, this also increased the threat of new entrants in traditional markets with increased competition (Fishwick, 2005:264).

II. Individualization

According to Jain and Gard (2008:299), consumers are no longer satisfied with standardized products and the market has to adapt to consumer choice, hence products have to be tailor made to satisfy individual requirements. Jain and Gard (2008:299) further noted that due to the increased global competition with a stronger focus on price and not brand loyalty, companies are not rewarded for their individualized products by consumers. These factors have resulted in automotive manufacturers reviewing the demand requirements based on customer expectations.

III. Product diversification

Fishwick (2005:264), emphasizes that accelerated modification and diversification of the product profile is necessary in the automotive component industry, therefore the automotive manufacturers have to shorten product lifecycles and introduce innovative products to meet the expectations of the changing consumer demands. New models are modified after 3 years of being released in the market. These modifications bring with it development costs and the need to anticipate further customer preferences (Fishwick, 2005:260).

IV. Increased pressure for innovation and flexibility in development and manufacturing

Complexity of technology and the shortening of product life cycles pose a major challenge to the industry. Manufacturers develop more niche models for specific target groups, which increases the number of parallel development projects, hence new development techniques like virtual reality is required (Jain and Gard, 2008:300).

2.2.5 Automotive employment levels in South Africa

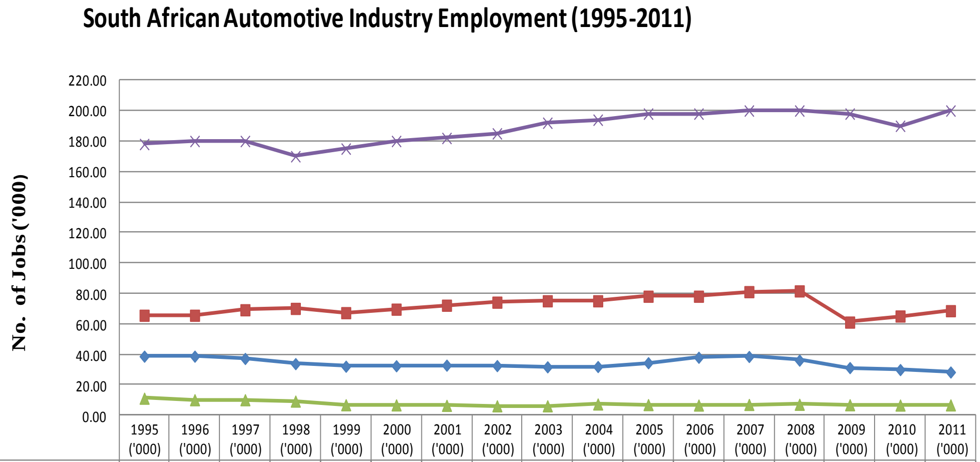
At the end of 2012 vehicle manufacturing industry aggregated employment amounted to 30159 persons, whilst the component manufacturing industry amounted to 70 000 employees. The total employment in the vehicle trade area, namely vehicle sales, maintenance and servicing amounted for over 200 000 persons (NAAMSA 2012).

The automotive industry exhibits a high multiplier effect due to the creation of opportunities in automotive and related areas and maintains direct linkages with a large number of support services and SMMEs. Due to the sector's strong forward and backward linkages with almost every segment of the economy, the automotive industry has a strong multiplier effect and thus propels the progress of the South African economy. In terms of economic impact, the automotive industry's gearing effect in job creation and new business opportunities can be traced to several kinds of essential manufacturing activities, including steel fabrication, textiles, paint and rubber, petrochemical industries and component fabrication. The sector is also seen as a generator of inter industry linkages with other manufacturing sub-sectors like textile, leather and plastics (AIEC 2013:17).

Rationalization and restructuring in the automotive industry became exposed to lower levels of protection resulting in job losses, especially in the assembly side of the OEMs (Barnes 2009:26). The automotive industry exhibits a high multiplier effect due to the creation of opportunities in the automotive and related areas and maintains direct linkages with large number of support services.

Employment ratios vary from country to country, but generally for every worker in the manufacture of the motor vehicle, there are a least two or more employed in the support services like used vehicle sales, servicing and repair (AIEC, 2012). According to DTI (2003), the MIDP encouraged South African automotive manufacturers to be internationally competitive and the need to secure world size contracts because automated business drives job reduction. Figure 2.10, indicates the South African automotive industry employment trends.

Figure 2.10: South African automotive industry employment trends



	1995 ('000)	1996 ('000)	1997 ('000)	1998 ('000)	1999 ('000)	2000 ('000)	2001 ('000)	2002 ('000)	2003 ('000)	2004 ('000)	2005 ('000)	2006 ('000)	2007 ('000)	2008 ('000)	2009 ('000)	2010 ('000)	2011 ('000)
Automotive Assemblers (OEMs)	38.60	38.60	37.10	33.70	32.00	32.30	32.70	32.40	31.60	31.80	34.30	37.90	38.40	36.00	31.10	29.80	28.20
Automotive Component Manufacturers (ACMs)	65.50	65.50	69.10	70.00	67.20	69.50	72.10	74.10	75.00	75.00	78.00	78.00	81.00	81.50	61.00	65.00	68.50
Tyre Industry	11.00	10.00	10.00	9.10	6.70	6.60	6.30	6.00	6.00	7.20	6.80	6.50	6.90	7.00	6.70	6.50	6.60
Motor trade, distribution & servicing	178.00	180.00	180.00	170.00	175.00	180.00	182.00	185.00	192.00	194.00	198.00	198.00	200.00	200.00	198.00	190.00	200.00

Source: Adapted from South African year book 2012 and South African year book 2009

Figure 2.10 reveals the employment trends in both the automotive assemblers and component manufacturers from 1995 to 2011. Figure 2.10 indicates that employment in the automotive industry has been reasonably constant since 1995, with OEMs having a generally high degree of labour input into production in South Africa, which means a high degree of elasticity. ITAC (2000), outlined that the main thrust of the MIDP was to improve the international competitiveness of the automotive industry and it was also realized that it would be difficult to create employment in the automotive sector hence the emphasis was placed on maintaining employment at the prevailing levels.

DTI (2007b) indicated in the Industry Policy Action Plan (IPAP 1) that the existing levels of employment should be maintained with the increase in the production. Damoense and Alan (2004), emphasized that globalization led to the restructuring and reshaping of domestic operations hence the industry has to deal with obstacles like relatively high costs associated with production of low volumes, the dependency of foreign technology as well as limited research and development budgets. The drive to continuous improvement and higher productivity with new manufacturing technologies resulted in full time jobs being converted into subcontracting and out sourcing, which inhibited growth in employment.

Production and productivity growth have mainly been driven by higher exports and economies of scale resulting in positive yield growth that has assisted to marginalize employment losses in the automotive sector (Lamprecht, 2006).

2.2.6 Challenges in relation to competitiveness

Tay (2003:24), highlighted that the main challenges for future growth and competitiveness in the automotive sector, are tougher competition, saturated markets, growing excess capacity and the radical change in the demand structure. Tay (2003:24), further eluded to the fact that the only sustainable economic models for future sustainability is that of mutual co-operation with the value chain, in which benefits and rewards are balanced and sufficient industry financing is available.

According to the European Commission (2009), the main driver for competitiveness in the global automotive industry will be technological competition in terms of fuel and energy efficient developments for the new vehicle models. Martinuzzi, Kudlak, Faber, and Wiman, 2011:5), outlined that the main challenges in relation to competitiveness can be summarized as:

- Globalisation of economic activities: the automotive industry is increasingly becoming globalised; hence the automotive manufacturers have to compete with the value chain that supports the global automotive industry.
- Changing operating environment and innovation competition: due to the rapid changing operating environment with regards to innovation, automotive manufacturers have to continue high investments in research and developments in order to keep up with global competition in terms of technological breakthroughs.
- Market environment: the market environment has to be met in an environment of limited future growth, overcapacity and inflexible prices. The markets are faced with challenges like over capacity, low productivity levels, high labour cost, high fixed costs, limited market growth and an influx of new technologies.

The South African automotive industry has a location disadvantage in terms of major global markets, as it is located at the Southern tip of the African continent, further away from both European and American markets. To be an effective global competitor, the local industry has to find ways to compensate for the distance disadvantage. The implementation of the just in time principle at OEM level has further exacerbated the location disadvantage of component supply. The success of the South African automotive component industry is vitally dependent on first-class logistics. In this regard Transnet's Market Demand Strategy (MDS), unveiled the multi-billion rand infrastructure investment programme aimed at unlocking South Africa's economic potential hence positively impacting on the competitiveness of the OEMs and automotive component sector. The objective is to stimulate economic development of South Africa and create first class logistics network that will reduce logistics costs and improve competitiveness in the automotive sector (Fishwick 2005:260).

South Africa is one of the world's richest countries in mineral reserves and production. The automotive industry has enormous potential for the consumption of steel, aluminium, chrome and platinum group metals. Platinum group metals, including platinum, rhodium and palladium, are essential elements in catalytic converters, which makes South Africa a strategic supplier of these products and not a beneficiator. South Africa currently supplies in the order of 12% of the global demand for catalytic converters. The country is also home to over 70% of the world's chromium, which is an essential ingredient in the stainless steel used to house the catalyst and to produce modern auto exhausts (De Lange 2002).

South African has no international brand; therefore there is a general realization that component supply to international vehicle brands provides a crucial means for the country to participate in the global automotive value chain. The global automotive industry configuration is that OEMs are shifting the focus of design responsibilities to component manufacturers. The component manufacturer designs a solution providing all performance specifications and information about the interface with the vehicle. Therefore the new supply dynamics of world class technological competencies is imperative for automotive component manufacturers to participate competitively in global markets (Gastrow 2012:5897).

The impact of the competitive automotive environment has resulted in the automotive manufacturers providing products with high degree of differentiation and shortened the product life cycle.

Therefore highly saturated markets and overcapacity are strong influencing factors for the ongoing competitive environment in the automotive industry (Sirikrai and Tang, 2006:75). Tay (2003:24), stated that "achieving and sustaining competitive differentiation is the foremost challenge for the remaining automakers around the world and their key to survival and prosperity".

2.3 Summary

The chapter presented an overview of the global automotive industry, outlining the key characteristics, trends and globalization drivers impacting on the global automotive sector. Several key factors outlined the impact of global competiveness on the future growth and sustainability of the automotive industry in South Africa. The global automotive industry is dominated by few OEMs, with intense competition for increased market share, resulting in challenges, as well as opportunities for emerging economies. The major global trends of production overcapacity, new technology, innovation and strategic outsourcing have significant impact on the future of the automotive component sector.

The automotive industry has become an increasingly significant contributor to the country's economic success; therefore it is imperative that the SA automotive industry and the ACMs in particular, remain internationally competitive to avoid other international competitors from effortlessly penetrating the SA market. The process of trade liberalization, growing import competition in the domestic market and competition from low cost products sourced from a global pool, has forced South African automotive component manufacturers to encounter both intensified competition and new forms of competition.

South African automotive industry's integration into the networks of parent companies and multinationals has equipped the automotive component manufacturers to grow their footprint in the global value chain. The competitiveness indicators of profitability, turnover and employment of the South African automotive component sector form part of the marketing strategies and global competitiveness of parent companies abroad. The next chapter focuses on the Brazil, Russia, India and China (BRICs) as the emerging economies driving global competitiveness. It is necessary to include a chapter on emerging markets like BRICs, because global competitiveness in the automotive component industry is driven by emerging markets.

CHAPTER THREE

Competitive advantage of BRIC automotive component industry

3.1 Introduction to the global competitive advantage of BRIC countries

The world has experienced a colossal change in terms of geopolitics, economics and in organization and distribution of production. Emerging economies like BRICs countries have acquired important role in the world economy as producers of goods and services. All four countries within BRIC share common characteristics of large population, potential consumer market, fast economic growth, large land size, on the basis of which they are attracting large amount of investors around the world (Ranjan and Agrawal, 2011). Hill (2009) emphasized that foreign direct investment shift towards developing countries occurred in diverse sectors besides the automotive industry and although developed countries were still the main destination for foreign direct investment, emerging economies like BRIC countries have been attracting a growing portion of foreign direct investments.

The transfer of managerial and technological know-how to emerging markets was as a result of undesirable geographic diversification of investments. For multinational to operate effectively in foreign countries, local personal had to be employed, who over time mastered the skills and technological abilities, which resulted in a increased pool of highly qualified workforce. The ground that was laid for the rise of new economic powers in BRIC countries was coupled with both the transfer of managerial and technological capabilities and the transformation of political and economic systems (Mpoyi, 2012:38).

According to Mpoyi (2012:38), BRICs have made their mark in the global economy by contributing over a third of the world’s GDP growth in the last 10 years (2000-2010), with automotive industry being the key sector illustrating the rapid growth of the emerging markets.

As a consequence of the new trend in foreign direct investments, emerging nations have emerged as major motor vehicle manufacturing nations.

3.2 Overview of the BRICS automotive industry

A good indicator of economic advancement within economies has characteristically been the strength of their automotive sectors. The presence of an automotive sector paves the way for foreign trade transformations which may stifle and exaggeratedly protect an economy; it attracts foreign investment and drives exposure, especially for developing economies, onto a broad international arena(Gross, 2004).

Globally, Brazil is the fifth largest automotive market and the 8th largest economy in terms of GDP (in PPP) generating 1.5 million jobs as a result of government policies. Brazil produced 3.6 million passenger vehicles in 2012, of which exports constituted only one third of the output as OEMs focused on domestic markets. Bernardes, Ibusuku, Consoni, and Saito (2012) highlighted that the Brazilian automotive industry sales is expected to reach 4.5 million units in 2015 and over 6 million in 2025, with huge investments committed by automotive manufacturers of more than USD 30 billion until 2015. The Brazilian automotive industry represents 23% of total Brazilian Industrial GDP and 5% of total Brazilian GDP.

As a result of very strong competition of imported products, which accounted for 25% of total domestic sales, the Brazilian automotive and automotive component industry has been significantly weakening. Therefore competition in the Brazilian automotive market is intense, resulting in companies reducing costs in various ways to remain competitive in the market. Since 2007 there has been a strong increase in the deficit of the automotive components sector’s trade balance and vehicles manufactured in Brazil contained high levels of imported content (Quadros and Consoni, 2009:55).

The Russian car market is one of the key drivers of the global automotive production growth, with 15% contribution of the global automotive manufacturing growth and 20% of the global car sales increase by 2015 (Vahtra and Zashev, 2008). Russia has emerged as one of the fastest growing markets, with phenomenal growth in car sales from 2005 to 2008. The primary drivers of growth during this period were the rising income tax, tax reforms and the development of the consumer credit market. In 2009, there was a major decline in car sales as a result of the Russian economy experiencing negative growth on its natural resources due to the global decline on crude oil prices.

In 2010 government raised import duties on new and used cars and introduced subsidy schemes to enable recovery of the domestic production of the passenger car market, which posed a 30% growth in the 2011(Deloitte, 2011).

By 2020 the Russian passenger car fleet is estimated to double from the current 30 million cars to almost 60 million, also the share of the foreign brands in the passenger fleet is expected to grow from 30% to 90% during the same period. The share of Russian manufactured passenger vehicles has decreased over the past five years and is set to further decline even though the powerful entrance of global producers and ambitious plans for increasing the domestic production. Russian consumers have a growing preference for imported cars, which has resulted in a rapid declining demand for domestic brands (Vahtra and Zashev, 2008).

India’s good economic performance (10% CAGR in GDP PPP over the decade) has quadrupled the Indian passenger car market. India is the fourth largest exporter of passenger cars. The concentration levels of the market is expected to lower as a result of increasing competition across the vehicle segment, as new players are gaining quick market share. It is expected that the Indian market share will have more than 5 major players who will account for more than 80 % of the market. Vehicle sales in India have been immune to fluctuations in global crude oil prices because domestic fuel prices were subsidized by the government till 2010. Given the lower penetration of cars and above average economic growth forecast, India is likely to remain an attractive market for automotive OEMs (Sturgeon, et al., 2009).

China became the largest global automotive market in 2009, overtaking the U.S. The Chinese market is dominated by local players who have joint ventures with multinational companies like GM and Toyota, as government persists to encourage and support domestic players. The growth potential of the Chinese market is clearly established by the rapid growth in the economy with very low levels of car ownership.

As a result of the introduction of government’s new automotive industry policy since 2004, car sales have shown a clear upward trend in China, expanding the domestic share of the market (PWC, 2009).

3.3 Main manufacturers in the BRIC automotive industry

Brazil is home to the top five players in the automotive market, namely, Fiat, Volkswagen, GM, Ford and Peugeot, making up 89.9% of the Brazilian automotive market in 2010. The Russian automotive market has more than 8 players that make up 80% of the passenger vehicle market with the top 5 players being GM, Ford, Hyundai, Nissan and Renault. Ford has the largest local presence followed by GM and VW. The increasing market share of foreign brands in Russia is based on the analysis of the competitiveness of the existing local brands. The top 4 players in India are Suzuki, Hyundai, Tata Motors and Mahindra, who constitute 80% of the passenger car sales, making India a highly concentrated market. China's automotive market is fairly fragmented with top 7 players making only 60% of the market, as the Chinese government continues to encourage the domestic players over the foreign OEMs. The global automotive OEMs have been able to establish presence in China primarily through joint ventures (Deloitte, 2011).

Table 3.1 indicates the extent to which top 10 leading OEMs have expanded their production in BRIC's countries.

Table 3.1: Light vehicle assembly plant investment in BRIC's countries (late 1990s)

Country	***General Motors***	***Ford***	***VW Group***	***Daimler/ Chrysler***	***Fait***	***Renault***	***PSA Group***	***Toyota***	***Nissan***	***Honda***
Brazil	XX	XX	X, XX	X	X	X	X	X		X
Russia	X	X	X			X	X	X	X	
India	X	X	X	X				X		X
China	X	X		X			X		X	X
South Africa	X	X	X	X		X		X	X	

Source: Humphrey and Memedovic (2003:7)

Notes: X= number of plants operational by late 1990. XX= two light vehicle assembly plants owned by the company in the same country.

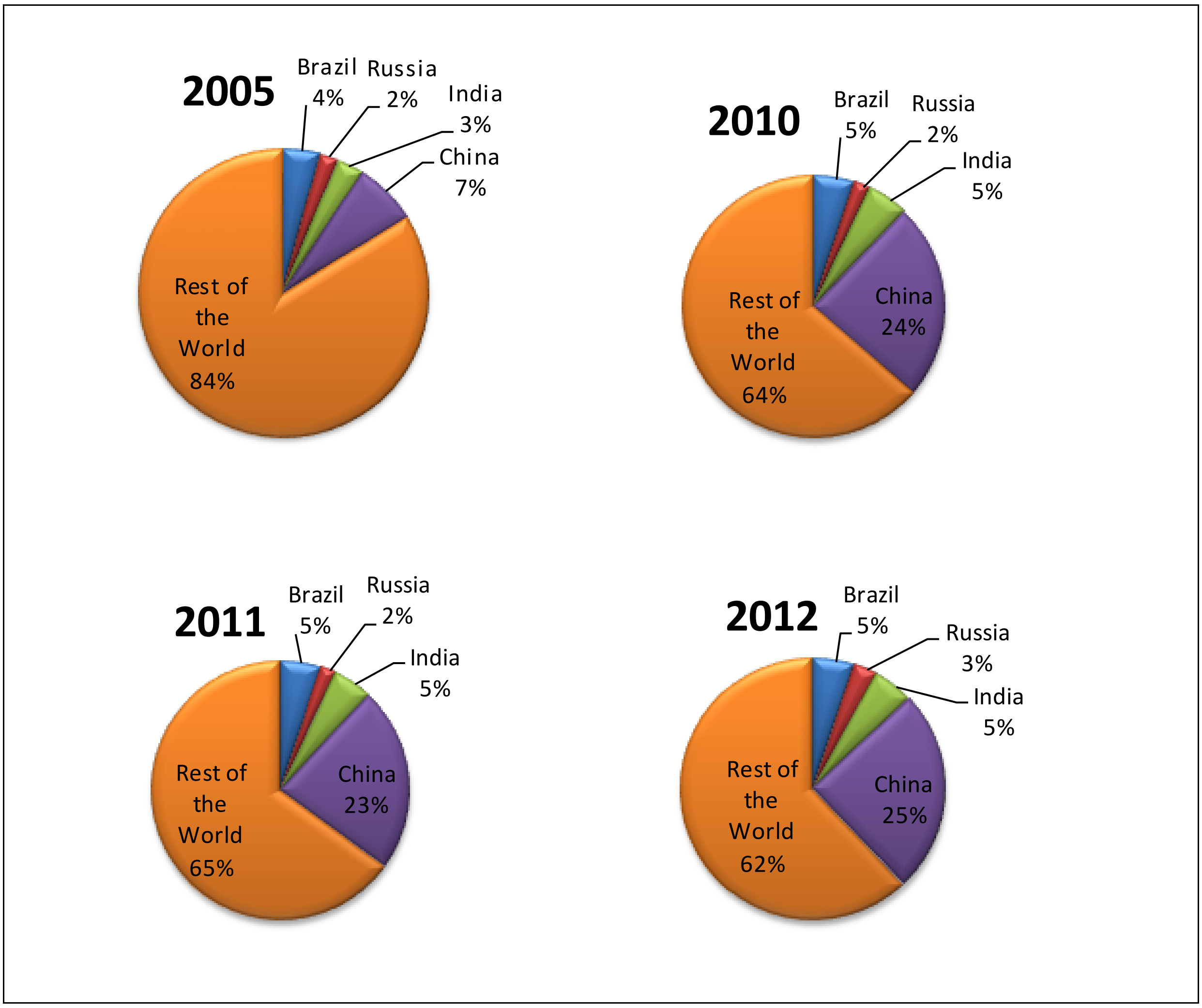
Table 3.1 indicate the light vehicle manufacturing plants owned by the top ten companies in BRIC's countries.

Brazil and India are typical examples of haste to invest in developing markets. Post 1994, Brazil saw an influx of vehicle manufacturers. India saw major investments by 1997 were 10 OEMs established manufacturing facilities with a capacity of 660 000 vehicles per annum. The total growth of vehicle sales over the period 1996 to 2002 was 4.7%, resulting in global production overcapacity (Humphrey and Memedovic, 2003:7).

3.4 Growth trends in the BRIC automotive market

Vehicle Production in Brail, Russia, India and China recorded a CAGR of 39.8% in 2012. BRIC share of the passenger car production has risen at a great pace from 17% in 2005 to 39% in 2012 (Deloitte, 2011). Figure 3.1 indicates the growth in the BRIC countries on the market share for the manufacturing of passenger car production.

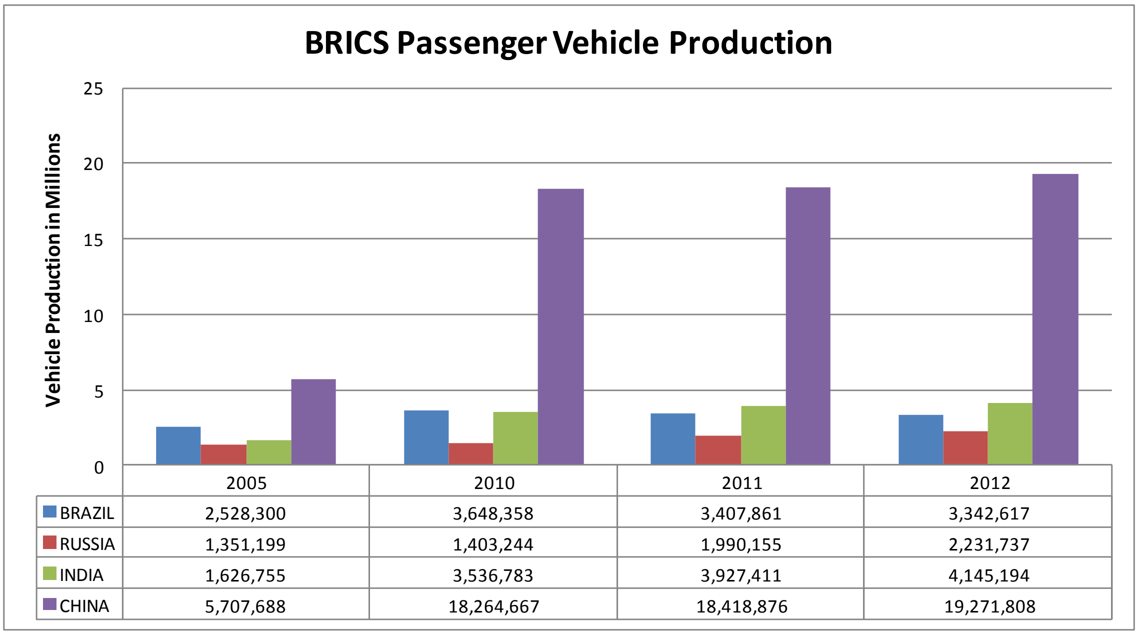
Figure 3.1: Market share of BRIC's Countries for passenger vehicle production.



Source: Adapted from OICA (2012) and Deloitte (2011).

India market share has more than doubled and that of China has grown four fold, while Brazils share has remained steady in the market where rest of the world lost significant market share. This is representative of the inherent growth potential that Brazil, India and China offer in the passenger vehicle production. Russia's market share in passenger vehicles was lost primarily due to the slowing growth rate in production as compared to it BRIC counterparts (Deloitte, 2011). Figure 3.2 indicates the growth in BRICS passenger vehicle production.

Figure 3.2: BRIC's passenger vehicle production



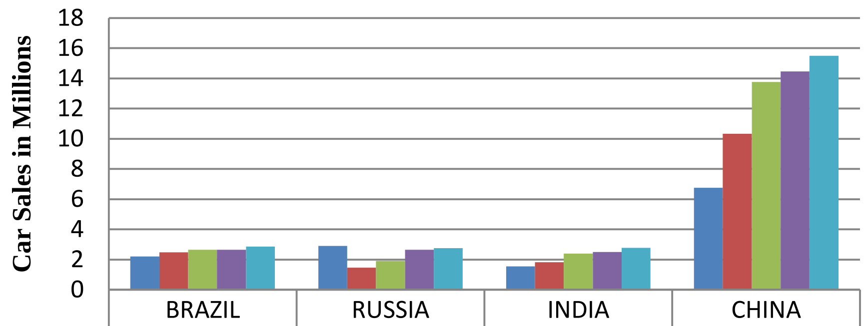
	2005	2010	2011	2012
BRAZIL	2,528,300	3,648,358	3,407,861	3,342,617
RUSSIA	1,351,199	1,403,244	1,990,155	2,231,737
INDIA	1,626,755	3,536,783	3,927,411	4,145,194
CHINA	5,707,688	18,264,667	18,418,876	19,271,808

Source: Adapted from OICA (2012)

Figure 3.2 shows the domestic production level of passenger vehicles in 2012 was 3.3 million in Brazil, 2.2 million in Russia, 4.2 million in India and 19.3 million in China, 0.5 million in SA, indicating positive growth in most of the BRIC's countries. (OICA, 2012). All BRICS countries showed a rapid development in the automotive industry in the 2000s. The automotive industry in China and India, with small and cheap cars, has continued a rapid growth. Russia vehicle production grew by 12.1% from 2011 to 2012, making it the fastest growing automotive market in BRIC's. Car sales plunged globally due to the economic recession in 2008-2009, however emerging markets like Brazil India and China showed positive growth in car sales.

Emerging markets like Brazil India and China is a platform for global automotive players to buy exposure as these markets will not only offer an avenue of growth, but also help the global automotive players to insulate themselves from the cyclical of the global automotive industry (Deloitte, 2011). Figure 3.3 indicates the passenger car sales in the BRIC countries.

Figure 3.3: Passenger car sales in BRIC's countries



	BRAZIL	RUSSIA	INDIA	CHINA
2008	2 193 277	2 897 459	1 545 414	6 755 609
2009	2 474 764	1 465 742	1 816 878	10 331 315
2010	2 644 706	1 912 794	2 387 197	13 757 794
2011	2 647 250	2 653 688	2 510 313	14 472 416
2012	2 851 540	2 755 384	2 773 516	15 495 240

Source: Adapted from OICA (2012) and Deloitte (2011).

Sturgeon, et al. (2009) outlined that BRIC countries have been characterized by factors like high economic growth, rapidly rising income levels and low per capita car consumption. These factors with a slew of government measures in support of the domestic automotive industry have accelerated growth of car sales. India and China have emerged as favored low cost destinations for global vehicle production, as urbanization has been a key driver of car sales. PWC (2009), forecasted that by 2015, light vehicle growth of 95% will originate from emerging markets.

As indicated in figure 3.3 China's passenger vehicles sales has grown by 44% from 2008 to 2012, making China the largest automotive market since 2009. India has been the second-best performing major global market performing major global automotive market, with car sales climbing to a record 2.8 million units in 2012.

New car sales in China and other BRIC countries have surpassed the combined volumes of Western Europe and Japan, accounting for roughly 30% of the global car sales (Scotia Economics, 2011).

3.5 BRIC countries strategy to revolutionize global markets

3.5.1 Low cost automotive innovation made in BRIC Countries

BRIC countries OEMs are starting to consolidate a trend that could lead to a few strong players with the ability to compete on a global scale. BRIC countries focused on cloned solutions that took advantage of inexpensive manufacturing base and utilized existing solutions by adapting it to suite low cost manufacturing approach, hence providing superior value at low prices. Innovation in BRIC countries portends future competition with mature industrialized countries as vehicle sales soared in BRIC countries (Sturgeon, et al., 2009).

Governments in the BRIC countries have granted incentive funding in order to foster relevant industry domains in order to boost industry's competitiveness. Emerging markets like India and China are increasing R&D spending significantly. India spending as a percentage of GDP is 0.8%, which is below the average of other developed industrial nations, however during the same period, India's GDP rose at a cumulative average growth rate of 9%. China's R&D spending as a percentage of GDP grew to 1.5% in 2010, with the GDP experiencing a compound annual growth rate of 12% (Berger, 2009).

3.5.2 Localisation of components to reduce traditional supply routes

Local manufacturing entails the use of local parts in order to increase the advantages of low cost manufacturing along the value chain downstream. The investment required for developing local suppliers can be funded from the savings that has resulted from using local sources for global production activities. The objective of the BRIC countries is to ensure technical compliance with global OEMs standards and to set up local engineering to comply with global technical requirements, hence making local supplier globally competitive (Berger, 2009).

Russian automotive industry is mainly consisted of CKD plants, since critical mass to localize has not yet been reached, and 85% of all components are used by local producers, therefore international OEMs have no choice but to focus on local assembly only.

3.5.3 Research collaboration- Local R&D hub as part of an international organization

Berger (2009) highlighted that research collaboration in public-private partnerships (PPP) with local institutions and international OEMs has stimulated the desire to pursue the collaborative approach of R&D. These R&D hubs served as an integral part of international R&D organizations, handling the development of the entire module or system. Collaboration with PPP and universities, resulted in gaining better understanding of future market developments and also value add to shape public policy development.

3.6 A comparative analysis of the BRIC automotive markets

The BRIC countries diverge significantly in their market development and local competencies, as well as consumer preferences. Each country offers an exclusive constellation of challenges and opportunities for automotive companies.

3.6.1 Brazil

The Brazilian automotive market can be seen as the most unwavering and developed market in comparison to other BRIC markets and therefore it can be considered the front runner in terms of automotive localization implementation (BCG, 2010:11). Fiat, Ford, General Motors and Volkswagen, dominated the Brazilian automotive market through the 1980s, however a second breakthrough saw OEMs like Toyota, Honda, Daimler, Hyundai, Land Rover and Renault enter the market. Brazil has a relatively stable automotive market, due to its long history, which resulted in OEMs and automotive component manufacturers localizing to a high degree.

Brazil has also experienced market volatility with annual sales intensifying and constricting as much as 30%, however continuous moderate growth rate is expected after 2014, but eventually to be overtaken by faster growing Indian and Russian markets, which will rank second and third among the BRIC markets respectively, in 2018 (Gross, 2004).

Brazil's market structure is significantly different from the other BRIC countries because Brazil did not prevent international automotive OEMs from gaining access into their automotive markets during the early decades of industry development. The presence of highly competitive foreign companies has historically hindered the establishment of local automotive OEMs, apart from small volume niche players; therefore the Brazilian automotive market is dominated by foreign OEMs. Manufacturing is concentrated in the southern part of Brazil where OEMs have established significant footprints, for example Volkswagen is operating four large plants in Brazil, with a capacity of 700,000 units, making it one of the industry's five largest in the world (Quadros and Consoni, 2009).

Some foreign OEMs and automotive manufacturers are pursuing little or no R&D activities in Brazil because their sourcing activities are limited to buying sub modules which are mainly for international needs, hence these plants are relatively small. Brazil is the only country in which production costs are lower than those in triad markets, hence making it lower than other BRIC countries. Brazil's cost competitive advantage rests on the markets relatively large scale of production, reliable product quality and large manual performance of processes insignificant to quality, resulting in Brazilian plants being more flexible than plants in triad markets (Gastrow, 2012:5896).

Most of Brazil's automotive production is dedicated to the domestic market, with only 18% of vehicles manufactured in Brazil being exported to mainly Latin American markets. Due to Brazil's relatively volatile currency, its partially developed export infrastructure, its bureaucratic customs procedures and its complex taxation system, exports are strongly discouraged. Due to high import taxes, the OEMs and component manufacturers are forced to localize production, and focus on the domestic market (Humphrey, 2003:131).

Automotive component suppliers in Brazil serve multiple OEMs, yet some have not leveled out demand among various OEM clients therefore they have not realized the full potential of the Brazilian market. However the leading automotive suppliers are successfully serving most or all OEMs and have offered parts and systems designed specifically to meet local requirements for low cost (BCG, 2010:15).

3.6.2 Russia

After the fall of the Soviet Union in 1991, Russian automotive manufacturers faced difficult times, as Russians abandoned their locally manufactured vehicles and preferred imported used vehicles, making Mercedes, BMW, Bentley and Ferrari the most popular brands in Moscow. The deregulation of the Russian automotive industry in the late 1990s resulted in international OEMs exporting into the Russian markets. Many OEMs established sales offices in Russia, as the local demand volumes increased, resulting in the entire market being driven by imports. Local Russian automotive manufacturers lost major market shares as imports and new OEMs entered the market (Ranjan and Agrawal, 2011).

Russia's automotive industries future development is less predictable to other BRIC countries because it is more volatile than other BRIC markets and its relatively short history as an international automotive competitor. Russia was hardest hit by the economic downturn in 2009, with car sales dropping by approximately 50%, while China and India vehicle sales grew by at least 40% during the same period. The economic downturn resulted in significant shift in the Russian automotive market share between imports and local production. OEMs have decreased imports because local production has become economically attractive, given the imposition of import barriers for used cars from Japan and Europe and increased duties on imported new cars (Mpoyi, 2012:38).

The international automotive industry is considered less localized in Russia than in the other BRIC countries because foreign OEMs have no local R&D activities in Russia and do not source there for either domestic or international purposes(Kuboniwa, 2009). Russia has a large labour pool of engineering graduates every year; however no international OEMs have considered significant R&D activities due to the following reasons:

- Russian consumers prefer triad-market vehicles and they demand virtually the same models sold in Europe, Japan and the United states and will not accept adapted versions;

- Local engineers lack automotive R&D experience, as engineers are focused on industries like electronics and military. OEMs have not afforded an opportunity to create a foundation for developing automotive experience, instead focused on product development activities on updating existing product designs;
- Russian engineers wage rate has been rising by approximately 20% per year reaching the level of wage in the Western developed countries;

OEMs in Russia operate on a semi knocked down or a completely knocked down basis, importing more than 80% of their components. Less than 5% of Russian suppliers meet international OEMs global sourcing policies and quality standards, therefore Russia exports a minor amount of automotive components to the global automotive markets. Relatively few automotive component manufacturers and OEMS have entered the Russian automotive market mainly due to low production volumes. The OEMs and component manufacturers that have established in Russia are mainly producing low value added products, therefore many of them are struggling to meet Russia's official requirement to achieve 30% local content after 3 years of operation (BCG, 2010:18).

One of the factors driving high costs in Russia is that most foreign companies have duplicated the country of origin production processes, thereby using large amounts of costly automation resulting in Russian plants leading a significant cost disadvantage compared to triad markets. To address the cost issue, Russian companies are beginning to hedge against fluctuating demand with highly flexible production systems (BCG, 2010:18).

International OEMs and component manufacturers have been hesitant to enter Russian markets mainly because production volumes are low for each model, making potential supplier volumes sub scale therefore established operations in Russia tend to focus mainly on simple low value added products.

The Russian automotive market remains immature and volatile because of the recent entrance of international companies, however considerable potential for localization still exists (BCG, 2010:19).

3.6.3 India

ACMA (2013:8) emphasizes that with a population of one billion and car ownership less than one percent, India is one of the most attractive future markets for the auto industry. India is the tenth largest car manufacturer with approximately 2 million units per year. The Indian automotive market is dominated by domestically manufactured vehicles by Indian companies, using designs based closely on European models.

The Indian government has considered the automotive industry a key sector for the development of the country, so until the economic reforms in 1991 it was strongly protected from the foreign investments. Vehicle production volumes grew from 19,000 units in 1960 to 44,000 units in 1983, then increased substantially after the founding of Maruti, a joint venture between the Indian government and Suzuki (Sardy and Fetscherin, 2009).Until the birth of Maruti in the 1980s the market was supplied by only two manufacturers, Hindustan and Premiere, and they were also compelled to share the production of maximum 50,000 cars a year between themselves. Imports were impossible. In the absence of strong foreign competitors, the government-backed Japanese car manufacturer Maruti Udyog has dominated the Indian market in all segments from the 1980s until the turn of the millennium. Maruti Suzuki reserved its number one position with a 54% share in 2007-08 and Indians still think of Maruti as an Indian company, though the company offers nowadays modern Suzuki's, such as the best-selling Alto and the more expensive Swift ACMA (2013:8).

After the deregulation of the Indian automotive market by the government, growth in sales accelerated, reaching rates as high as 50% per year. Entry of foreign and emerging local competitors was the primary factor driving growth in the Indian automotive industry (BCG, 2010:20). The increasing pull of the Indian market and the stagnation of the automotive markets in the USA, EU and Japan, have worked as a push factor for shifting of new capacities and flow of capital to the automotive industry of India. The increasing competition in the automotive companies in India has resulted in multiple choices for Indian consumers at competitive costs and also ensured improvement in productivity by almost 20 percent a year in the automotive industry, which is one of the highest in the Indian manufacturing sector (Joshi and Dixit, 2011).

The Indian automotive market has positioned itself for healthy growth by imposing stricter import regulations, more distinctive requirements and creating a less saturated market. The rapid improvement in infrastructure, port, power and world class testing facilities, couples with availability of trained personnel and enabling government policies has made the Indian automotive industry globally competitive, hence is making the country a favorable destination for investment by major global manufacturers in the automotive industry (Joshi and Dixit, 2011).

The economic downturn in 2009 had minimum effect on the Indian automotive industry, as sales growth was recorded at 10% during this period with expected continuous growth of 9% through to 2014. By 2018 India will have surpassed both Russia and Brazil to become the second largest BRIC automotive market. Due to India’s significant barriers to market entry and Indian consumers’ exceptional price sensitivity, imported vehicles share of the Indian market is by far the smallest among the BRIC countries. The Indian automotive manufacturer’s share of the market will increase from 30% in 2009 to 33% in 2014, as this growth is driven by consumer’s demands for ultra-low cost cars. Therefore foreign OEMs are planning production ramp up to launch less expensive vehicles in order to retain as much market share as possible (Jain and Gard, 2008:301).

Production takes place in India’s three main automotive clusters namely, Delhi and Gurgaon, Pune and Mumbai and Bangalore and Chennai. Establish OEMs in India have distinguished themselves from their competitors by adapting their products to local market requirements. These OEMs use local sourcing for much of their products contents, including sourcing components for international use. India producers on average 500 000 engineering graduates a year, with wages well below triad markets, therefore it is expected that foreign automotive companies would choose to conduct large portions of their R&D in India, however most foreign automotive manufacturers have not localized their R&D significantly in India (BCG, 2010:20).

OEMs and automotive component manufacturers have established fully fledged local production based on significant levels of local sourcing, however there are number of companies still conducting CKD production, with a high dependence of imported components and raw materials.

It is clearly evident that companies have not realized the full potential of the sourcing from India, as these companies are focused on commodities rather than on technologies and on localized foreign suppliers rather than on local suppliers (BCG, 2010:21). Manufacturing costs in India are higher than triad markets because of the low scale effects, far higher quality costs and higher costs for logistics involved in importing parts. To address the cost challenges, automotive manufacturers are undertaking initiatives to pursue manual production in order to improve quality and applying the latest quality approaches to bring failure rates to within international standards (Fishwick, 2005:262).

Foreign OEMs have not developed vehicles specifically to meet local Indian requirements; instead they have adapted global models to meet Indian consumer’s requirements. Automotive component manufacturers in India have begun to support the local OEMs with ultra-low cost components that were designed and developed locally, thus expanding their market shares with local OEMs, increasing their volumes and further contributing to localization of the industry. In contrast to Russia, India’s past stable development and anticipated strong growth in the future gives automotive companies a sound planning horizon and thus creates a good basis for investing in further localization (Joshi and Dixit, 2011).

3.6.4 China

The Chinese automotive market experienced the most radical transformation amongst all BRIC automotive markets (BCG, 2010:24). In the 1990s China had the smallest volume of vehicles in comparison to other BRIC automotive markets. By the late 1991, there was an explosive growth in the Chinese automotive market, with China moving from 4th place to first place making up more than half of the total BRIC automotive market volume. China’s prominence among the BRIC automotive markets will continue to expand due to China’s economic stability and its growing market demand (BCG, 2010:25).

There are more than 100 foreign OEMs and tier 1 suppliers that have located in China. The Chinese market is expected to grow approximately 5% annually, reaching sales of 15 million units in 2014. Localization in China can be characterized as medium rather than advanced; therefore there is significant potential for automotive companies to create value by driving localization (BCG, 2010:28).

China is home to 55% of foreign automotive companies R&D centers; however the R&D remains under strict control from the foreign company's headquarters. OEMs and automotive component suppliers have invested significantly in supplier development to achieve high levels of localization in China; hence OEMs and suppliers used China's sourcing to meet local demand as well as global demand (Sutton, 2005).

Automotive manufacturers achieved significant economies of scale as result of the massive demand of the Chinese automotive market; however it did not reach the triad market levels. Production costs are slightly higher in China than triad markets because whatever is produced by localized component suppliers goes entirely to meet the local demand of the Chinese market mainly because of the scale of internal demand and the high logistics costs for export. OEMs and Component suppliers have adapted their existing product designs to local requirements by reducing their specifications and contents using lower –cost materials sourced locally and transplanting low-cost designs to sell to local Chinese OEMs (Sardy and Fetscherin, 2009).

3.7 Automotive component manufacturing in BRIC countries

Globalisation in the automotive industry has seen the extensive dispersion of the adaption of the practice of global vehicle platform, which has been driving product design and automotive component sourcing. Major OEMs have organized product portfolios and supply chains based on global platforms and systems of components. These practices have increased the scope for sharing automotive components between different models, hence increasing economies of scale, which is a critical aspect of competition in the industry (Quadros and Consoni, 2009).

The world's leading automotive and automotive component manufacturers continue to invest in production facilities in emerging markets in order to reduce production costs. As the automotive industry became more standardized, large automotive companies shifted from developed countries to developing countries due to low labour costs and improved efficiencies. BRIC countries automotive component manufacturing is analyzed below.

3.7.1 Brazil

The Brazilian automotive industry is heavily dependent on the small car market because this industry is outperforming competition by adopting to lost cost leadership strategies. Automotive manufacturers have built innovative manufacturing facilities to respond to the competition, hence by engaging with automotive component manufacturers in the production process, OEMS were able to cut process and meet demand expectations (Gross, 2004).

The automotive component industry in Brazil is extremely fragmented due to the excessive competition amongst suppliers, too many suppliers and large size of automotive manufacturers. As a result of excessive competition, amongst suppliers there is minimal or no chance of price negotiation, hence automotive manufacturers demand incredibly low prices which puts component suppliers into financial difficulty.

In Brazil the OEMs are working to reduce the supplier base and modernize their production technologies, hence automotive component manufacturers will have more intense involvement in the final assembly of the vehicle. Therefore it is imperative that automotive component manufacturers have the technological capabilities and financial resources to the OEMs demands of technological advancements (Quadros and Consoni, 2009).

OEMs have implemented drastic cost cutting measures; hence have decreased margins among suppliers who now have to produce higher quality components in order to compete in the global market. The global source model adopted by OEMs and the increased competition among component manufacturers are leading the automotive component manufactures to modernize their managing and production methods. As a result, significant number of automotive component manufacturers has merged with their competitors in order to achieve economies of scale (Costa and Queiroz, 2002:1431).

The Brazilian automotive industry is fueled by government incentives to increase protectionism and prevent an invasion of low cost imports. At least 65% of the vehicle content must be local or originating from a local component manufacturer otherwise it is taxable as an imported vehicle. As of January 2013, the Brazilian government set new measures to leverage production of components manufactured locally and direct a portion of the revenues invested to R&D.

Manufacturers will benefit with Industrialized Product Tax (**IPI) reductions** proportional to the amount invested in parts and technology.

3.7.2 Russia

One of the main features of the Russian automotive component market is the high potential for import substitution related to the growth in foreign car production in the Russian Federation. The Russian automotive component industry has been highly vertically integrated, with relatively small number of domestic component manufacturers and relatively low level of competition. The industry comprises of only 200 key players, of which the vast majority supply the Russian OEMs. Ernest and Young (2008), highlighted that 5% of the component manufacturers supply foreign OEMs and only 1% have export activities. New opportunities are emerging for foreign automotive component manufacturers as the Russian passenger vehicle manufacturing industry is experience a vast upgrade of the existing models that require replacement of many components with foreign manufactured ones (Kuboniwa, 2009).

According to Vahtra and Zashev (2008), the number of automotive component manufacturers in Russia remains small and comprises mainly of lower value-added components. Vahtra and Zashev (2008), further stated that notwithstanding the voiced interest of foreign OEMs to invest in automotive component manufacturing in Russia, OEMs have experienced substantial obstacles in reaching investment agreements with regional authorities and local suppliers. According to PWC (2008), majority of automotive components are currently imported in Russia, and the value of primary automotive components produced in Russia for assembly of foreign brands in Russia account for less than 10% of the total primary market value for foreign brands.

According to PWC (2008) the Russian government was supposed to provide comprehensive support to joint productions of Russian and foreign partners in attracting new technologies into the country. For the purposes of developing the production localization program and encouraging the modernization of existing production capacities, the industrial assembly legislation in Russia was tightened.

Kuboniwa, (2009) stated that the Russian automotive component industry is underdeveloped due to a number of reasons:

i. Lack of innovation technologies that would ensure the competitive advantage of Russian companies;
ii. Lack of investment in R&D and the development of engineering skills to manufacture new innovative type of components;
iii. Underdeveloped network suppliers, lack of competition and relatively low product quality;
iv. Lack of quality materials for component manufacturing, despite the availability of raw materials for producing necessary elements, their production in Russia is at a relatively low level, which forces component producers to buy raw materials on global markets.

The industry participants appreciate the potential of the Russian market, as OEMS need high quality components that satisfy the demands of consumers and the Russian government continues to support the automotive industry through cooperation with international manufacturers, which presupposes increased employment opportunities and technological process upgrading.

According to PWC (2008), markets experts have forecasted the average annual growth in the automotive component consumption in Russia to be 15-30% in the medium term between 2012 to 2015. The structure of the Russian automotive component market will change to increase the share of countries with a well-developed automotive industry were the OEMs and aftermarket ratio will be 70%-30%.

3.7.3 India

Demographically and economically, India’s automotive component industry is well positioned for growth, servicing both domestic and increasingly exports opportunities, hence is emerging as a global manufacturing hub for automotive component manufacturers. The automotive component industry foundation was laid by the introduction of the Phase Manufacturing Programme (PMP) introduced by the Indian government in 1980.

This program served as an enabler to the automotive component industry, as it allowed the industry to modernize its technology, improve quality and to transform itself into a highly capable sector, while at the same time contributing to localization. As the program to an end in 1991, the Indian government introduced the MOU system that placed emphasis on thee localization of components. With the support from the MOU policy, the automotive component industry developed further capabilities to manufacture a wide range of components for the new generation vehicles, (ACMA, 2010).

According to the publication by the Government of India (GOI) (2006), the automotive component sector in India has been one of the fastest growing segments of the automotive industry, developing the holistic capability to manufacture all automotive components, including drive trains, engine parts and transmissions. India is becoming the global hub for international OEMs because of India’s supportive government policies, positive business environment, availability of skilled workforce and a stable outlook for the industry, which has resulted in the vast growth of the automotive component manufacturing industry. The Indian automotive component industry is highly fragmented with 500 organized players accounting for 70% of the value added in the sector. The unorganized players are mainly for replacement parts and aftermarket.

The automotive component market in India is estimated to be worth USD 700 billion by 2015, grabbing major of the global outsourcing market. The automotive component industry in India, manufacture products for both domestic and export markets and is directly linked to the growth of the OEMs, as 65% of the sales are to the OEMs. The size of the component industry is USD 34.7 billion in 2012 and has grown from USD 8.1 billion in 2005.The Indian automotive companies have increased their footprint in the global markets and grown their exports at 17% per annum from 2005 to 2011 to reach USD4.4 billion in 2011. To comply with global standards and remain globally competitive, a significant number of automotive component manufactures are focusing on global best practices and achieving international quality accreditations (SIAM, 2012).

According to ACMA (2012) the Indian automotive component industry is expected to reach a turnover worth USD 113 billion by 2020 from USD 43.4 billion in 2012. The exports are expected to grow at a compound annual growth rate (CAGR) of 17% during 2020.

In the 1990s majority of the exports were made to the international aftermarket, whereas presently the exports are focused to global OEMs. This signifies that the Indian automotive component industry has reached a level of maturity in terms of quality and productivity and has developed capabilities in the area of design and engineering, which are critical requirements for being part of a global supply chain. Figure 3.4 below indicates India's automotive component export destinations as of 2011.

Figure 3.4: India's automotive component export destinations for 2011

Source: Automotive component manufacturers association (ACMA, 2012)

According to SIAM, (2012), from 2005 to 2009 exports grew at a rate of 22% per annum reaching USD 3.8 billion. However in 2010, exports remained stable at USD 3,8 billion and only contributed 17% to overall production and in 2011 exports grew to a value of USD 4.4 billion. Europe remained the major export destination accounting for 37% of exports, followed by Asia and North America at 28% and 24% respectively. The driving force behind India's growing automotive component exports has been higher exports by Indian subsidiaries of global OEMs, which made India its global hub for manufacturing. The emerging trend of global companies procuring components from India is expected to drive the export growth in the long term.

KPMG (2010), highlighted that investments in the Indian automotive component sector has grown from USD 4 billion to USD 10.3 billion from 2005 to 2011, registering a CAGR of

14%. Several component manufacturers in India have invested in capacity expansion projects on R&D and design capabilities and established partnerships within India and abroad on greenfield ventures.

ACMA (2010) noted that there are significant opportunities for the growth of the automotive component industry in India, as the domestic market is attracting more OEMs who have a strong need for localization and the recession afflicted global markets are looking for low costs vendors to optimize their operations. The automotive component sector in India is increasingly drawing attention and is using a combination of global expansion, domestic consolidation and quality management systems to gain acceptance both domestically and globally.

The Indian automotive component manufacturer's consistent quality and reliability is well acknowledged by global OEMs and component manufacturers, which is evident in the trend of increased localization levels of most new models. Global OEMs are establishing capacities to locally develop and manufacture engines and transmissions in India with vendor development forming a key part of their strategy (Narayanan and Vashisht, 2008). The increasing use of high end software and R&D has made Indian automotive majors leverage the country's software prowess, hence gaining an edge over the European and American competitors. Most OEMs are expanding their R&D services by acquisitions, which has enabled them to launch newer models in the market quickly and efficiently (Tiwari, Mahipat, and Andreas, 2009).

ACMA (2012) highlights that the rapid improvement in infrastructure, huge domestic market, increasing purchasing power and stable corporate governance framework have made India a favorable destination for investment by major global OEMs resulting in a significant growth of the automotive component industry. Tiwari, Herstatt, and Mahipat (2011) emphasized that with the increasing trend in the number of Indian automotive component manufacturers being integrated into the global supply chain, automotive components are increasingly making their way to the foreign markets through either direct or indirect exports. The domestic automotive manufacturers in India are collaborating with foreign automotive component manufacturers in bringing out new vehicle models, hence increased interaction and interdependence between the Indian automotive component manufacturers and their foreign partners is leading to globalization of India's automotive industry.

3.7.4 China

There are about 1700 automotive component manufacturers registered in China, with 450 partially or fully foreign ownership, primarily by German, Japanese, U.S. and other European multinationals. More than 70% of the top 100 global automotive component manufacturers have established manufacturing operations in China to supply the local market, as well as to benefit from the low labour costs for exports (KPMG, 2004).

The automotive component manufacturing landscape is highly fragmented, exemplified by the fact that the top 10 component suppliers account for only 20% of the total sales in the automotive component sector. International automotive component manufacturers have invested heavily in training and development in China with the attempt to gain a competitive edge in the global supply chain. International component companies have expanded their presence in China, resulting in foreign-invested automotive components suppliers holding 70% of the Chinese market share (Tang, 2009).

According to Zakaria (2010) the automotive component suppliers can be classified into four categories, firstly being the leading independent part and component groups, who insists on self-reliant strategies for technologies and management, possess economies of scale and relatively competitive internationally. The second group is component manufacturers that are affiliated with big state owned enterprises, who were established by separating and integrating the previous components divisions of the big state owned enterprises. They are less competitive, yet their affiliation to large multinational vehicle manufactures is a key advantage in securing business.

The third group is small part manufacturers who have neither economies of scales nor R&D capabilities and focus largely on the aftermarket demand. The fourth group is joint ventures of international suppliers or their wholly controlled subsidiaries. These international suppliers have engaged in joint ventures with local automotive component manufacturers, as they possess advanced production technology and R&D capabilities. These suppliers serve the domestic Chinese market and export significant proportion of their production, which is a major contributor to the increasing exports

Local Chinese automotive component manufacturers encounter major challenge of breaking into the circle of accredited supplier to the major international OEMs, therefore 40% of automotive components are still imported from North America, including engines, axles and exhausts systems. Although China is seen as a ‘low cost centre’, the cost of producing automotive components in China is not considerably lower than Western countries (Luo, 2005).

According to Deloitte (2006) the major cost factor for many component manufacturers are raw materials (particularly steel) which are appreciating as much in China as elsewhere globally. Raw materials and sub components are imported because domestic raw materials do not meet the quality requirements for the automotive industry which results in further costs increases. The appreciation of Chinese currency is also driving cost sensitive vehicle manufacturers to contemplate procuring components globally, rather than domestically.

China’s automotive component imports grew to USD 12.7 billion in 2010, a 90% increase over 2009, as international OEMs based in China, stilled import key components and knowledge intensive components from international automotive component manufacturers. Drive train, engine and automotive body components accounted for 60% of the total components imports. Japan, Germany, Korea and USA accounted for more than 80% of the imported components (APCO, 2010). The automotive components export experience a more impressive growth than complete manufactured vehicles. Automotive components exports increased to 54.1%, reaching USD 18 billion in 2012, with drive train exceeding 50% of the total value. Due to upstream and downstream price pressures, and low technological content in most of the current products, a majority of the automotive component manufacturers are faced with the ongoing challenge of cost reduction.

Chinese automotive component manufacturers are able to manufacture components efficiently when they are provided with the design and engineering specifications, as most companies lack design, engineering and R&D capabilities. China’s domestic automotive component manufacturing has limited R&D capabilities hence they are restricted to the production of lower end components, like tyres and wheel hubs, which are labour intensive production processes.

Due to the limited R&D investment in the sector, several local suppliers have entered into technical collaboration with leading international suppliers with the key objective of facilitating the transfer of technology and improve basic product engineering capabilities. Further investment in R&D is eminent to grow the Chinese component manufacturers to compete globally, as the industry lacks technological capability and lacks international quality standards (APCO, 2010).

Domestic aftermarket for automotive components is becoming an important driver of the automotive component industry. About thirteen million vehicles are sold annually in China, which is leading to a growing market for automobile repairs, further stimulating domestic demand for automotive components. International automotive companies are faced with pressure to reduce costs and take advantage of more economical alternatives from global markets, which resulted in an increase in international demand for automotive components. China's competitive labour force presents an attractive option for producing lower cost components, which were primarily focused for the international aftermarket, however now it is increasingly being used by the OEM market Deloitte (2006).

In 2004 the Chinese government issued an Industrial Policy for the automotive sector, with provisions discouraging the importation of automotive components and encouraging the use of domestic technology. International companies were allowed to set up wholly owned automotive component companies in China without fear of transferring advanced technology to local partners. The Chinese government increased the tariffs on automotive components from 10% to 25% if imported components made up more than 60% of the finished vehicles value (Tang, 2009). Automotive component manufacturers identified that to acquire the full potential of the export opportunity globally, component manufacturers in China have to continually focus on improving product quality to meet international standards, maintain a cost advantage and improve supply chain processes to integrate effectively into the global network (APCO, 2010).

Deloitte (2006) highlighted that the automotive components manufacturers will play a vital role in the global market, and the segment is likely to continue their rapid growth, as this trend of growth is based on the following:

- Low cost advantage of labour is sustainable for the long term;
- Compared to other low cost countries, China's manufacturing base is mature, with

high availability of technical expertise and the effective support infrastructure;

- Manufacturers desire to expand and;
- Government's policy to support this trend.

3.8 The impact of government policies in the development of the BRIC's automotive industry.

The complex industrial structure and characteristics in the BRIC automotive industries were formed through the past decades with intervention from the government through policies. The industrial policies are associated with issues about international trade, foreign investment, technology transfer and R&D developments. The dynamic impact of government policies in the automotive industry are analyzed for the BRIC countries.

3.8.1 Brazil

The Evolution of the Brazilian automotive industry began with a phase of strong protection for the domestic market from the beginning of assembly in the 1950s to the late 1980s, this followed by trade liberalization in the 1990s. The establishment of the Brazilian automotive industry in 1957 was as a result of governmental plans for national industrialization. The Brazilian automotive regime gave birth to a new expansion phase in 1996, aiming at making Brazil one of the world's top car manufacturers, whether by building new plants or modernizing existing facilities. The automotive industry has been a major contributor to Brazil's GDP as a result of governmental policies (Costa and Queiroz, 2002:1432)

According to Quadros, and Consoni (2009:55) Brazilian economy started the process of trade and investment liberalization in the in the early 1990s, following the inauguration of the government of the first elected president after military rule. The Brazilian automotive industry experienced significant changes to its automotive markets and industry in the early 1990s. There was an explosion of vehicle imports, which intensified domestic completion. The high levels of competition revealed the need to update products and improve productivity and quality standards in the domestic vehicle manufacturing, resulting in an escalation of investment by assemblers.

As a result of the significant changes in the Brazilian automotive industry in the 1990, there was momentous redefinition in the local product development strategies of vehicle manufacturers. The key elements that influenced these changes were trade liberalization and government policies that focused specifically on the automotive manufacturing and component sector. Due to the strong protection of the Brazilian automotive industry until 1990, the domestic automotive manufactures exclusively targeted the local market. All vehicle assembler in Brazil were dependent on local engineering teams to adapt products developed internationally to specific local conditions (Gross, 2004).

Consoni and Quadros (2006:99) highlighted that the Brazilian government adopted the Automotive Regime (AR) policy between 1995 and 2000; in order to promote investments and exports. The size of the Brazilian car market was one of the main drivers behind the wave of investment in the 1990s; however the main contributor to the influx of investment was government’s commitment to the AR policy as an additional incentive in the process of attracting new vehicle manufacturers.

The first policy initiative, in the 1990s, was the organization of the Sectorial Chamber for the automotive industry. This initiative brought together the Brazilian government, automotive manufacturers, automotive component manufacturers, dealers and unions to discuss automotive sector problems, which led to the definition of policies specifically oriented to increase and sustain local consumer’s demands. The outcome of the agreement was to reduce consumer taxes and vehicle prices, to increase local demand and output and maintain the level of employment.

According to Bernardes, et al., (2012), the number of employed engineers in the automotive industry in brazil increased from 4926 in 2000 to 12067 in 2010, who are involved in technological capabilities and in 2011 Brazil reached its highest exportations level. To support the automotive industry, government launched a new automotive regime called “Plan Brasil Maior” (“Bigger Brazil Plan”). This policy came under criticism by International Community of Free Trade due to its content of market protectionism, increasing local taxation by 30% for imported vehicles. This policy consisted of a set of measures which aimed at stimulating the economy and protecting the national industry and its strong domestic market from competition of foreign companies (Bernardes, et al., 2012).

Governments key objectives in introducing this policy was to strengthen production chains within Brazil, enhance and build new technologies, diversify exports, promote the internationalization of enterprises and consolidate competencies in the natural knowledge economy of Brazil.

Bernardes, et al. (2012), further stated that the industrial policy was aiming to stop the increasing growth of imported vehicles from Asia (China and Korea), but did not affect vehicle importation from Mercosur and Mexico due to the ongoing free trade agreement. This did not impact on vehicle manufacturers already established in Brazil as their channels via Mexico and Mercosur were already established.

Venter (2012) noted that the Brazilian government with automotive manufacturers and suppliers worked together to craft a new policy "Inovar Auto". The new legislation established a programme of incentive to the technological innovation and densification of the automotive supply chain. This policy allowed for a 30 percentage point increase in industrial taxes for vehicles sold in Brazil and outlines the requirements for automotive manufacturers to participate in the program which will grant them industrial tax credits. As of 2013, companies must be compliant in at least three of the four categories, such as research and development, to qualify for the Inovar programme. Each of these categories will feature gradually increasing criterion until 2017.

The Brazilian government has played a key role in the automotive industry by providing tax incentives to manufacturers that enabled them to increase their local content and purchase within the country and lowered interest rates for government loans. Government support has the opportunity to lead the Brazilian automotive industry into an era of significant investment and growth (MATRADE, 2013).

3.8.2 Russia

The Russian automotive market has been steadily growing at an impressive pace, reaching the size of the second largest automotive market in Europe after Germany. The automotive sector in Russia has attracted significant investments from international automotive companies, resulting in the domestic manufacturers and their suppliers restructuring their operations accordingly. Government supported the automotive industry with incentives as early as the mid-1990s, through the creation of special economic zones, where contract manufacturing of several foreign brands have been applied (Kuboniwa, 2009).

According the AEB (2012), the Industrial Assembly (IA1) regime was introduced in 2004 to transform the landscape of the Russian automotive industry. The legislation was adopted by a special government resolution and introduced in 2005, being an important decision for the Russian automotive industry. This regime by introducing new vehicle models to the market, allowed new manufacturing facilities to be established with efficient manufacturing processes that were widely spread to the domestic plants resulting in component manufacturers investing in Russia.

AEB (2012) further elaborated that the regime made provision for an exemption from certain import customs duties for a number of automotive components, provided that the vehicle manufacturers agreed to localize car production in the Russian Federation by establishing a manufacturing facility with a minimum capacity of 25000 units per year. The AI1 regime stated that the vehicle manufacturer should reach a localization level of 30%, by year eight of signing the agreement with government.The strategic goal of the IA1 was not being achieved with the required 25 000 capacity for various brands and price categories.

Mpoyi (2012:37) stated that the Russian government adapted a new strategy of the Russian automotive industry development for the period up to 2020. The new strategy, Industrial Assembly (IA2), was prepared in 2009-2010 and was approved by the Government in April 2010. The key rationale of the policy outlined the expected increase in the localization level of the currently manufactured vehicles, stating that the locally produced car ratio is expected to be up to 80% by 2020. AEB (2012) outlined that many agreements between vehicle manufacturers and government were expiring in 2012; therefore it was important for the Russian government to come up with amicable resolutions in order to secure fair competition on the Russian automotive market and sustain the existing investments made by the Industrial Assembly (IA1) policy.

AEB (2012) outline that the key difference between IA1 and IA2 is the increased requirements for the car manufacturers which included the following:

i. OEMs to build or modernise production capacities of 300/350 thousand units within 36-48 months of the implementation of IA2;
ii. To establish full cycle engines or transmissions production in Russia provided that 30% of the vehicles produced in Russia are equipped with engines manufactured locally within 36-48 months of the implementation of IA2;
iii. Duty free importation of semi knocked down (SKD) kit is allowed for the first 36 months in the amount not exceeding 5% of the available full capacity in a given year;
iv. OEMs should establish R&D centre in Russia, which will cater for design and engineering of the vehicle, testing of automotive components, testing of engines and chassis and other operations.

According to BCG (2010:19), OEMs fully supported Russia's accession to the WTO; however subsequent changes affiliated with its membership constitute problems for the OEMs. The critical issue for all market players is the decrease of the import duty for used vehicles from 35% to 25% and significant decrease of specific components. The duty decrease will negatively impact the market of new car sales thus making local production under IA2 less attractive. The Russian government is elaborating new mechanisms which is aimed at not only creating an end-of-life vehicle system in the Russian Federation, but also prevent an influx of used vehicles.

The Russian economy faced recession in September 2008; hence the Russian government prepared a large scale package of economic support. The Russian government provided direct financing support to Russian automotive manufacturers and took measures to protect the domestic automotive manufacturing market that entered the market in 2009. The key measures implemented included an increase in duties on new vehicle imports from 25% to 30%, and on imports of used vehicles for 3-5 years from 30 to 35%. Tariffs of duties on imports of used vehicles for more than 5 years are set in the range between 2.5 and 5.8 Euro per cc of engine displacement. The economic effect of the measure of a 5% increase in import duties on new cars is against the WTO rules. This increase in tariffs will also affect some completed parts imported by foreign makers producing in Russia (Vahtra and Zashev, 2008).

The Russian government supported the OEM and component manufacturing investment by creating a conducive investment environment. In 2005 special economic zones were created which further attracted investment by foreign automotive companies, as they benefited from certain tax allowances, including abolishment of asset and land taxes and protection against changes in the tax regime. The Russian tax system for large automotive investors, with its low flat tax rate, is competitive in international comparison. The Russian government intentions to create favorable conditions to the automotive industry led to a number of measures which changed the framework of the sector. Successful implementation of governments policy aimed at attracting investment will secure a stable and consistent growth of the automotive market (Spencer and Krkoska, 2008).

3.8.3 India

The Indian government has been instrumental in the evolution of the automotive industry, as the government has not focused its endeavors singularly on influencing the automotive industry structures or crafting the local automotive supplier industries, thereby strengthening the domestic market and giving key impetus to the development of the total automotive industry (ACMA, 2013:14). Improving investment conditions since 1991 and changing scenario of global competition have attracted the world’s major automotive manufacturers into India. With a key focus on investment growth, the policies of the Indian government has shaped the industry in significant ways, which has emerged as an attractive automotive location offering global automotive firms key strategic advantages. The Indian government has been proactively involved in supporting outward FDI by Indian automotive companies, and offered considerable support in government circles for product innovation and R&D development (Narayanan and Vashisht 2008).

SIAM (2012) stated that the Indian automotive industry has progressed since its independence and intensified its production from 4 077 units in 1950 to 19 million units in 2012. The Indian automotive industry is working in terms of the dynamics of an open market with a multitude of automotive manufacturers and automotive component manufacturers. Tiwari and Ranawat (2009) highlighted that India’s automotive industry evolution has occurred in four phases. The first phase (1947-1965) is characterized by protection from foreign competition, push for indigenization and emergence of licensing regulations.

The second phase (1966-1979) witnessed increased regulations and incongruent growth among different segments of the industry. The third phase (1980-1990) experienced relaxation in regulations and entry of several Japanese collaborators. The fourth phase (1991 onwards) began with the historic economic reforms in India and the ensuing liberalization of the automotive industry. The global integration of the Indian automotive industry began with the influx of foreign players and the resulting access of global markets.

Policy reforms initiated in 1993 for passenger vehicles meant that the automotive firms were at liberty to enter, expand, diversify, merge or acquire based on their commercial judgments. This liberalization in 1993 concerning foreign investment encouraged global players to enter into the Indian market establishing joint ventures with the domestic automotive market. Foreign direct investment (FDI) up to 51% was allowed on an automatic basis, while more than 51% required governmental clearance, which was approved on a case to case basis depending upon the project exports and sophistication of technology introduced (Kumaraswamy, Mudambi, Saranga, andTripathy 2008).

India’s vision of establishing a globally competitive automotive industry and raising its contribution to the economy was presented for the first time in a separate automotive policy document in March 2002, known as the ‘Auto Policy 2002’ (Tiwari and Ranawat 2009). This policy sets itself for making the Indian automotive industry globally competitive by being more investor friendly and ensuring compatibility with World Trade Organization (WTO) commitments. The auto policy aimed at promoting modernization and indigenous design and development within the country as well as creating domestic safety and environmental standards, par with international standards. To achieve these objectives, the auto policy offered various initiatives relating to investment, tariffs, duties and imports. The auto policy permitted automatic approval of foreign equity investment up to 100% for manufacture of automotive and automotive components, which is strikingly visible in the exponential growth in FDI over the period 2004 to 2008 (Tiwari, Herstatt, and Mahipat, 2011).

According to SIAM (2012), the tariff structure proposed by the auto policy was to fix the import tariffs in a way that the actual production within India was facilitated over mere assembly, without providing undue protection at the same time.

With reduction in overall tariff level to open India for international trade, the Indian government progressively rationalized the domestic taxation structure to provide fair competition ground for its domestic manufacturers against the international competition. The lowering of trade barriers and the promising growth potential of the domestic market brought India into the radar of international automotive players.

The auto policy continued to drive the thrust for R&D, with fiscal and financial incentives for promoting the R&D efforts. The National Automotive Testing and R&D Infrastructure Project (NATRIP) is the most critical intervention of the Indian government in the automotive sector, as it has come in the form of an ambitious project on setting up world-class automotive testing and R&D infrastructure to deepen manufacturing, encourage localized R&D, boost exports, converge India's unparalleled strengths in IT and electronics with automotive engineering sectors to place India in the global automotive pedestal. The Indian government's key aim in introducing NATRIP was to ensure seamless integration of the Indian automotive industry with the global automotive industry and address one of the most crucial handicaps in the growth of the automotive industry i.e. shortfall of testing and pre-competitive common R&D infrastructure. Government has taken major initiatives under NATRIP and has plans under this scheme to provide expensive infrastructure for developing capabilities of the automotive industry (Tiwari, et al., 2011).

In comparison to other developing countries that gained independence from colonial rule, the Indian government played a proactive role in supporting sector development by actively creating favorable factor and demand conditions, hence strengthening the local market and giving impetus to the development of the automotive industry. Foreign automotive firms that have invested in the Indian automotive industry, have successfully operated without many strings attached and have significantly contributed to the upgrading of the sectoral innovation systems (GOI. 2006).

3.8.4 China

In the 1980s, the Chinese policy makers set the automotive industry as one of the key pillars of industry and expected to use policy tools to leap frog it indigenous automotive company's into the world level of advanced financial and technological strength.

The Chinese government implemented complex industrial policies and regulations with the goal to protect the domestic market from foreign competition, to attract FDI and at the same time to foster the technology know-how to diffuse from international automotive manufacturers to Chinese enterprises (Feng, 2005).

China's domestic automotive market has grown rapidly since the country's accession to the World Trade Organization (WTO) in 2001 and the revised automotive policy, which came into effect in 2002. The main objective of the revised policy was to bring the automotive policy in line with China's WTO membership commitments and to design a blueprint for the automotive industry's comprehensive development. Growth has been underpinned by market liberalization and greater economic openness. Government policy has been a significant driver of production and markets trends, with main focus on local brands as well as the growth of the automotive component production development for export market. China's automotive policy has one main objective that is to promote indigenous industry with a harmonized industrial organization (Luo, 2005).

The Chinese government recognizes the necessity to sustain indigenous innovation and development of the automotive industry. Government has invested USD 1.46 billion specifically for automotive technology innovation and the R&D of new age automobiles and components. Key automotive component manufacturing like electric motors, engines, gearboxes, transmissions, drive trains and automotive control systems, the Chinese government has pledged support on technological improvements and localization by means of loan grants and financing (APCO, 2010).

The policy designed to encourage increasing local contents in assembled vehicles are associated with varying tariffs rates. For passenger vehicles whose local contents exceed 80 %, the tariff rate on the imported components is 40% and those that are between 60-80% the respective tariff is 75%. This policy was designed to create technological linkages to the automotive component industry and to ensure indigenous capabilities on the entire automotive manufacturing sector, in order to prevent the automotive industry turning into an assembly industry of foreign components (Wang, 2003:291).

The Chinese government policies have offered incentives for automotive production in spite of the large size of the Chinese market and the automotive industry lag behind the top global players in terms of technology and competitiveness. A market for technology strategy was promoted by government, in which joint ventures benefited local automotive manufacturers through spillovers of advanced technology and management practices. In supporting the drive for localization, the Chinese government has begun to forbid the purchase of foreign brands for official vehicle fleets as of 2012 (BBVA 2012).

Automotive manufacturers in China are geographically spread, unlike developed countries were automotive manufacturers are concentrated geographically, in which local governments support the domestic automotive manufacturers within the location with incentives resulting in intense competition and shorter life cycles of new products. At the end of 2011, the Chinese government announced the Industrial Transformation and Upgrading Plan , with the aim of increasing market concentration through mergers and acquisitions, under which the top 10 automotive manufacturers sales shares will increase to 90% in 2015. This initiative aims to prevent overcapacity in the industry and assist in promoting the domestic companies that can compete on a global scale (Zakaria 2010).

According to Tang (2009) government policies in China are the key determinant of the automotive market, as import tariffs such as tariff rate cuts has significant impact on the market. Domestic automotive demand has been significantly influenced by macro policy. This is clearly evident during periods of economic constraints, when the monetary policy tightened lending resulting in a huge reduction of vehicle sales. When fiscal incentives such as consumption subsidies were implemented, there was a surge in the growth of automotive sales (Feng, 2005).

The Chinese government led investment in the manufacturing sector by giving preferential loans to targeted industries; hence promoting growth in value added manufacturing industries like automotive component manufacturing. The Chinese government recognized the export potential of the automotive component industry, therefore the government provided major stimulus to the sector in terms of policy towards export promotion and opportunities created in the process. (Tiwari, Mahipat, and Andreas, 2009).

The automotive industry in China has made significant advancement, with regard to the unremitting revisions of the trade, investment and industrial policies. Liberalization of trade and investment, and deregulation of industrial policy however are necessary but not sufficient conditions for the sustainable development progress of the automotive industry, although the automotive industry in China receives continuously high protection. Under a macro-economic vision of reform, the accomplishment of the automotive industry is dependent on the extent to which China will transform into a market economy and integrate the world economy, which good governance and effective institutions are fundamental. The key to sustained progress is that governments adapt and adjust policies along the way (Wang, 2003:301).

3.9 Summary

This chapter presented an overview of the BRICs countries automotive industry competitive advantage, highlighting the economic performance as well as the growth within the sector. The BRIC countries strategy to revolutionize global markets focused on solutions that took advantage of economical manufacturing base and utilized prevailing solutions by providing superior value at low prices.

The BRIC countries diverge significantly in their market development and local competencies, with each country offering an exclusive constellation of opportunities for the automotive industry. Developing countries and regions, providing lower cost manufacturing and huge growth potential for both the global automotive supply and demand sides are increasingly becoming focus areas.

The complex industrial structure and characteristics in the BRICs automotive industry were formed through the past decades with intense intervention from government through policies for the protection of the domestic industry. The dynamic impact of the government policies created favorable conditions to the automotive industry which led to a number of measures which changed the framework of the sector giving impetus to the development of the total automotive industry. The next chapter focuses on the research methodology of the empirical study. The chapter outlines the research approach, design and process that will be undertaken for this study.

CHAPTER FOUR
Research Methodology

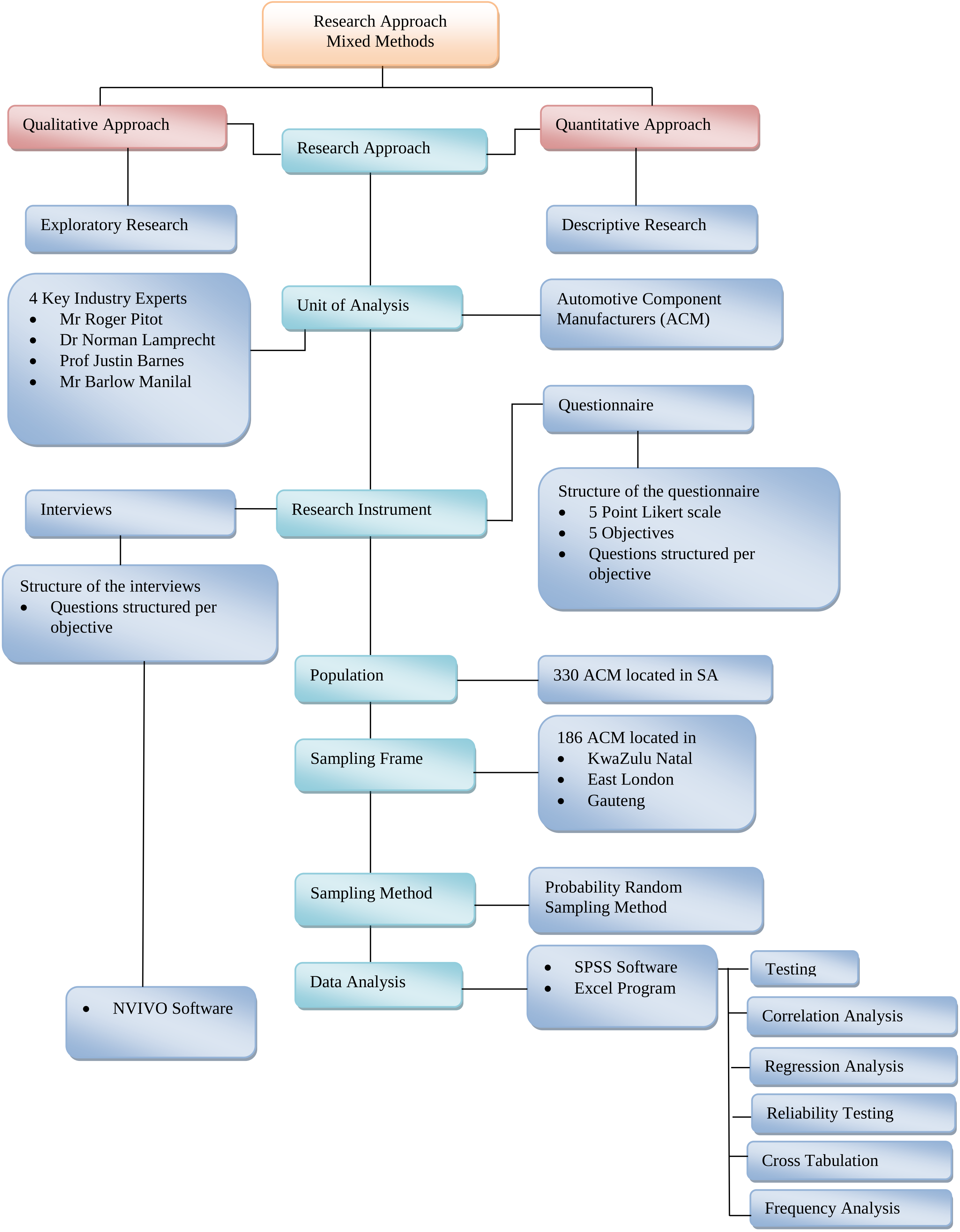
4.1 Introduction

The preceding chapters dealt with the introduction to the research, an overview of the global and South African automotive and automotive component industry and a literature review on the analysis of BRIC countries global competitiveness in the global automotive industry. The main aim of this chapter is to outline the research methodology of the empirical study. The research methodology used is crucial to arrive at a result that can be value adding to the body of knowledge. Therefore the research should be relevant to and appropriate for the nature of the topic and research question. In order to achieve this aim, an overview of the various research methods is given, together with the rationale for why a particular strategy was selected.

The nature of the research question, the objectives of the research study and the proposed methodology point the research strategy in the direction of using the mixed method of both quantitative and qualitative research.

Figure 4.1 outlines the research approach, design and process undertaken for this study. These are outlined in the subsequent sections.

Figure 4.1: Outline of research methodology



4.2 The meaning of research

According to Collis and Hussey (2009:3) research signify different things to different people, however from the many definitions offered, there is general agreement that research is:

- a process of enquiry and investigation;
- systematic and methodical and;
- increases the body of knowledge.

Collis and Hussey (2009:3) defines research as a systematic and methodical process of enquiry and investigation with a view to increasing knowledge. Looking at the character of research it can be construed that researchers need to use the appropriate methods for collecting and analysing research data and to apply the data rigorously.

Business research seeks to envisage and elucidate phenomena that taken together constitutes the ever changing business environment, thus it is a authenticity seeking function that collects, analyses, interprets and reports information so that business decision makers can become more effective (Hair, et al., 2011:5). The boundaries of business research are limitless as it is intended to result in better decision making.

Hair, et al. (2011:5) notes that there are numerous trends that influence business research, which include relationship marketing, which has brought new concepts and a greater need to integrate research studies across multiple stakeholder groups, globalisation of business, which requires researchers to stud previously unfamiliar cultures and the revolution , which provides researchers easier access to greater volumes of data. Cavana, Delahaye, and Sekara (2001:5), describes research as a systematic and organised process to investigate a specific problem or opportunity were a result is needed.

This research adheres to the listed themes by various authors because it intends solving the research question by means of a well-defined and attentive process of investigation and analysis, controlled and managed by the researcher.

4.3 Problem statement and objectives of the study

As noted in chapter one the research question was formulated as, South Africa's global competitiveness in the automotive component manufacturing industry is uncertain; therefore in order to investigate South Africa's global competitiveness, the following research question needs to be answered:

1. What are the factors that influence South Africa's global competitiveness in the light vehicle component manufacturing industry?
2. What is South Africa's global competitiveness in the automotive component industry?
3. What impact will global competitiveness have on the economical sustainability of automotive component manufacturers in South Africa?
4. What is the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market?
5. What should be the specific role of South African government's policy framework and interventions?

In the context of this research problem, the objectives of this research are to

1. Identify factors that influence the global competitiveness of South Africa's automotive component industry
2. Establish South Africa's global competitiveness in the automotive component industry.
3. Determine the impact global competitiveness will have on the economic sustainability and growth of the automotive component industry in South Africa.
4. Establish the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market.
5. Establish government's interventions in stimulating industry competitiveness by changes in policy and the impact of such changes on the competitiveness of the automotive industry

In order to achieve the objectives, a mixed method approach was followed due to the complexity of the study. Both qualitative and quantitative approaches were executed to analyse the global competitiveness of the light motor vehicle component industry of South Africa.

4.4 Research methodological approach

Franklin (2013:15) states that in researching a specific phenomenon there are many methods that can be utilised in order to gather the information required. He goes on to say that the method chosen will have a direct influence on the type of questions asked and the answers received, which will impact on the findings of the research.

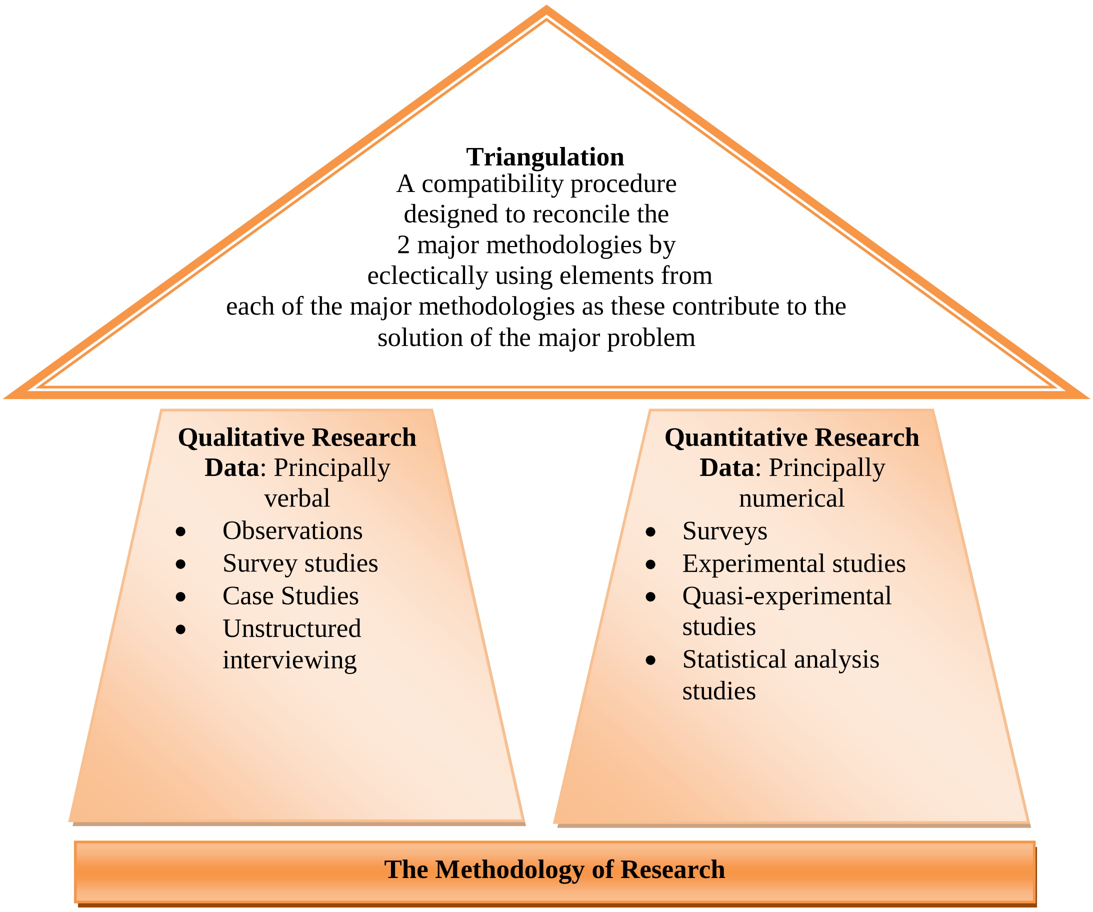
Edmond and Kennedy (2013:146) states that mixed methods study combine various aspects of quantitative and qualitative methods because this type of methodology mixes both qualitative and quantitative methods which are considered a more practical approach to research. Edmond and Kennedy (2013:146) further highlights that one of the primary objectives in designing a mixed method study is to determine if the design should be fixed or emergent. A fixed method design is applied when the researcher predetermines the application and integration of a qualitative and quantitative method within a study. An emergent design is conducted when a researcher decides to include a qualitative or quantitative strand within an ongoing examination purely based on necessity.

Edmond and Kennedy (2013:170) highlights that mixed method analysis allows the researcher to explore the qualitative data from the perspective of well-established quantitative findings to further interpret the emergent findings using qualitative data. Hair, Money, Samouel and Page (2011:289) explain that the mixed method design incorporates techniques from qualitative and quantitative methods and enables the researcher to answer confirmatory and exploratory questions at the same time. As a result, the researcher is able to construct and confirm theory in the same study. Bryman and Bell (2007) argue that mixed methods not only maximizes the strengths and minimizes the weaknesses of each approach, but strengthens research results and contributes to theory and knowledge development.

Edmonds and Kennedy (2013:146) states that mixed methodology was developed as an attempt to legitimatize the use of multiple methodological strategies to answering research questions with a single study, which is considered a more practical approach to research. One of the primary objectives in designing a mixed method study is to determine if the design should be fixed, were the researcher predetermines the application and integration of a qualitative and quantitative method within a study or emergent, where the researcher decides to include qualitative or quantitative strand based on necessity.

The complexity of this study is such that the application of a single method would not answer the research question effectively, which is why it is necessary to approach the research problem from different angles. Hence a mix between the qualitative and quantitative approaches will be executed to identify the factors that influence South Africa’s global competitiveness in the automotive component industry. Leedy and Ormrod (2005: 145) contend that several qualitative methods or quantitative methods may be combined in the same research project. They describe this approach as triangulation, where it is possible to combine both qualitative and quantitative research in the same project. Neuman (1997:150) outlines that the triangulation methods include various methods like interviews, Likert type questions and focus groups that considerably enhance the research approach. Collis and Hussey (2009:85) highlights that triangulation reduce bias in data sources, methods and investigators, leading to greater validity and reliability than a single method approach. The interactions between quantitative and qualitative research are illustrated in the figure 4.2.

Figure 4.2: Interaction between quantitative and qualitative research



Source: Adapted from Leedy and Ormrod (2005: 145)

Collis and Hussey (2009:85) analyse the potential elements of triangulation research studies into four main types:

- Triangulation of theories- A theory is taken from one discipline and used to explain a phenomenon in another discipline;
- Data triangulation- Data are collected at different times or from different sources in the study of a phenomenon;
- Investigator triangulation- Different researchers independently collect on the same phenomenon and compare the results;
- Methodological triangulation- More than one method is used to collect and analyse data, but it is important to choose them from the same paradigm.

The research approach for this particular study is both exploratory and descriptive. The research project will therefore be conducted using both quantitative and qualitative empirical surveys. There are two reasons for taking this dual approach:

i. Important aspects of this research are based on existing research and literature on the automotive industry and automotive global competitiveness;
ii. Primary sources have to be explored to establish South Africa’s global competitiveness in the automotive component industry and to determine the factors that impact on the competiveness of the automotive component industry.

Quantitative and qualitative methods are commonly used by researchers. After considering the nature of the problem statement and the research questions, it would appear that both qualitative and quantitative research is closely associated with this research project. Each of the research methods are discussed, together with their applicability to this research study.

4.4.1 Quantitative research

Quantitative research is an enquiry into an identified problem, based on testing a theory, measured with numbers, and analysed using statistical techniques. It is described as research that involves identifying the characteristics of an observed phenomenon, and does not involve modifying the situation under investigation.

Quantitative research methods use mathematical analysis and can reveal statistically significant differences between samples (Cooper and Schindler 2008:716)

Hair, et al. (2011:147) describe quantitative research as a research that involves identifying characteristics of an observed phenomenon and does not involve modifying the situation under investigation. According to Cavana, et al. (2001:34), purely quantitative research is used to measure specific characteristics through structured data collection procedures, often with a sample size of more than 100 in order to project the results of the entire population.

For this research, the questionnaire was formulated on the quantitative form of data collection and analysis. In gathering, analysing and interpreting data, an objective approach was maintained throughout the process. The answers to the questions were based on numerical selection instead of words and the data that was generated from the sample was subject to statistical techniques so inference could be drawn on the broader population.

4.4.2 Qualitative research

Qualitative research focuses on meanings expressed by words and has two characteristics in common. Firstly it focuses on phenomena that occur in natural settings, and secondly it involves studying the phenomena in all their complexity (Edmonds and Kennedy, 2013:95). Cavana, et al. (2001:34) outline that qualitative research should be viewed as a complement to quantitative research in that some of the qualitative approaches can be quantified and statistically analysed. The qualitative method is a form of data collection with the focus on understanding and an emphasis on meaning, which is often used to explore the ‘how’ and ‘why’ of systems and human behaviour. Qualitative research adopts an inductive process which is based on theory building. The process of building such a theory starts with observation and involves repeated sampling with the aim of establishing generalisations about the phenomenon being investigated (Edmonds and Kennedy, 2013:112)

Hair, et al. (2011:147) highlights that qualitative research is the most appropriate:

- When little is known about the research problem;
- Where previous research only partially explains the research question;

- Where current knowledge is not accessible using surveys and experiments and;
- If the primary purpose of the research is to propose new ideas that can be eventually tested with quantitative research.

In this research study, the qualitative approach consisted of interviews with four key industry stakeholders directly involved in the automotive component manufacturing sector. The next section provides a detailed description of the research design for the study.

4.5 Research design

According to Collis and Hussey (2009:10) the starting point in research design is to determine the research paradigm, which is a framework that guides how research should be conducted based on assumptions about the world and the nature of knowledge. Vogt, Gardner and Haeffele (2012:22) outlines that research design is a comprehensive map for conducting an investigation that stretches from the research questions through to data analysis and reporting. According to Hair, et al. (2011:147), outlines that research designs can be categorised in terms of their purposes: exploration, descriptive, prediction and explanation. Different purposes involve different designs and therefore different statistical analysis.

4.5.1 Exploratory research

Collis and Hussey (2009:5) highlights that exploratory research is undertaken when few or no previous studies to which information can be referenced of the phenomenon being researched. Exploratory research main focus is on gaining insights and familiarity with the subject area for more rigorous investigation at a later stage. Sekaran and Bougie (2009:105) points out that exploratory study are also necessary when some facts are known, but more information is required to develop a viable theoretical framework.

Hair, et al. (2011:148) emphasises that the key aim of this type of study is to look for patterns or hypotheses that can be tested and will form the basis of further research. Research techniques used in exploratory research will include case studies and historical analysis. According to Dane (1990: 246) analyses for exploratory research tend to be qualitative rather than quantitative.

They involve determining whether something has happened and are rarely complex. Hair, et al. (2011:147) emphasises that exploratory research rarely provides conclusive answers; however it gives guidance on what future research, if any should be conducted.

4.5.2 Descriptive research

Collis and Hussey (2009:5) outlines that descriptive research is conducted to identify and classify the elements or the characteristics of the phenomena as they exists. Descriptive research goes further in examining the problem than exploratory research, as it is undertaken to ascertain and describe the characteristics of the pertinent issues. Hair, et al. (2011:149) outlines that descriptive studies are generally classified as cross sectional studies, as it provides a snap shot or description of the elements at a given time and summarized statistically. Edmonds and Kennedy (2013:130) analyses for descriptive research tend to be simple, inferential statistics that enable one to summarise that the obtained through means of central tendency as well as to estimate values for the population that is being generalised.

4.5.3 Analytical research

Collis and Hussey (2009:6) states that analytical research extends the descriptive approach, by going beyond the merely describing the characteristics, to analysing and explaining how or why the phenomena being studied is happening. Therefore, analytical research aims to understand phenomena by discovering and measuring casual relations among them. Edmonds and Kennedy (2013:130) highlights that an important constituent of analytical research is identifying and controlling the variables in the research activities, as this permits the critical variables between the characteristics to be explained. Dane (1990: 246) notes that explanatory research generally involves comparing the various groups created through manipulation of the independent variable.

4.5.4 Predictive research

Collis and Hussey (2009:6) outlines that predictive research aims to generalize from the analysis by predicting certain phenomena on the basis if hypothesized, general relationships.

Therefore predictive research is to speculate intelligently on future possibilities based on close analysis of available evidence of cause and effect. Dane (1990: 246) predictive analysis are based on correlation techniques which analysis is use to determine the extent to which one variable is related to another variable. When specific predictions are required, regression analysis can be used to construct prediction equations.

The research design for this study will include:

- exploratory research carried out by means of a study of the relevant literature and;
- descriptive research conducted using quantitative and qualitative empirical surveys.

There are two reasons for this approach:

a. Important aspects of this research are based on existing research and literature data on the automotive industry and automotive global competitiveness;
b. Primary sources have to be explored to establish South Africa’s global competitiveness in the global automotive component industry and determine the factors that impact on the competiveness of the automotive component industry.

4.6 Sampling

Cavana, Delahaye and Sekara (2001:253) describes sampling as a process of selecting an adequate number of elements from the population, so that by analysing the sample and comprehending the properties and characteristics of the sample subjects, it would be possible to generalise the properties and characteristics to the entire population elements. Selection of the sampling method of a study depends on a number of related theoretical and practical issues, which include considering the nature and objectives of the study and the time and budget available (Hair, et al., 2011:167).

Sekaran and Bougie (2009: 264) further describes sampling as a technique of selecting a suitable representative part of a population for the purpose of determining the parameters and characteristics of an entire population.

Sampling is necessary because populations are very large and it would be costly, unnecessary and impractical to investigate each member of the population to determine the values of the parameters.

Data is essential for business research irrespective of whether an investigation is qualitative or quantitative. Study of a sample rather than the entire population is likely to produce more reliable results, due to the fact that fatigue is reduced and fewer errors therefore results in collecting data, especially when a large number of elements are involved (Sekaran and Bougie 2009:264).

Sekaran and Bougie (2009:267) asserts that sampling begins with precisely defining the target population, in terms of elements, geographical boundaries and time. The research objectives and the scope of the study play a key role in defining the target population. Sekaran and Bougie (2009:267) further emphasised that sampling frame is a representation of all the elements in the population from which the sample is drawn. Although the sampling frame is useful in providing a listing of each element in the population, it may not always be a current document.

Edmonds and Kennedy (2013:17) notes that traditional sampling methods can be divided into two major designs: probability and non-probability sampling. These designs have different sampling strategies, which are dependent on the extent of generalizability desired, the availability of time and other resources and the purpose of the study, hence different types of probability and non-probability sampling designs are chosen.

4.6.1 Probability sampling

Dane (1990: 296) defines probability sampling as a technique that ensures every element in the sample frame has an equal chance of being included in the sample. Hair, et al. (2011:168), asserts that in drawing a sample the selection of elements is based on a random procedure that gives elements a known and nonzero chance of being selected, thereby minimising selection bias. Therefore the findings based on a probability sample can be generalized to the target population with a specified level of confidence. Sekaran and Bougie (2009:270) indicates that there are number of variations employed in probability sampling techniques namely, simple random sampling, systematic sampling, stratified sampling, and clustering sampling.

4.6.2 Simple random sampling

The sampling technique involves an unsystematic random selection process that assigns each element of the target population an equal probability of being selected. The technique overcomes bias and offers the most generalizability; however the process could become cumbersome and expensive.

4.6.3 Systematic sampling

Systematic sampling is accomplished by choosing elements from a randomly arranged sampling frame according to ordered criteria. The process involves randomly selecting an initial starting point on a list, and thereafter every *n*th element in the sample frame is selected.

4.6.4 Stratified random sampling

Stratified random sampling involves a process of segregation followed by random selection of subjects from each stratum. The population is divided into mutually exclusive groups that are relevant, appropriate and meaningful to the context of the study. Stratification is an efficient research sampling design as it provides information for a given sample size and follows the lines appropriate to the research question. The researcher determines the total sample size as well as the required sample size for each of the individual strata.

Cavana, et al. (2001:259) notes that a stratified sample is selected in one of two ways, proportionally or disproportionately. In proportionately stratified sampling, the overall sample size will be the total of all elements from each of the strata. In disproportionately stratified sampling the sample elements are chosen in of two ways. One approach involves choosing the elements from each stratum according to its relative importance which is based on economic importance of various strata.

Another approach is considering the variability of the data within each stratum, which are selected based on the relative variability of the elements.

4.6.5 Clustering sampling

In clustering sampling the target population is made up of heterogeneous groups, called clusters. The most frequently used type of cluster sampling is geographic area sampling. Clustering sampling exposes itself to greater bias and is the least generalizable of all the probability sampling designs because the conditions of intra cluster heterogeneity and inter cluster homogeneity are often not met.

4.6.6 Non-probability sampling

Non probability sampling, not every element of the target population has a chance of being selected into the sample; hence the inclusion or exclusion of the elements in the sample is left to the discretion of the researcher. This means that the findings from the study of the sample cannot be confidently generalised to the population (Cavana, et al., 2001:262). Non probability sampling fit into the broad categories of convenience sampling and purposive sampling.

4.6.7 Convenience sampling

Convenience sampling entails selecting sample elements that are generally readily available to participate in the study and can provide the information required. It is complicated and perilous to generalise to the greater population when a convenience sample is used. Convenience sample is often used during the exploratory phase of a research project and is perhaps the best way of collecting basic information swiftly and efficiently.

4.6.8 Purposive sampling

Purposive sampling involves selecting elements in the sample for a specific purpose. This is mostly used for qualitative methods, in which the researcher's judgement is used to select the sample elements. Variations of purposive sampling include snowball, expert and heterogeneity sampling. For the purpose of this study the target population consists of 330 automotive component companies located in close proximity to the OEMs in the three major automotive manufacturing provinces. Gauteng is home to 150 component companies,

Eastern Cape to 100 companies, and KZN to 80 companies (NAACAM 2013). The study will focus on the three key provinces with a total of 330 component companies.
Keller (2009:165) suggests that a sample size greater than 30 and fewer than 500 is appropriate for most research, but that the ideal size depends on the nature of the population. According to the guideline provided by Sekaran and Bougie (2009:295) the general scientific guideline for a population of 330 would be a sample size of 186. The sample size for this research will therefore be 186 automotive component manufacturers of which 160 are members of NAACAM.

The key industry role players consisted of four stakeholders covering the broader automotive industry in South Africa. The roles and responsibilities of the stakeholders are outlined below.

National Association of Automotive Component and Allied Manufacturers (NAACAM)
The Association was established in 1980 to represent the interests of the automotive component manufacturers and is nationally and internationally recognised as the voice of the South African component industry. The membership consists of 160 national member companies with 230 regional manufacturing sites, in addition to 12 associate members who provide mainly logistics, IT and financial services to members. The NAACAM members consist of 40% tier one suppliers with the balance being tier2 and 3 manufacturers.

Automotive Industry Export Council (AIEC) - The AIEC was established in 1999 with a vision to ensure improved international competitiveness for the automotive sector as the leading manufacturing sector in South Africa. The key objective of AIEC is to increase the value of exports of automotive components and products. The AIEC represents the interests of 400 component suppliers in South Africa, as well as the motor vehicle and truck manufacturers in South Africa.

Automotive Industry Development Centre (AIDC) – The AIDC has been established to assist in increasing the global competitiveness of the South African automotive industry to world-class levels. The AIDC works in partnership with business, government departments and other organisations to invigorate economic development within the automotive industry. The AIDC provides accessible and affordable world class services, with a focus on technical excellence in areas of skills development and training, supplier development and supply chain development.

South African Automotive Bench Marking Club (BM Analysts) – The three benchmarking clubs are located in KwaZulu Natal, Eastern Cape and Gauteng. There are 155 firms in the global competitiveness data base against which the firm can benchmark. The firm level benchmarking takes place annually with the focus on three integrated components: a customer benchmark, a supplier benchmark and a like-with-like comparative bench mark. These integrated components allow BM Analysts to present an accurate value chain picture of the competitiveness of a company in terms of competitor performance levels and customer needs and demands.

The quantitative research will be conducted using probability sampling. Stratified random sampling will be used, as the populations will be divided into mutually exclusive groups that will be relevant, appropriate and meaningful in the context of the study. Table 4.1, indicates the classification of the automotive component suppliers and the number of firms that will be targeted as part of this research. The alphabetical coding is as per the coding of the NAACAM membership classification of the tiers of suppliers. The number of firms chosen from the data base, were based on their location within the 3 provinces chosen for the research. The sample size of 186 firms as they currently exist in NAACAM data base is shown in table 4.1.

Table 4.1: Classification of the tiers of suppliers as they exist in NAACAM database

Code	**Classification**	**Number of firms**	**% of total no of firms**
A	Manufacturers of original equipment components and suppliers to vehicle assembly plants only	25	13.4%
B	Manufacturers of original equipment components and suppliers to assembly plants, and supply of components for aftermarket.	97	52.2%
C	Manufacturers of replacement parts and accessories	28	15.1%
D	Manufacturers of related products for the vehicle assembly plants and other supporting industries, like paint, steel and glass.	26	13.9%
E	Suppliers of accessories to the motor industry	10	5.4%
TOTAL		186	100

Source: Adopted from NAACAM website: 2013

For this research study in the South African automotive component industry, the data collected through empirical research included descriptions, concepts, strategies, explanations, applications and processes in order to analyse South Africa's global competitiveness in the light motor vehicle component industry. A quantitative survey was undertaken to identify the factors that influence global competitiveness of South Africa's automotive component industry and determine the impact global competitiveness will have on the economic sustainability and growth of the automotive component industry. Hence, in addition to a quantitative research strategy, a qualitative research strategy was deemed to be appropriate for this research.

The next section provides a detailed description of each phase of the empirical research.

4.7 Empirical research

4.7.1 Data collection methods

According to Cooper and Schindler (2006:15) data can be described as "information collected from participants, by observing, or from secondary data". Sekaran and Bougie (2009:184) outlined that data collection methods are an integral part of research design as the appropriate methods enhances the value of the research.

There are several data collection methods, like interviewing, administering questionnaires and observing people and phenomena that serve as the three main data collection in survey research. Edmonds and Kennedy (2013:104) asserts that questionnaires can be used for descriptive and explanatory research. Choosing a data collection method is influenced by the sample frame, the research topic, the characteristics of the sample and the survey costs.

Collis and Hussey (2009:191) states that there are a variety of ways in which one can collect data; however the two main data collection methods used are self-completion questionnaires and interviews. Questionnaires will be administered as a primary data collection method for quantitative research and interviews will be conducted to determine qualitative data.

For the purpose of this study, secondary data was obtained from the literature review and primary data was obtained by administering a questionnaire and, conducting personal interviews.

4.7.2 Data analysis

Cavana, et al. (2001:169) outlines that in quantitative research, data are collected in one time period and those data are then analysed in a later time period, however qualitative research looks to the human as an instrument for the collection and analysis of data, meaning that there is no natural split between the data gathering and the analysis of the data.

The researcher will treat the data analysis critically, ensuring that the best possible data is derived without bias and with minimal deviation errors. The data analysis was undertaken by a professional statistician with the full interactive participation of the researcher. The statistician carried out the statistical analysis and the researcher interpreted the analysis and presented the findings.

4.7.3 First phase of empirical research

The first phase of the empirical study deals with the collection of primary data by means of questionnaires.

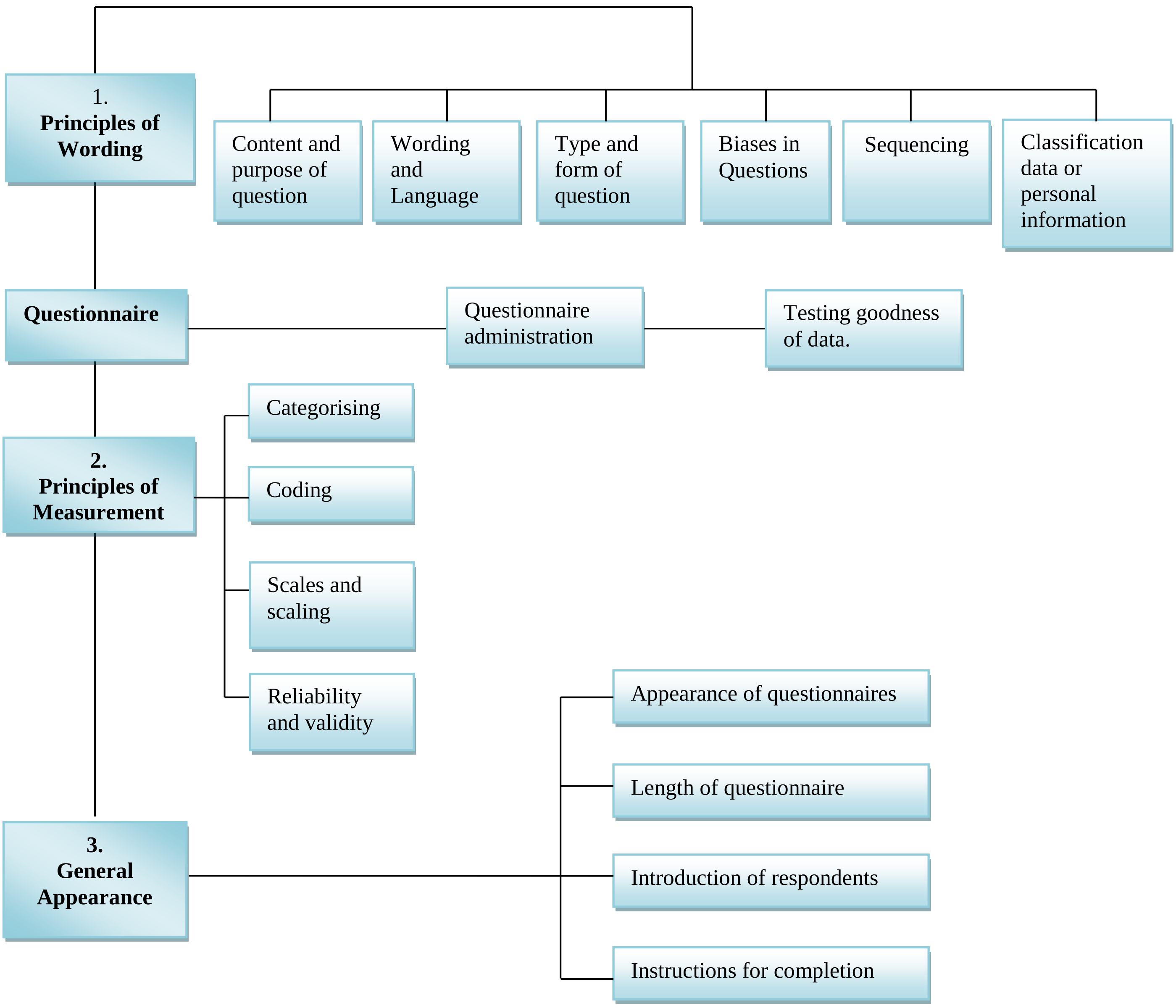
4.7.3.1 Designing the questionnaire

(Cavana, et al., 2001:227) outlines that the focus should be on the following three principles, when a questionnaire is designed:

- Wording of the questions;
- Planning the questionnaire to ensure that variables are categorised, scaled and coded after receipt of the responses;
- General layout and appearance of the questionnaire.

These factors are critically important in a questionnaire design because they can eliminate biases in research. These factors are illustrated in figure 4.3 below.

Figure 4.3: Principles of questionnaire design



Source: Cavana, et al. (2001:227)

Collis and Hussey (2009:191) describes a questionnaire as method for collecting primary data in which a sample of respondents are asked a list of carefully structured questions chosen after considerable testing, with a view to eliciting reliable responses.

Sekaran and Bougie (2009:197) states that a questionnaire is a pre-formulated written set of questions which serves as an efficient data collection mechanism when the researcher knows exactly what is required and how to measure the variables of interest. Hair, et al. (2011:198) notes that a questionnaire is a scientifically developed instrument for the measurement of the phenomena being researched, ensuring accuracy of data. Hair, et al. (2011:198) further notes that a questionnaire consists of open-ended questions that allow respondents to answer them in the way they choose and close ended questions that asks respondents to make a choice of a set of alternatives given by the researcher.

A questionnaire was adopted as a data collection instrument for the quantitative study. Careful consideration was given to the question content, wording, sequence and instructions to the respondent to attain meaningful results. The questionnaire was designed so that the research objectives are addressed and the relevant data systematically collected analyzed for each objective. The questionnaire was designed to ensure that it was simple, user friendly and concise for the respondent to understand.

Cooper and Schindler (2008:353) outlined that by arranging the questions logically; the researcher enhances the standard of the responses, assists the respondent and induces a harmonious flow of thought in the questionnaire. The design of survey questions is influenced by the need to relate each question to the others in the survey. Cooper and Schindler (2008:353) further highlight that the funnel approach is the technique of moving from general to more specific questions. The questionnaire in this study followed the funnel approach beginning with general questions and then moving on to objective specific questions.

In this research study, the questionnaire (Appendix 3) was divided into two sections. The first section covered general information of the respondents and the organisation. The second section focused on the objectives of the study, to determine the respondent's view of the global competitiveness in the light vehicle component industry of South Africa.

The questionnaire consisted of 6 sections. Section A consisted of general questions. The data obtained in this section allowed the researcher to categorise companies for analysis purposes.
Sections B-F consisted of questions focusing on the 5 research objective. Questions were grouped into categories to make answering easier and to get the desired impact.

The questionnaire was based on closed ended questions, which were designed on a numerical ranking scale. All questions were closed ended, allowing the respondent to choose one option only. The respondents answered the questions by placing a tick in the checkbox on each question, which made the data easily identifiable.

Each questionnaire administered was accompanied by a covering letter, which outlined the aim and objectives of the study and provided a brief explanation of the purpose of the research and the potential benefit to the component manufacturers and the automotive component industry in general. An assurance of confidentiality in respect of company specific information requested was provided in writing. This was a cross-sectional study, as all the data were collected at a single point in time over an 8-12 week period.

4.7.3.2 Pre testing of the questionnaire

Hair, et al. (2011:267), asserts that no questionnaire should be administered before the researcher has evaluated the likely accuracy and consistency of the responses, by pre-testing the questionnaire using a small sample of respondents with characteristics similar to those of the target population. Cavana, et al. (2001:238) outlines that there are several types of pre-tests that can be carried out, among the most important are face validity, content validity and a pilot study.

Face validity addresses the concern whether the questionnaire appears to measure the concepts being investigated, of particular the wording of the items are clear and understandable. Content validity relates to the representatives of the questionnaire regarding the historical constructs to be measured. In a pilot study the questionnaire should be piloted with a reasonable sample of respondents who come from the target population or who closely resemble the target population (Cavana, et al., 2001:238).

For this study, the rationale for pretesting was to fine tune the questionnaire so that the respondents understood what was being asked and had no problem answering the questions.
The aim of pre-testing was to establish the time taken to complete the survey, the ability to understand the survey layout establish the level of interest in the study and to eliminate

difficulties when recording the data. An initial questionnaire was used to conduct a pre-test on 4 respondents (table 4.2) to fine tune the questionnaire and ensure that it was user friendly.

Table 4.2 List of respondents included in the pre-test of the questionnaire

Respondents Position	Company
General Manager	Hesto Harnesses
Director	Smiths Manufacturing
Director	Toyota Boshoku
Lecturer (Supervisor)	University of KwaZulu-Natal

As articulated in table 4.2, the feedback from the respondents was very positive in all aspects of the survey. Grammatical errors were highlighted, which was corrected.

4.7.4 Scaling

According to Sekaran and Bougie (2009:141), there are four basic types of measurement scales, namely, nominal, ordinary, interval and ratio. Cavana, et al. (2001:195) outlines that the degree of sophistication to which the scales are fine-tuned increase progressively as we move from the nominal to the ratio scale. Table 4.3 outlines the different types of measurement scales, the typical use and statistical outcomes.

Table 4.3: Types of measurement scales

Scale	Basic Empirical Operations	Typical Use	Typical Statistics	
			Descriptive	Inferential
Nominal	Determination of equality	Classification: Male / Female Purchaser / Non Purchaser	Percentages Modes	Chi-square Binomial Test
Ordinal (Likert)	Determination of greater or less	Rankings: Preference data Market position Attitude Measures	Median	Mann-Witney U Friedmann two-way ANOVA Rank order Correlation
Interval	Determination of equality of intervals	Index numbers Attitude measures Level of knowledge brands	Mean Range Standard Deviation	Product moment Correlation T-Test Factor analysis ANOVA
Ratio	Determination of ratios	Sales Units produced Number of customers Costs		Coefficient of variation

Source: Adapted from Sekaran and Bougie (2009:141) and Cavana, et al., (2001:195)

Nominal scale categorises subjects into certain groups, which can only be analysed using frequency distribution. It is the simplest type of scale (Hair, et al., 2011:326). Bryman and Bell (2007: 172) describe a Likert scale as a non-comparative scaling technique, which is unidimensional in nature while Dane (1990:272), asserts that Likert scale consists of items reflecting extreme positions on a continuum.. Bryman and Bell (2007:172) state that a 3-point or 5- point Likert scale allows respondents to answer questions from a neutral viewpoint. Interval scales have all the characteristics of both nominal and Likert scales, but differ as they provide additional information. Ratio scales are noted to be the most powerful scale because only in ratio measurement is there a fixed and absolute zero point (Cavana, et al., 2001:199).

In terms of this research study, a combination of scales was used in order to seek the required information needed for analysis purposes.

4.7.5 Reliability and validity of the research

Saunders, Lewis and Thorhill (2003:100) highlights that in order to condense the likelihood of not finding the correct answer to the research problem, it is important to focus on two key areas of research design, namely validity and reliability.

4.7.5.1 Validity

Validity is the extent to which a construct measure sufficiently reflects the true meaning of the concept it supposed to measure (Hair, et al., 2011:238). According to Saunders, et al. (2003:101) in terms of validity, the concern is whether the "findings are really about what they appear about". Vogt, et al. (2012: 322) defines validity as the extent to which differences in observed scale scores reflect true differences among objects on the characteristic being measured, rather than systematic or random errors.

Cavana, et al. (2001:212) highlights that there are many types of validity tests utilised to test the goodness of measures. They classify validity testing under four broad headings:

i. Face validity-It is considered as a basic and very minimal index of validity. It indicates that the items included in the questionnaire are comprehensible and understandable to the respondents;

ii. Content validity- Ensures that the measures include an adequate and representative set of items that draw on the concept;
iii. Criterion-related validity- This is determined when the measure differentiates individuals in terms of a criterion the measure is expected to predict;
iv. Construct validity- This authenticates how well the results achieved from the use of the measure fit the theories around which the test is designed.

Credibility is a critical factor in this research study with both face validity and content validity tests were used. The questions formulated in the questionnaire for this study, validated the intended measurement of each objective. The measure of this study was reliable because little variation in results was obtained and respondent's scores were being relative. The measuring instrument gave an acceptable measure of accuracy, which validates the soundness and effectiveness of the measuring instrument

4.7.5.2 Reliability

Cooper and Schindler (2008: 289) outlines that reliability refers to the extent to which a scale produces consistent results if repeated measurements are made on the characteristic (if the measure is not reliable, it cannot be valid). Dane (1990:257) confirms this and highlights that reliability is a necessary condition for quality measurement, but it alone is not sufficient. Reliability is only the extent to which the measure is consistent and before accepting any measure, it must be valid.

Reliability is another significant factor taken into consideration in the research project as the central aim of this study is to evaluate the influence of global competitiveness on the automotive component manufacturing industry in South Africa and its impact on the economic growth and sustainability of the industry.

The empirical study comprised of two phases. The first phase of the empirical research involved interviews with key industry stakeholders. The second phase of the empirical research dealt with the quantitative study. A questionnaire was drawn up encompassing the problems identified in the literature review, which was sent to the respondents being the automotive component manufacturers in South Africa.

Cavana, et al. (2001:210) notes that the reliability of the measure indicates the stability and consistency with which the instrument measures the concept and helps assess the 'goodness' of a measure.

To ensure reliability in the research, a recording device was used as a primary tool during the interviews. All completed questionnaires and email correspondence from respondents are kept on record as the researcher was personally responsible for the data collection.

4.7.6 Response rates

Saunders, et al. (2003:158) asserts that estimating the likely response rate from a sample to which the questionnaire is administered to is difficult, and one way of doing this is looking at response rates received from similar questionnaires that have already been undertaken. Response rates vary considerably when collecting primary data. However Cavana, et al. (2001:240) outlines that the method of administering the questionnaire will have a direct impact on the response rate and a response rate of 30% is considered reasonable for questionnaires that are emailed. For the purpose of this study the target population consists of 330 automotive component companies, 150 located in Gauteng, 100 in Eastern cape and 80 In KwaZulu Natal. The targeted sample size for this research was 186 automotive companies, with one respondent per company. Table 4.4 illustrates the response rate.

Table 4.4: Population sample responses

Desired Respondents from Gauteng	70	**Percentage responses**
Total number of incomplete questionnaires	23	33%
Total number of respondents that completed the questionnaire	47	67%
Desired Respondents from Eastern Cape	60	**Percentage responses**
Total number of incomplete questionnaires	16	26.7%
Total number of respondents that completed the questionnaire	44	73.3%
Desired Respondents from KwaZulu Natal	56	**Percentage responses**
Total number of incomplete questionnaires	11	19.6%
Total number of respondents that completed the questionnaire	45	80.4%

The desired number of respondents was 186, which equates to 60% of the population. This was the desired population, however only 136 respondents completed the questionnaire. This equated to 73.6% success rate and 26.4% of the respondents targeted failed to complete the survey.

4.7.7 Analysis of quantitative data

Quantitative data analysis is required to bring meaning to the data collected, so that the research question and objectives will be answered. Hair et al. (2011:317) outlines that data analysis in quantitative research involves the following steps:

- Review conceptual framework and proposed relationships;
- Prepare for data analysis;
- Determine if the research involves descriptive analysis or hypothesis testing;
- Conduct analysis and;
- Evaluate findings to assess whether they are meaningful

Leedy and Ormrod (2005: 136), outline that data looked at one way only yields an incomplete view and provides a small segment of its full meaning, therefore data analysis for this study used both descriptive and inferential frequency. Hair et al. (2011:295) warn that the analysis of quantitative data is a complex field of knowledge, as the numbers represent the values of variables, which measure the characteristics of subjects, respondents or other cases. This research will focus on various statistical analyses in the form of tabulations, and will be conducted by an appointed statistician.

The data for this study was recorded manually and the first step in the process was to capture the results into a database. The data was then subject to an error and code verification process to ensure that all codes that were captured were legitimate. To analyse the data, the Statistical Package for Social Sciences (SPSS) and the Excel computer programme was used to process the data in order to facilitate a discussion of the research results. The SPSS program will be used due to software being made available by University of KwaZulu-Natal, as it is highly recommended for the analysis of quantitative data.

Cavana, et al. (2001:403) describe inferential statistics as a method that permit inferences from a sample population and test whether descriptive results are likely to be due to random factors or to relationships. This study used inferential statistics to extract dependencies between the independent and dependent variables. Each independent variable was tested for correlation to the dependent variables.

Hair et al. (2011:317) defined descriptive statistics as those methods that involve collection, presentation and characterization of data in order to describe various feature of a set of data. Descriptive statistics was used for this study to summarize the data, which included frequencies, measures of central tendencies and measures of dispersion. Figures in the form of bar graphs and tables were used to present the data. Where relevant, the frequency tables and indexes was further analysed in order to determine a more detailed breakdown of the respondents. The breakdown characterised the responses of the automotive component manufacturers and the key industry stakeholders. Frequency tables and indexes was supported by a descriptive analysis of the processed responses captured from the empirical survey, the structured interviews and the literature study.

Sekaran and Bougie (2009:316) defines measurement of central location as a statistical measure which quantifies where the majority of the observations are concentrated hence enabling researchers to summarise and condense information to better understand it. Hair, et al. (2011:318) outlines that the measures of dispersion describe the tendency for responses to depart from the central tendency, hence calculating the dispersion of the data is another way of summarising the data. The measures of dispersion used in this study to describe the variability in the distribution of numbers included the range, variance, standard deviation and skewness.

The quantitative data analysis allowed for clear conclusions to be made on South Africa’s global competitiveness in the light motor vehicle component industry.

4.8 Second phase of empirical research

The first phase of the study consist of different steps, namely preparing the data collection, collecting the actual data, analysing the collected data and writing up the results. Qualitative data was collected from interviews with industry stakeholders and analysed.

4.8.1 Qualitative data collection (Interviews)

Collis and Hussey (2009:195) define interviews as a method for collecting primary data in which selected participants are asked questions to determine what they do, think or feel. Dane (1990: 128) defines an interview as, "a structured conversation used to complete a survey and the survey instrument provides the structure for the conversation and collecting data is the purpose".

Sekaran and Bougie (2009:186) outlines that interviewing is a useful data collection method, especially during the exploratory stages of research. Hair, et al. (2011:190) points out that interviews are helpful in gathering data when dealing with complex and sensitive issues and when open ended questions are used to collect data. Dane (1990:129), emphasised that a structured interview is the most effective means for ensuring responses based on an accurate understanding of the questions. Structured interviews are effective when particular members comprise of the sample, allowing the interviewer to ascertain the propriety of a potential respondent.

Hair, et al. (2011:190) further highlights that interviews can vary from being highly structured to highly unstructured. Unstructured interviews are generally conducted using a flexible approach and are associated with an interpretive paradigm. Collis and Hussey (2009:195) asserts that structured interviews, the interviewer uses an interview sequence with predetermined questions, which are likely to be closed ended questions of which has a set predetermined answers for each interview.

Dane (1990:129) further notes that in a focused interview, the interviewer poses a few predetermined questions but has considerably flexibility concerning follow up questions. The primary emphasis of a focused interview is gaining information about the subjective perceptions of respondents. The key advantage of the focused interviews is its flexibility, as it enables the interviewer to explore more fully the opinions and behaviours of the respondents, thus the total collection of responses should contain more and varied detail than would the data from a structured interview. However because not every respondent will be asked the exactly the same question, it is more difficult to interpret differences obtained when responses are compared.

Collis and Hussey (2009:195) comments that in structured interviews, it is easy to compare the response as each participant are asked that same questions. However in unstructured interviews, the issues discussed, the questions raised and the matters explored change from one interview to the next as different aspects of the topic are revealed.

For the purposes of this research, an interview guide containing details of the topics to be addressed with interviewees was developed for the qualitative data collection. The interview questionnaire guide was used to check that all relevant subjects pertaining to the objectives of the study are addressed during the interview.

The main aim of the interview was to extract qualitative data from the four key industry stakeholders in the automotive component sector in order to establish the automotive component manufacturer's global competitiveness and determine the factors that influence their competitiveness. Initial telephonic contact was made with the secretaries of the organisation in order to elicit assistance to conduct the study and set the date and time for the interview. All four industry stakeholders accepted to participate in the interview, on receipt of the emailed interview guide. The interviews were conducted in Durban and Pretoria in October and November 2013. The interview schedule (table 4.5) shows the following respondents who participated in the interviews.

Table 4.5: Interview Schedule

Organisation	Respondent	Position	Date	Time
NAACAM	Robert Houdet	Executive Director	15.10.13	15h30
AIDC	Mr Barlow Manilal	CEO	15.10.13	18h00
AIEC	Mr Norman Lamprecht	Executive Manager	15.10.13	13h00
SAABC (BandM Analyst)	Dr Justin Barnes	Chairman of BandM Analyst	4.11.13	8h00

4.8.2 Analysis of qualitative data

Cavana, et al. (2001:169) defines qualitative data analysis as basically a non-mathematical procedure that analyses the meaning of people's words and behaviour. According to Hair, et al. (2011:291) the objective of qualitative data analysis is to identify, examine, compare and interpret patterns and themes. Sekaran and Bougie (2009:370) outline that analysis of qualitative data is aimed at making valid inferences from the often overwhelming amount of data collected. They further note that there are generally three steps in qualitative data analysis:

- Data reduction: is a process of selecting, coding and transforming the data to make it more manageable and understandable;
- Data display: is the presentation of the data in forms of a matrix, graphs or charts illustrating patterns in the data;
- Drawing of conclusions: the displayed data assists in drawing conclusions based on patterns in the reduced set of data.

As the analysis is not a step-by-step linear process, the coding will assist the researcher simultaneously to develop ideas on how the data may be displayed and to draw preliminary conclusions.

Cavana, et al. (2001:171) outlines that the overall rationale of analysing data is to comprehend the phenomenon being studied by identifying the themes and subthemes in the raw data which will present an understanding of the phenomenon being investigated. This process of uncovering these themes and subthemes is called content analysis. Content analysis allows the themes to materialize from the raw data, and this describes the key focus of the qualitative analyst.

There are several computer packages designed to support qualitative data analysis, with the most popular being the NVIVO Program. The program allows the researcher to manage the diversity of data, record decisions and create new records. Cavana, et al. (2001:176) highlights that there are three systems in NVIVO for managing data, namely:

- the document system, which accepts plain or rich text records
- the node system, which is the container for themes or categories and coding.
- the attributes, which allows the researcher to assign values to the nodes and documents.

In this study the qualitative research was conducted by means of personal interviews with four key industry stakeholders. The main aim of the interviews was to extract qualitative data from the interviewees in order to determine global competitiveness in the light motor vehicle component industry of South Africa.

In this study the interviews were voice recorded, to ensure reliability of data, which was later transcribed. Once the data was transcribed, the data was read through carefully and classified into meaningful categories. The data was categorised, identifying themes or patterns into coherent categories that summarise and bring meaning to the text obtained. This was done using a process known as Thematic Content Analysis (TCA). According to Vogt, Gardner and Haeffele (2012:24) TCA is a method for identifying, analysing and reporting themes within the data. They further highlight that TCA captures themes about the data in relation to the research question and represent some level of patterned response within the data. In this research the process was data driven with data collected specifically for the research via interviews.

It was found that certain problems identified by the respondents compelled the researcher to engage further with the interviewees in informal discussions to attain a better understanding of the phenomena being outlined. Further engagements and informal discussion ensured that the data collected were both reliable and valid. The data collected was analysed using NVIVO software package.

4.9 Summary

A combination of a quantitative approach using the survey method and a qualitative approach through structured interviews, were deemed the most appropriate research strategies for the research study. Questionnaire and interviews were the main methods of data collection. The research design decisions outlined a guide that the researcher followed in effectively addressing the research problem.

This concludes the research methodology chapter. Table 4.6 summarises the main research design decisions. The subsequent chapters deal with the analysis of the data and the presentation of the findings.

Table 4.6: Summary of the main research design decisions

Research Problem

Establish an in-depth understanding of the extent of South Africa's global competitiveness in the automotive component manufacturing industry and to identify the factors that influence South Arica's global competitiveness.

Unit of Analysis

- Automotive component manufacturers in South Africa
- NAACAM
- AIDC
- AIEC
- SAABC (B and M Analyst

Research Methodology

- Research approach: both quantitative and qualitative
- Process Logic: inductive and deductive
- Quantitative research method: survey
- Qualitative research method: Structured interviews
- Sources of data: Benchmarking data, Industry Association reports, research reports, journal articles, conferences and publications.
- Primary data collection: surveys followed by interviews
- Data analysis: categorising, unitising and statistical techniques

Research goal

- Explanatory and descriptive

Research Strategy

- Contextualised in the unit of analysis only

Source: Research own design derived from Van Biljon (1998: 59)

CHAPTER FIVE

Quantitative research presentation of results, analysis and discussion

5.1 Introduction

This chapter reports, analyses and debates the empirical findings of the primary data collected. The source of the data was gathered through the use of a questionnaire, which was administered over a 8-12 week period with 136 responses received from three provinces, namely, KwaZulu Natal, the Cape, and Gauteng. A primary analysis was conducted using SPSS 22 to produce both descriptive and inferential statistics to answer the research questions, and achieve research objectives.

The results of the findings were presented in graphs and table form, and have been separated into sections in order to achieve the objectives of the study. The questionnaire consisted of 6 sections, were section A consisted of general questions, that allowed the researcher to categorise companies for analysis purposes. Sections B-F focused on the 5 research objectives, which were grouped into categories to make answering easier hence achieve the desired output. Descriptive statistics in form of frequency, percentage, mode and cross tabulation tables were computed to compare the variables in the objectives.

Where data existed at a nominal and ordinal level of measurement, it had implications for choice of tests run. A brief synopsis of the statistical tests that were run with the motivation for the results are presented. Thereafter a review of the research instrument and the sample will be made, commenting on the reliability, validity, representivity and generalizability of the sample and the research instrument. Following this, primary findings relating directly to answering each of the research questions will be presented.

5.1.1 Normality

As per Appendix 1, both the Kolmogorov-Smirnov and Shapiro-Wilk are significant for most data. This means that those particular responses were not normally distributed.

This violation of the assumption underlying parametric tests (that of normality) prompted the use of non-parametric tests, rather than their parametric counterpart. As such, the Kruskal-Wallis K-sample, Mann-Whitney U-Test, the Spearman's Rho Ranked Correlations, and the Fisher's exact Chi-Square tests was used. Those instances where the assumption underlying Chi-Square, where there needs to be a count of more than 5 in more than 80% of the cells was violated, Fishers exact test was used.

In instances where interval and ratio level data was presented, and the tests for homogeneity of variance, and normality were met, Oneway Analysis of Variance (ANOVA), with Post Hoc tests were conducted to show whether or not the mean of the various groups were significantly different from one another. Boferroni was used due to its high flexibility, and simplicity. Sekaran and Bougie (2009: 266), noted the need for appropriate testing to ensure that the sample subjects are not chosen from extremes, but are truly the representative of the properties of the population. Therefore the more representative of the population the sample is, the more generalizable are the findings of the research.

5.2. Research instrument

5.2.1 Response rate

The NAACAM data base was used to determine the sample frame from the 3 provinces that the study was focused on. As indicated in chapter 4, this data base was selected based on Barnes (2001:56), where he outlined that the largest and most important ACMs in South Africa are members of NAACAM.

Sekaran and Bougie (2009: 287) outlines that the sample should reflect the population parameters within a narrow margin of error. A total of 186 questionnaires were administered automotive component manufacturers in 3 provinces in South Africa and 136 were completed and returned. Table 5.1 illustrates the response rate.

Table 5.1: Response rate from questionnaire administered

Total population	N = 330
Sample available for research	n = 186
Total responses	136
Non-Response Bias	50
Usable responses	136
Unusable responses	0
Usable response rate	73.1%

Vogt, Gardner and Haeffele (2012:322), indicates that a minimum threshold for a satisfactory reliability measure is 0.70. The response rate for this research is 73.1%, which has exceeded the reliability of most common used instruments. Welman, Kruger, and Mitchel, (2005:154), noted that a reliability measure of 0.70 and more is sufficient for meaningful statistical analysis and acceptable interpretation.

5.2.2 Reliability

Volt, et al. (2012:322), outlines that reliability established through internal consistency, which is measure based on correlation between different items on the same tests, can be measured using Cronbach's Alpha ranges between 0.0-1.0. The minimum threshold for satisfactory reliability measure is 0.70. Sekaran and Bougie (2009:325) outlines that Cronbach's Alpha is an adequate test for internal consistency, reliability and reliabilities less than 0.60 are considered to be poor, those in the 0.70 range, acceptable and those over 0.80 good. Cronbach's Alpha was used to gauge the reliability of each section relating to a research question. Table 5.2 indicates the reliability measures for each section. *Refer to Appendix 2.*

Table 5.2: Reliability measures for each section of the questionnaire

Section	Cronbach's Alpha	No of items
Section B – Factors that influence the global competitiveness of South Africa's automotive component industry	0.759	26
Section C - South Africa's global competitiveness in the automotive component industry	0.705	29
Section D - Impact global competitiveness has on the economic sustainability and growth of the automotive component industry in SA	0.881	24
Section E - The role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market	0.913	23
Section F - Government's interventions in stimulating industry competitiveness by changes in policy and the impact of such changes on the competitiveness of the automotive industry	0.854	21

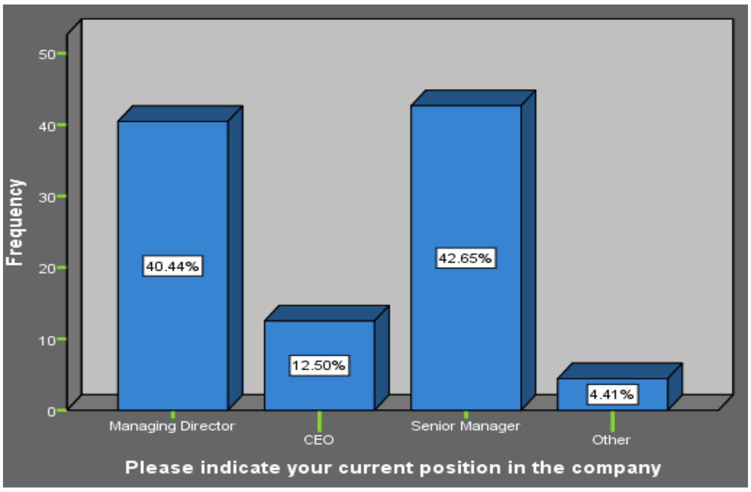
Table 5.2 indicates that, the 5 dimensions of the scale measure each dimension reliably. This means that the instrument consistently measured want it intended to measure and the way each question was answered by the respondents were consistent. As per Appendix 2 the statistics of the quantitative study indicate reliability. Therefore all sections of the scale are reliable.

5.3 Sample Statistics

5.3.1 Sample Characteristics

The sample consisted of 136 respondents from Gauteng (47), Cape Province (44) and KwaZulu Natal (45).

Figure 5.1: Position held within the company



The data in figure 5.1 shows that in terms of the current position held within the company, 40.4% of respondents are Managing Directors, 12.5% are CEO's, 42.6% are Senior managers, and 4.4% are other. Figure 5.1 indicates that the bulk of the sample were managing Directors and Senior Managers. The target population for this study was aimed at executives within the automotive component industry in South Africa. Executives imply CEO's, Managing Directors and Senior Managers. As such the questionnaire was targeted towards this end. The outcome indicates that the sample is representative of the target population, implying that the sample has been correctly identified, and can be considered representative of the target population. This means that findings will be generalizable to all executives within the automotive industry in SA.

Figure 5.2: Location of automotive component manufacturers

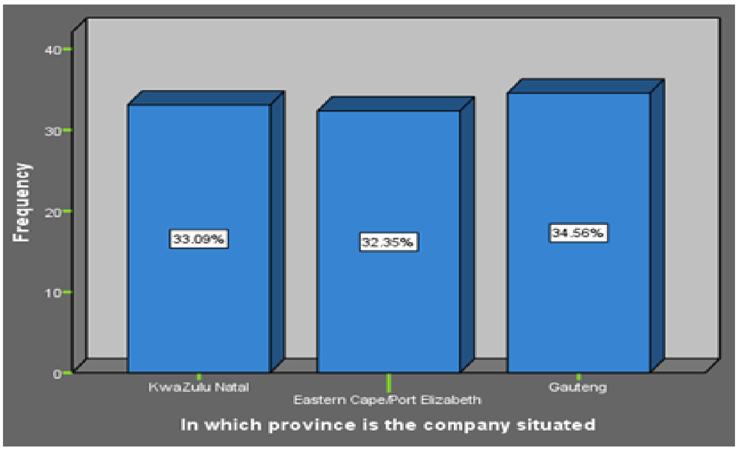


Figure 5.2 indicates that 33.1% of respondent's are situated in KwaZulu Natal, 32.4% in Eastern Cape/Port Elizabeth, and 34.6% Gauteng. NAACAM (2012: Internet) noted that the automotive component manufacturing industry in South Africa has evolved and expanded to 360 component manufacturers, with 180 considered as key suppliers to the local OEM's, with a geographical spread such that they are clustered in close proximity to the vehicle manufacturers.

Figure 5.3: Year of establishment of automotive component manufacturers

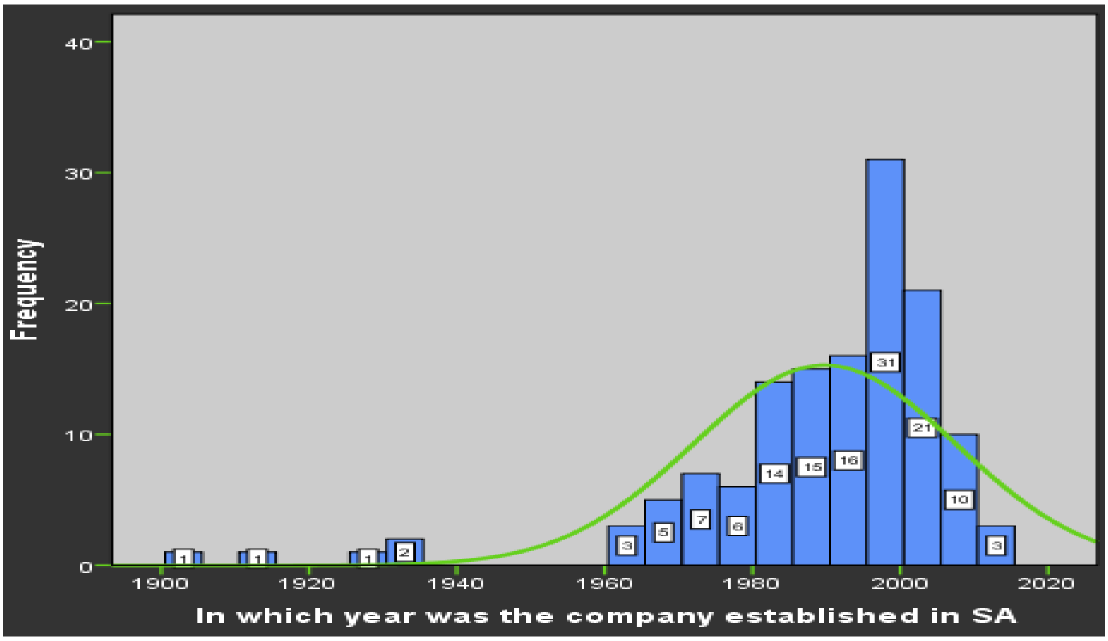


Figure 5.3 shows that the earliest company was established in 1903, and the youngest company being established in 2011. This indicates that the mean year of establishment of the companies is 1989. The introduction of the MIDP in 1995, resulted in a major transformation in the automotive component industry The transformation was supported by substantial growth in export and an inflow of foreign direct investment and new technology, together with improvements in productivity and economies of scale (Black 2009:503). Therefore the peak indicated in figure 5.3 between 1995 and 2000 is the rapid growth of the automotive component industry as a result of the implementation of the MIDP.

Figure 5.4: Employment levels in the automotive component Industry

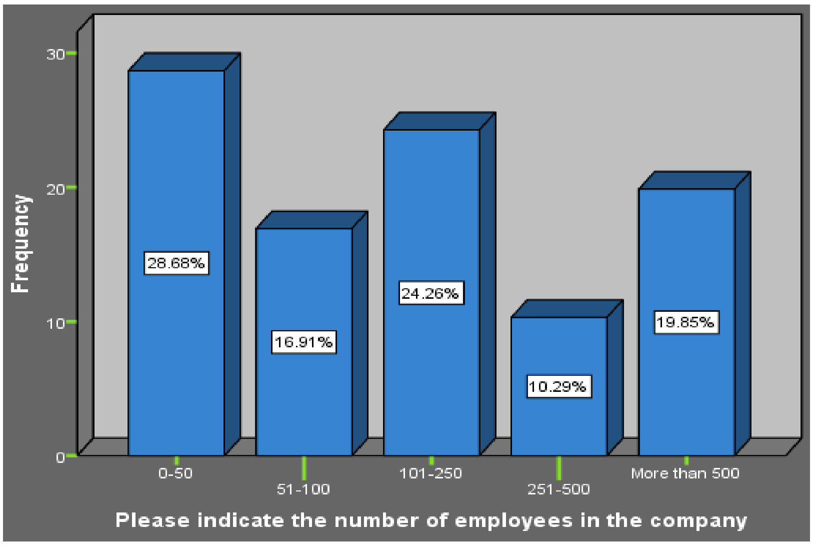
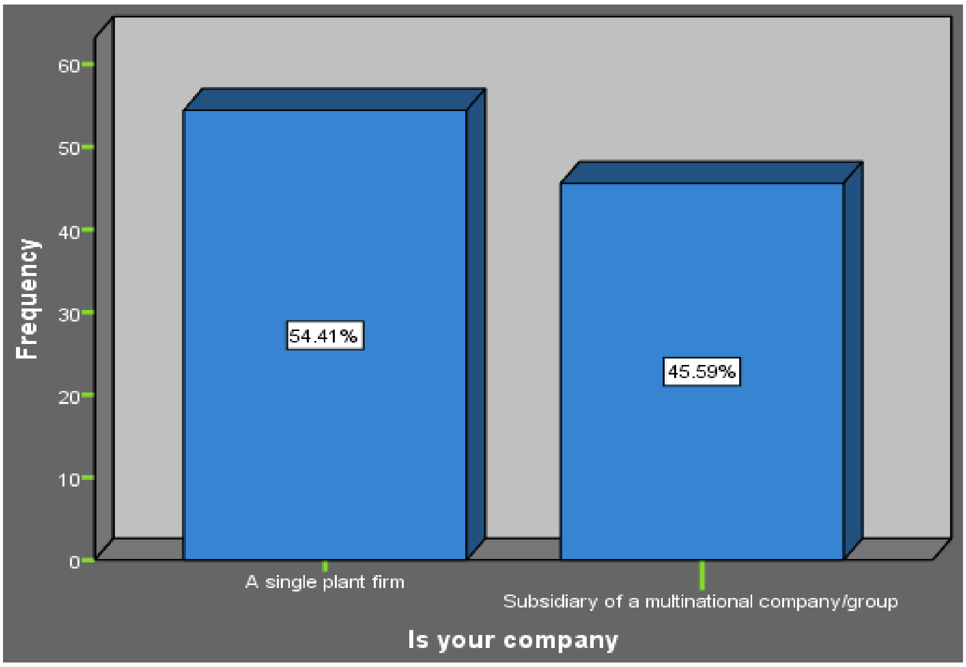


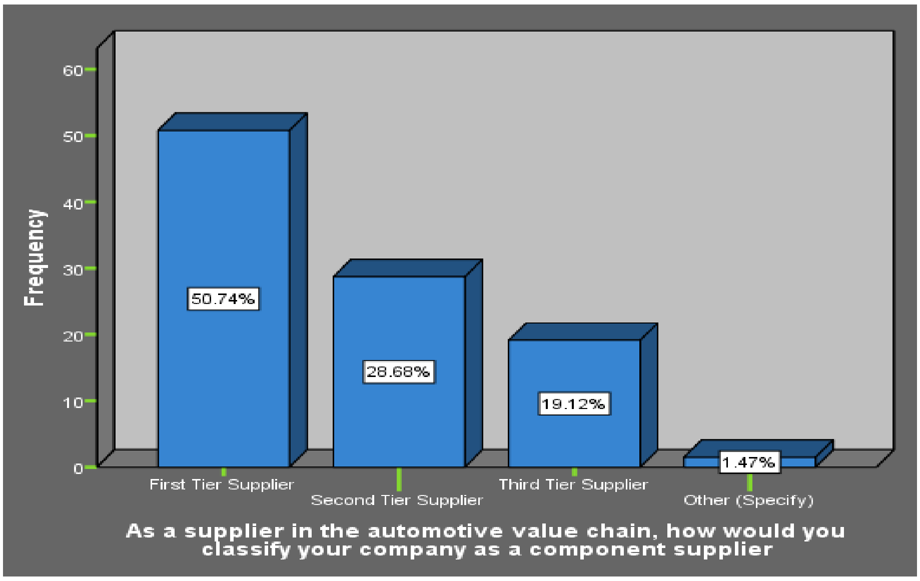
Figure 5.4 shows that 28.7% of respondents have between 0-50 employees in their company, 16.9% have between 51-100, 24.3% have between 101-250, 10.3% have between 251-500, and 19.9% have over 500 employees. The data indicates that the smaller companies have a higher employment rate that the bigger companies. The results of this finding supports the reports of AIEC (2013:96) that state the small to medium component manufacturers are considered more labour intensive than larger companies due to the high level of automation at the first tier suppliers, therefore the second and third tiers become the main drivers of employment.

Figure 5.5: Type of company



In Figure 5.5, a total of 54.4% of respondents indicated that their company is a single plant firm, while 45.6% of the companies indicated that they are part of a subsidiary of a multinational company/group.

Figure 5.6: Classification as a component supplier



The findings presented in figure 5.6 revealed that 50.7% of respondents classified their company as a first tier supplier, while 28.7% a second tier supplier, 19.1% a third tier supplier and 1.5% other. Implications can be drawn from the results that there must be strong competition in first tier level, as locally owned suppliers are able to get market access on the first tier level, which shows the growing ability to compete with internationally owned suppliers.

Figure 5.7: Types of ownership of component suppliers

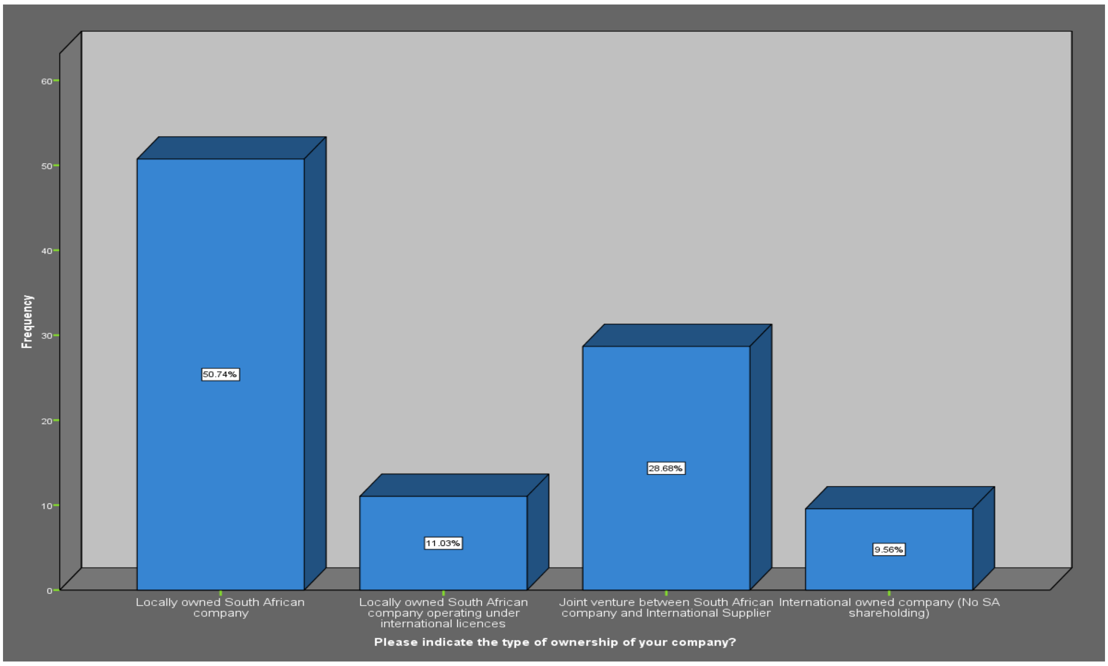
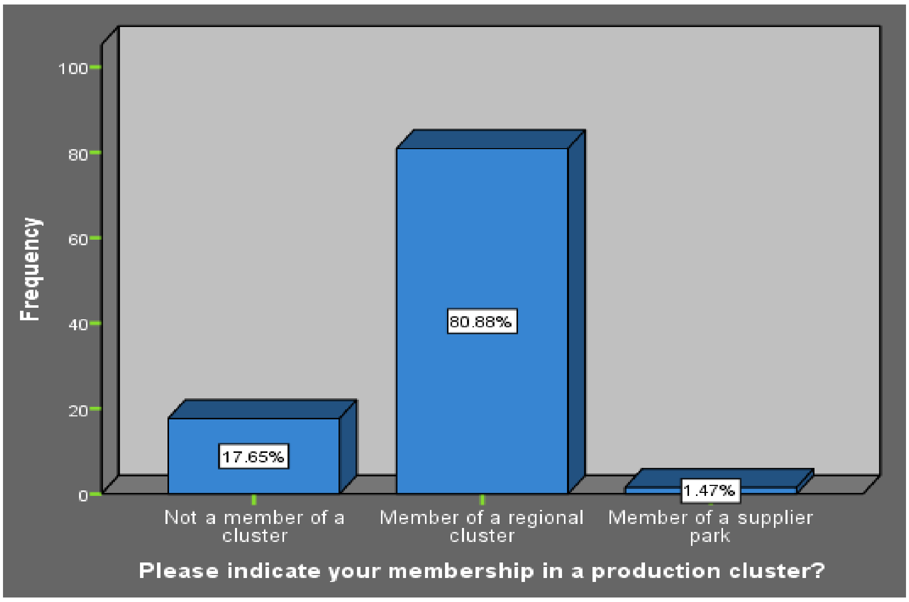


Figure 5.7 reflects that 50.7% of respondents indicate the type of ownership of their company is a locally owned South African company, 11% locally owned –South African company operating under international licences, 28.7% a joint venture between South African company and an International Supplier, and 9.6% an International owned company (No SA shareholding). The findings in figure 5.5 show that 54.4% of the respondents indicated that their companies is a single plant firm, which compliments the findings of figure 5.7 which indicates that 50.7% of respondents indicate the type of ownership of their company is a locally owned South African company.

The research by Barnes and Morris (2008:32) state that component suppliers originate in an international environment, either wholly owned international suppliers or joint ventures of locally owned international suppliers. According to the findings in figure 5.7 and figure 5.5, this trend has changed as the development of the component industry has resulted in local companies maturing into single plant firms growing their competitiveness in the automotive industry.

Figure 5.8: Membership to automotive production clusters



The findings presented in figure 5.8 indicate that 17.6% of respondents are not a member of a production cluster, while 80.9% indicated that they are members of a regional cluster, and 1.5% indicated that they are members of a supplier.

The results of this finding reinforces the fact that respondents in all tiers of supply view the importance of being part of an industry cluster. This findings supports the statements of Davies and Ellis, (2000:1190), that the heart to competitive advantage is sustained prosperity of companies operating within industry clusters or related industries. (Black 2009:494), affirms that national and regional clusters comprising of foreign and domestically owned companies improves the competitive advantage of the domestic industry by the networks within the global automotive value chain.

The intended target respondents were executives from automotive component sector, and the target population was realized. The companies targeted, were component manufacturers who were members of NAACAM. This was successfully achieved, as all tier of suppliers who are members of NAACAM participated in the research. Therefore the samples have been adequately chosen, such that the results are relevant, representative and therefore generalizable.

The subsequent sections will present the findings of the empirical research through graphical presentation and interpret the same. The presentation for the primary findings will be presented in relation to each research question.

5.4 Presentation of primary findings in relation to the research questions

5.4.1 Objective one: To identify factors that influences the global competitiveness of South Africa's automotive component industry

Section B of the questionnaire aimed to identify factors that influence the global competitiveness of the South Africa's automotive component industry, as such all items relating to answering this question will be presented followed by a brief summary of the findings.

Sutton (2005), outlines that the important mechanisms underlying globalisation is the transfer of advanced manufacturing capabilities to developing economies, at levels of productivity, cost competitiveness and quality.

Kaplinsky and Morris (2000) notes that the process of production and the tangible activities of transforming goods have become contracted in developing countries, while the implications of industrial activities are becoming globally isolated therefore ethereal functions like research and design and financial services have become contracted in developed countries.

Berger (2009) states that for the BRIC countries to develop its global competitiveness in the automotive industry, the approach is to ensure that technical compliance with global OEMs standards are achieved. Damoense and Simon (2004) emphasised that the South African automotive component industry sees its integration into the global value chain as direct exposure to global competition. Therefore substantial performance upgrades in the South African automotive industry is due to competitive forces, which limits the opportunities for increases in value addition and output.

5.4.1.1 Supplier development support received from OEMs

Figure 5.9: Supplier development support received from OEMs

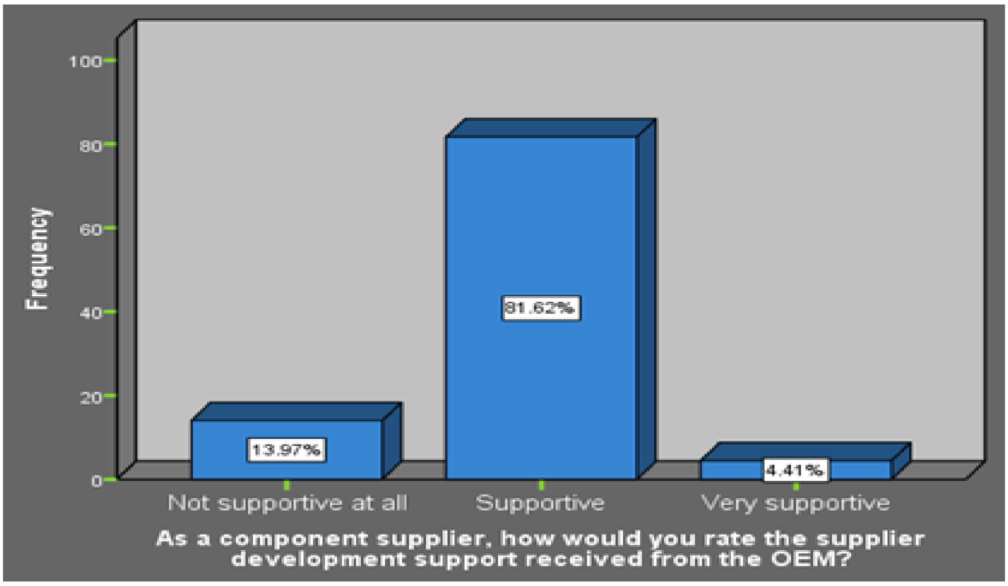


Figure 5.9 reflects that overall 81.6% of the responses indicated that the supplier development support received from OEMs are supportive. Of the 81.6% respondents, 52% were first tier suppliers, while 33.5% were second tier suppliers and 13.5% were third tier suppliers.

The results further indicate that 13.9% responses rates supplier development programs as not supportive at all. Of the 13.9% respondents, 26.3% were first tier suppliers, 10.5% second tier supplier and 57.9% were third tier suppliers. The 4.4% responses that indicated very supportive, was only from the first tier suppliers. These results indicate that that most respondents reported the support received from OEMs as being supportive

Figure 5.10: Level of support received from OEMs vs tiers of supply

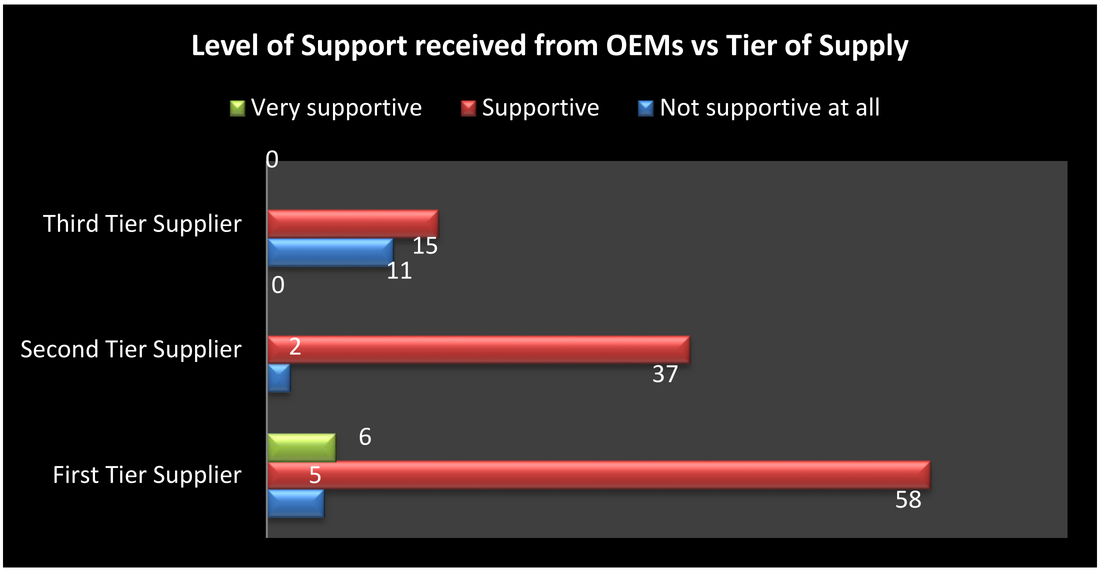


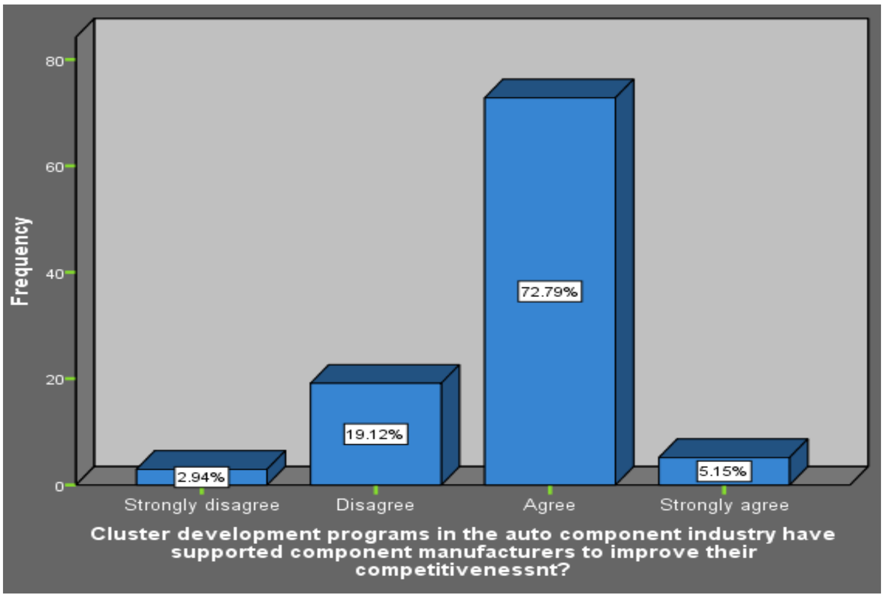
Figure 5.10 indicates the cross tabulation between the level of support received from the OEMs versus the tiers of supply. There was a significant difference in the classification of the company as a component supplier and how they rate the supplier development support received. This relationship was further explored using Kruskal-Wallis, which indicated a significant difference between the two variables. Mann-Whitney revealed that the difference lay between the first and third tier suppliers and between the second and third tier suppliers. The differences between the two variables indicate that the there is an increase in very supportive as it tends towards first tier suppliers and an associated increase in not supportive at all when it tends towards third tier suppliers.

The findings support Mutsiya, et al. (2006) who emphasises the importance of supplier development programs, as these programs are required to maintain a capable and high performance base with collaborative inter organisational communication. Supplier development programs is a key supporting factor in transforming an organisation’s efforts to develop improvements in its suppler performance, hence retain and grow its competitiveness in the industry.

Humphrey and Memedovic, (2003:20) arguments are supported by the findings that the impact of supplier development on the capabilities and competencies leads to increase competitiveness of local suppliers in the global value chain.

5.4.1.2 Cluster development programs support to improve the component industry competitiveness

Figure 5.11: Cluster development programs support to improve the component industry competitiveness



According to figure 5.11 the overall of 72.8% of the respondents indicated that cluster development programs in the auto component industry have supported component manufacturers to improve their competitiveness. Of the 72.8% respondents, 86.9% are members of a regional cluster and 12.1% are not members of a cluster, of which 50.5% are first tier supplier, 34.3% are second tier suppliers and 14.1% are third tier suppliers.

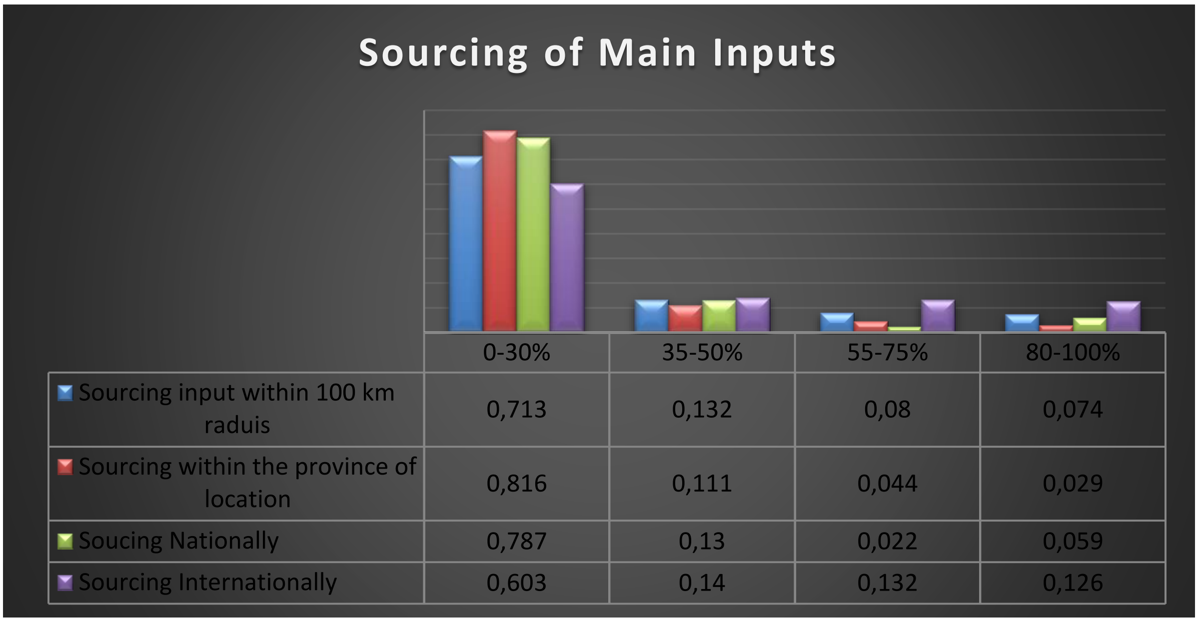
Figure 5.11 further outlines that 19.12% of the respondents disagree that cluster development programs in the auto component industry have supported component manufacturers to improve their competitiveness. Of the 19.12% respondents, 53.8% are from Eastern Cape, 26.9% from Gauteng and 19.2% from KZN, of which 42.3% are first tier supplier, 15.3% are second tier suppliers and 38.4% are third tier supplier.

There is a significant difference in classification as a component supplier, the province of location of the component supplier and cluster development programs in the auto component industry having supported component manufacturers to improve their competitiveness. It is evident from the analysis that first tier suppliers are more likely to agree with the statement than other tier suppliers.

These findings agrees with the research by BCG (2010:20) who states that BRIC countries like India distinguishes itself from its competitors by adapting the cluster approach, were skills and technical expertise is maintained within the industry cluster which creates a competitive advantage for the clusters operating environment. OEMs in India have used this competitive advantage for local sourcing as well as sourcing components for international use. It is clearly evident that cluster development programs have positively impacted on improving supplier competitiveness globally.

5.4.1.3 Component manufacturers source of input materials

Figure 5.12: Component manufacturer’s source of input materials



	0-30%	35-50%	55-75%	80-100%
Sourcing input within 100 km raduis	0,713	0,132	0,08	0,074
Sourcing within the province of location	0,816	0,111	0,044	0,029
Soucing Nationally	0,787	0,13	0,022	0,059
Sourcing Internationally	0,603	0,14	0,132	0,126

Figure 5.12 indicates that 71.3% of the respondents indicated that 0-30% of their inputs are sourced within 100km radius of their location, while 81.6% respondents indicated that 0-30% of their inputs are sourced within their province of location, 78.7% respondents indicated that 0-30% of their inputs are sourced nationally and 60.3% respondents indicated that 0-30% of their inputs are sourced internationally.

The findings further indicates that 13.2% of the respondents indicated that 35-50% of their inputs are sourced within 100km radius of their location, while 11.1% respondents indicated that 35-50% of their inputs are sourced within their province of location, 13% respondents indicated that 35-50% of their inputs are sourced nationally and 14% respondents indicated that 35-50% of their inputs are sourced internationally.

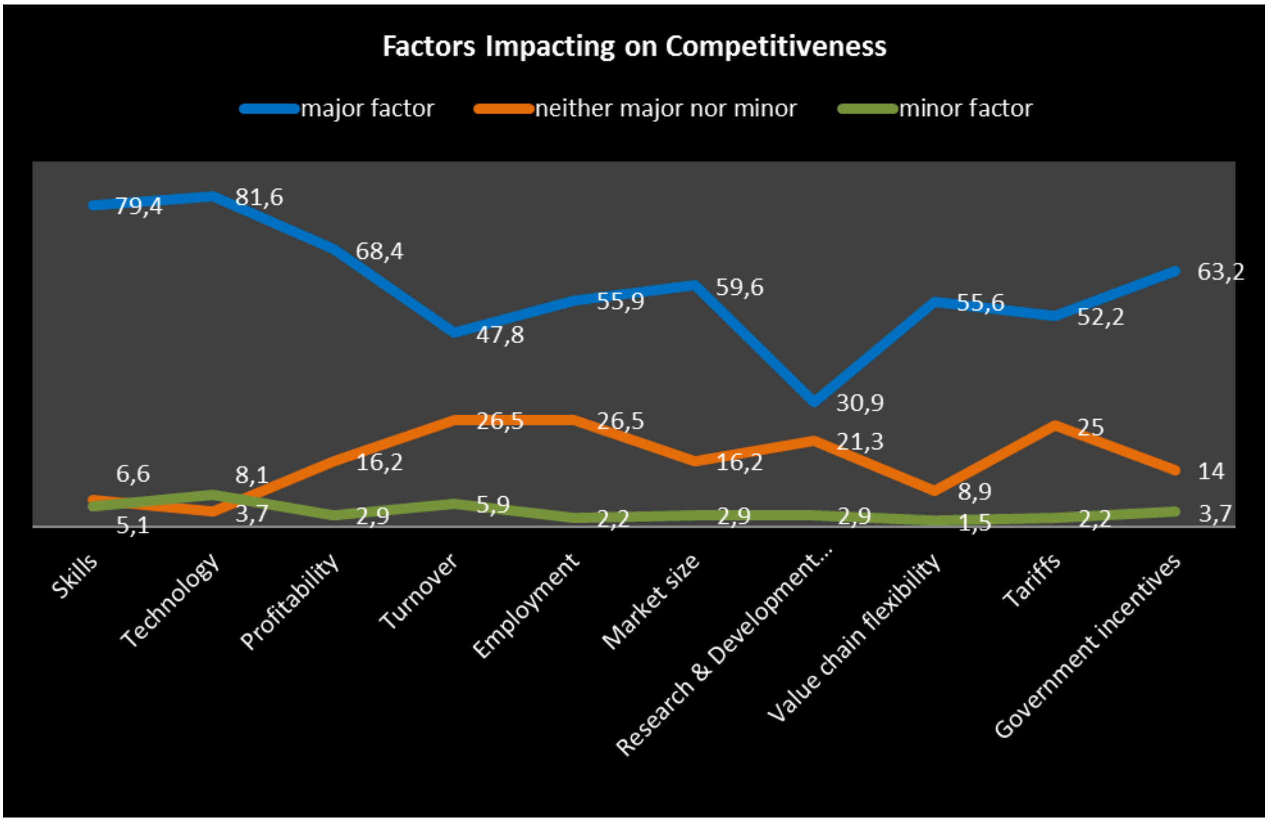
Figure 5.12 further outlines that 8% of the respondents indicated that 55-75% of their inputs are sourced within 100km radius of their location, while 4.4% respondents indicated that 55-75% of their inputs are sourced within their province of location, 2.2% respondents indicated that 55-75% of their inputs are sourced nationally and 13.2% respondents indicated that 55-75% of their inputs are sourced internationally

Figure 5.12 further indicates that 7.4% of the respondents indicated that 80-100% of their inputs are sourced within 100km radius of their location, while 2.9% respondents indicated that 80-100% of their inputs are sourced within their province of location, 5.9% respondents indicated that 80-100% of their inputs are sourced nationally and 12.6% respondents indicated that 80-100% of their inputs are sourced internationally.

The analysis of the findings clearly indicate that the highest number of inputs are imported into the country. According to AIEC (2013: 84) a large portion of the automotive imports to South Africa are comprised of original equipment components, which are then exported as completely built up units after significant value adding process. AIEC (2013:84) also highlights that the growth of cheaper products, mainly from China has aggravated the import trend in South Africa, which forms a significant part of the imports. Therefore the results of this finding is compliments the statistics of the Automotive Industry Export Council, that indicate a significant percentage of components are imported into South Africa.

5.4.1.4 Factors impacting on competitiveness

Figure 5.13: Factors impacting on competitiveness



The results of the findings presented in figure 5.13 indicate that the highest percentage of respondents indicated that technology (81.6%) is both a major and minor (8.1%) factor impacting on competitiveness. The results indicate that the major factors are skills (79.4%), profitability (68.4%), government incentives (63.2%), market size (59.6%), employment (55.9%), value chain flexibility (55.6%), Tariffs (52.2%), Turnover (47.8%), and Research and Development spend (30.9%).

The factor deemed a minor factor by the highest percentage of respondents is technology (8.1%). Of the 8.1% respondents that deemed technology as a minor factor, 8.6 % were first tier suppliers and 11.5% were third tier suppliers located in KZN and Eastern Cape who are locally owned South African companies.

The results of figure 5.13 further indicate that the factors turnover (26.5%), employment (26.5%), research and development (21.3%) and tariffs (25%) are neither major nor minor factors impacting on competitiveness. 8.9% of the companies based in KZN and 11.4% of the companies based in the Eastern Cape, who are first and third tier suppliers view these factors as neither major nor minor.

The results of the findings presented in figure 5.13 indicate that there is a significant, positive, correlation between tariffs and government incentives (r=0.427) being factors impacting on competitiveness and percentage of products being exported (r=0.402). The findings also indicate that there is a significant positive correlation between employment and tariffs (r=0.427) being factors impacting on competitiveness and describing the firm as being nationally competitive (r=0.466); and having developed skilled labour in accordance to international standards, to compete internationally.

There is a significant, negative, correlation between employment (r=-0.402) and SA being a cost competitive location for auto component manufacturing (r=-0.420), even without government incentives. There is a significant, negative, correlation between turnover, employment, and tariffs (r=-0.425) being factors impacting on competitiveness and SA being a cost competitive location for auto component manufacturing (r=-0.420), even without government incentives.

Table 5.3: Cross tabulation between lower labour productivity and higher cost of capital versus skills as a major factor impacting on competitiveness

Lower labour productivity and higher cost of capital (B6.2)	Skills as a major factor impacting on competitiveness (B4.1)					Total
	major factor	slightly major factor	neither major nor minor	slightly minor factor	minor factor	
Low impact	0	1	0	0	0	1
Medium impact	19	2	1	2	4	28
High impact	89	5	8	2	3	107
Total	108	8	9	4	7	136

The cross tabulation in table 5.3 clearly indicates the significance between lower labour productivity and higher cost of capital versus skills as a major factor impacting on competitiveness. This relationship was further explored using Kruskal-Wallis, which indicated a significant difference between the two variables.

The Cross tabulation between the two variables indicates that lower labour productivity and higher cost of capital has a high impact of competitiveness of the component industry and skills is a key factor impacting on competitiveness.

The results of the findings to the factors that impact on competitiveness, supports the statement by Davies and Ellis, (2000:1190–1193), who outlined that industries may differ from each other however the underlying drivers of profitability remain the same, therefore the strongest competitive forces determine the profitability of an industry. Most notably the factors impacting on competitiveness are induced by major global trends, which include new technology and innovation, profitability, skills, value chain flexibility and market size. These factors have important implications on the competitiveness of the automotive industry and significant impact on the development and future of the automotive value chain.

5.4.1.5 Influential aspects determining competitiveness of the automotive component industry

Figure 5.14: Influence of efficient development processes in determining competeveness of the Automotive Component Industry

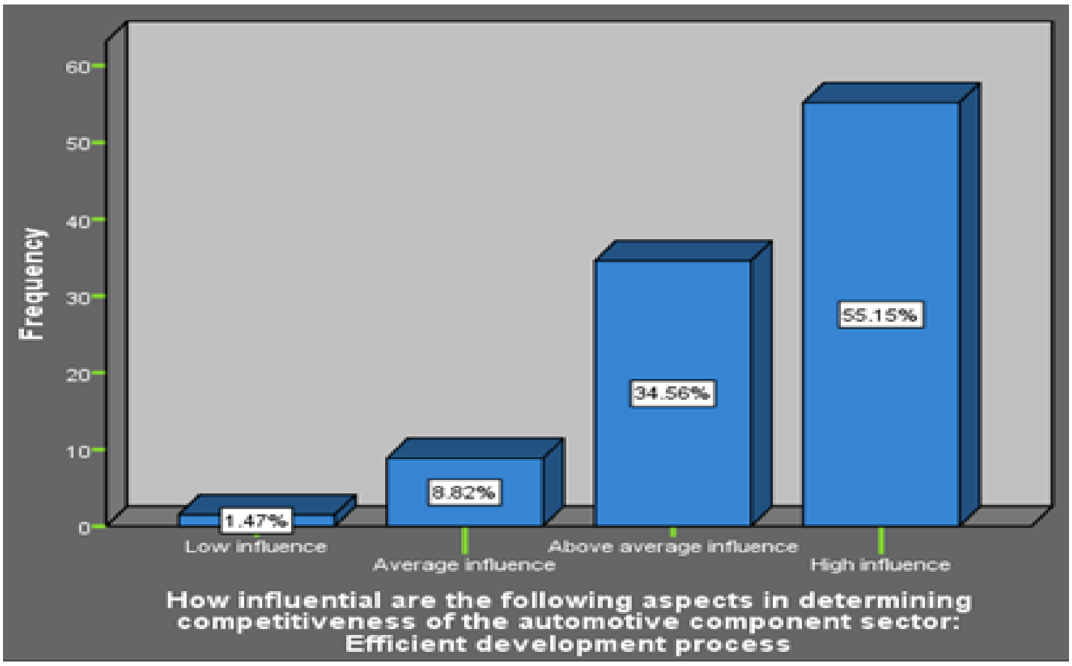
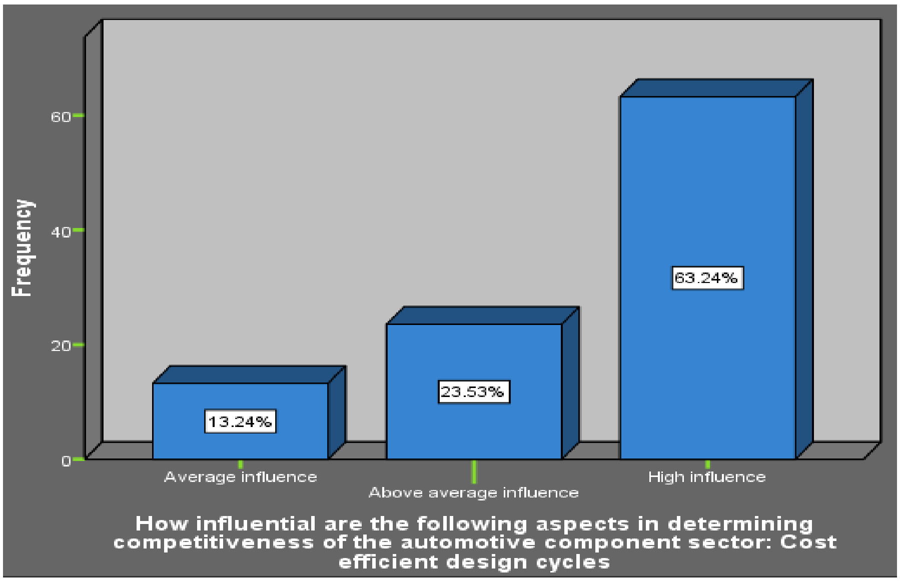


Figure 5.14 indicates that 55.2% of the respondents view efficient development process as having a high influence in determining competitiveness in the automotive component industry, while 34.6% respondents believe that efficient development process as having an above average influence, 8.8% respondents believe that efficient development process as having an average influence and 1.5% respondents believe that efficient development process as having low influence in the determining competitiveness in the automotive component sector. Of the 55.2% respondents that indicated an efficient development process as having a high influence in determining competitiveness, 86.6% were locally owned South African companies operating under international licenses, while 55.6% were locally owned South African companies, of which 59.4% of the responses were from tier one suppliers 61.5% were from two suppliers, with equal responses from all three provinces of location. The further 34.6% respondents who indicated that efficient development process as having an above average influence on competiveness, 36% were locally owned SA companies from tier one and two suppliers, with equal responses from all three provinces of location.

Figure 5.15: The Influence of cost efficient design cycles in determining competitiveness of the automotive component sector.



The findings presented in figure 5.1 indicate that 63.2% respondents view efficient design cycles as having a high influence on competitiveness. Of the 63.2% respondents, 69.5% are first tier supplier and 30.5% are second tier suppliers, who are locally owned South African companies and locally owned South African companies operating under international licences.

The findings further indicate that 23.5% of the respondents view efficient design cycles as having an above average influence on competitiveness and 13.2% view efficient design cycles as having average influence on competitiveness.

Table 5.4 outlines the cross tabulation between the province of location of the suppliers and the influence of cost designing cycles on determining competitiveness.

Table 5.4: Cross tabulation between the influence of cost design cycles on determining competitiveness versus province of location of the suppliers

Province of Location(A2)	Influence of cost efficient design cycles on determining competitiveness (B5.2)			Total
	Average influence	Above average influence	High influence	
KwaZulu Natal	4	11	30	45
Eastern Cape/Port Elizabeth	11	11	22	44
Gauteng	3	10	34	47
Total	18	32	86	136

The cross tabulation in table 5.4 indicates that there is a significant difference in the province within which the company is situated, and cost efficient design cycles determining competitiveness of the automotive component sector.

This relation was further explored using Mann-Whitney analysis, which revealed that the difference lies between Eastern Cape and Gauteng. 72% of companies in Gauteng indicated that cost efficient design cycles have a high influence on competitiveness, rather than an average influence, while 50% of companies in Eastern Cape indicated that cost efficient design cycles have a high influence on competitiveness, while the other 50% view cost efficient cycles as having an average influence on competitiveness.

Figure 5.16: The influence of supplier development programs in determining competitiveness of the automotive component sector

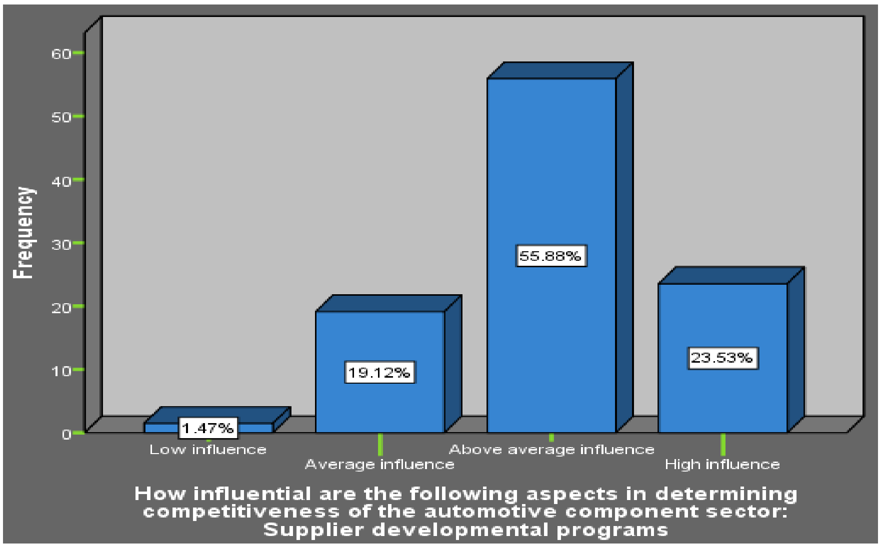
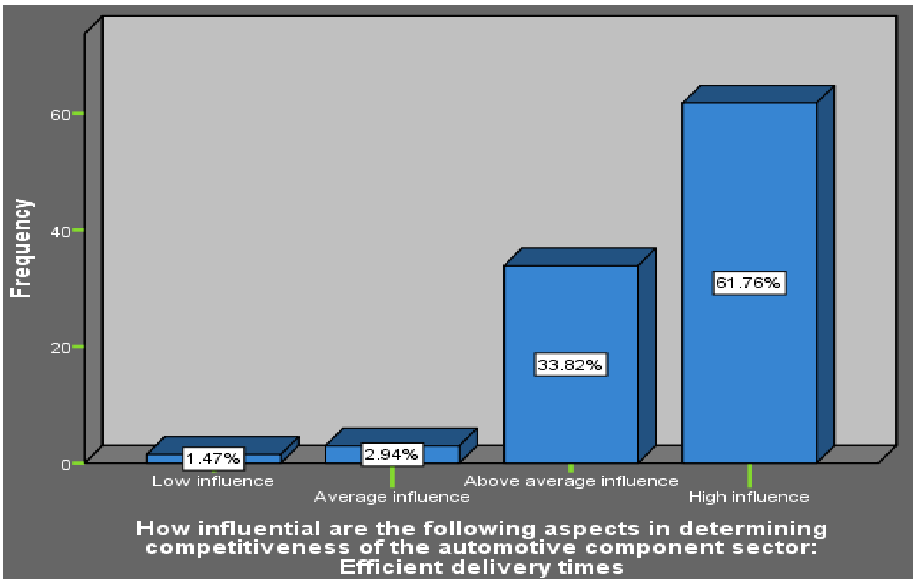


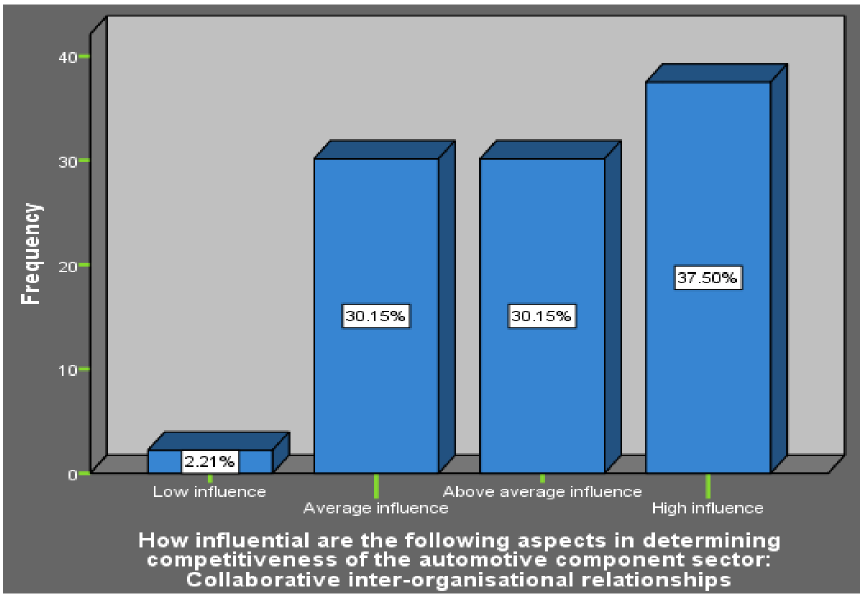
Figure 5.16 indicates that 1.5% of respondents rate the influence of supplier developmental programs on determining competitiveness of the automotive component sector as low influence, 19.1% of average influence, 55.9% of above average influence, and 23.5% as highly influential. First, second and third tier suppliers are of the similar view that supplier development programs are above average influence to high influence in determining competitiveness in the automotive component sector.

Figure 5.17: The influence of delivery times in determining competitiveness of the automotive component sector



In figure 5.17 a total of 61.8% respondents indicated that efficient delivery times has a high influence on determining competitiveness in the automotive industry, while 33.8% indicated that efficient delivery time will have an above average influence, 2.9% indicated average influence and 1.5% indicated low influence. From the findings it is clearly evident that first, second and third tier suppliers located in all three provinces are of the similar view that efficient delivery times have an above average influence to high influence on determining competitiveness in the automotive industry.

Figure 5.18: The influence of collaborative inter-organisational relationships determining competitiveness of the automotive component sector



It is clearly evident from the findings presented in figure 5.18 that 37.5% of the respondents indicated that collaborative inter organisational relationships has a high influence in determining competitiveness in the automotive component sector. The results further indicate that 30.1% respondents view collaborative inter organisational relationships as both average and above average influence to competiveness, while 2.2% view collaborative inter organisational relationship as having low influence on competitiveness. The results of the findings indicate that first, second and third tier suppliers , located in all three provinces view collaborative inter organisational relationships as having an average to high influence in determining competitiveness of the automotive component industry.

Table 5.5: Cross tabulation between the influences of collaborative inter organisational relationships on determining competitiveness versus position held in a company.

Position held in the company (A1)	Influence of collaborative inter organisational relationships on determining competitiveness (B5.5)				Total
	Low influence	Average influence	Above average influence	High influence	
Managing Director	2	24	12	17	55
CEO	0	1	6	10	17
Senior Manager	1	13	21	23	58
Other	0	3	2	1	6
Total	3	41	41	51	136

The cross tabulation in table 5.5 outlines that there is a significant difference between current position held in the company and collaborative inter-organisational relationships in determining competitiveness of the automotive component sector.

The Cross tabulation between the two variables indicates that there is a significant difference between Managing Directors, who view collaborative inter-organisational relationships as having an average influence in determining competitiveness of the automotive component sector, while senior managers view collaborative inter-organisational relationships as having an above average influence, to high influence on collaborative inter-organisational relationships in determining competitiveness of the automotive component sector. The cross tabulation indicates that the higher the position in the organisation, the lower the focus on collaborative inter organisational relationships exists.

The results of the findings clearly indicate that efficient development processes, cost efficient design cycles and efficient delivery times, has a high influence on determining the competiveness of the automotive component sector. These results supports the research by Ndamase and Steyn (2011), that countries that are pursuing export orientated industrial competitiveness need to achieve the value addition of more efficient development process, more cost effective design cycles and efficient delivery times.

The results of the findings outline that there is a significant correlation between how efficient development processes impact on the manufacturing competitiveness of the component industry and technological advancements contributing to the increase in competitiveness of SA auto component manufacturers. The findings agrees to Sirikrai and Tang, (2006:77) who states that competitiveness is affected thorough process efficiency improvements, customer – supplier collaboration and new process technology, which has a significant impact on growing the market share of the company.

5.4.1.6 Factors impacting on manufacturing competitiveness the automotive component industry

Figure 5.19: The impact labour productivity costs has on the manufacturing competitiveness of the components industry.

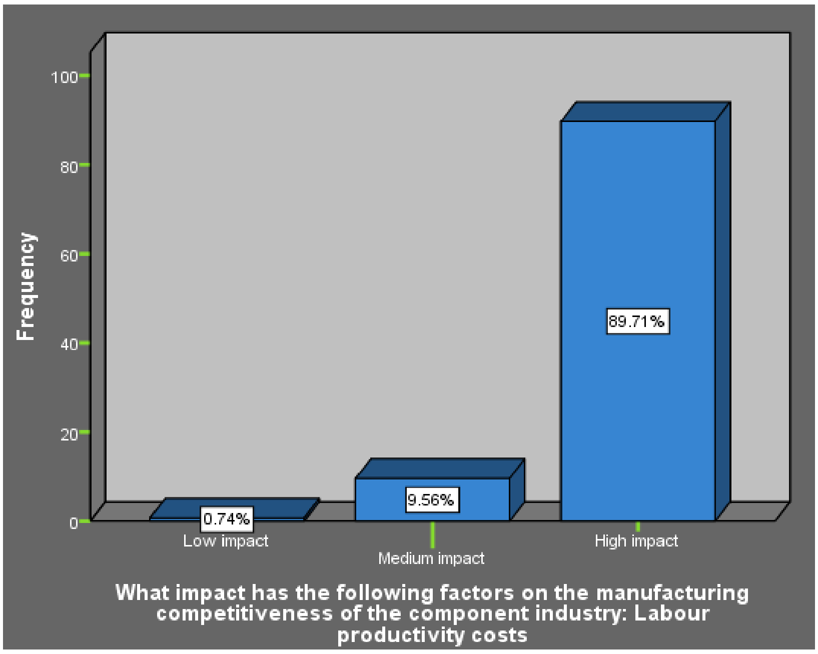


Figure 5.19 indicates that 89.7% of the respondents view labour productivity costs as having a high impact on manufacturing competitiveness of the automotive component industry. The results of this finding clearly indicates that of the 89.7% respondents who view labour productivity costs as a having a high impact on manufacturing competiveness, 84% are first tier suppliers, 97% are second tier supplier and 92% are third tier suppliers, who are locally owned South African companies located in all three provinces.

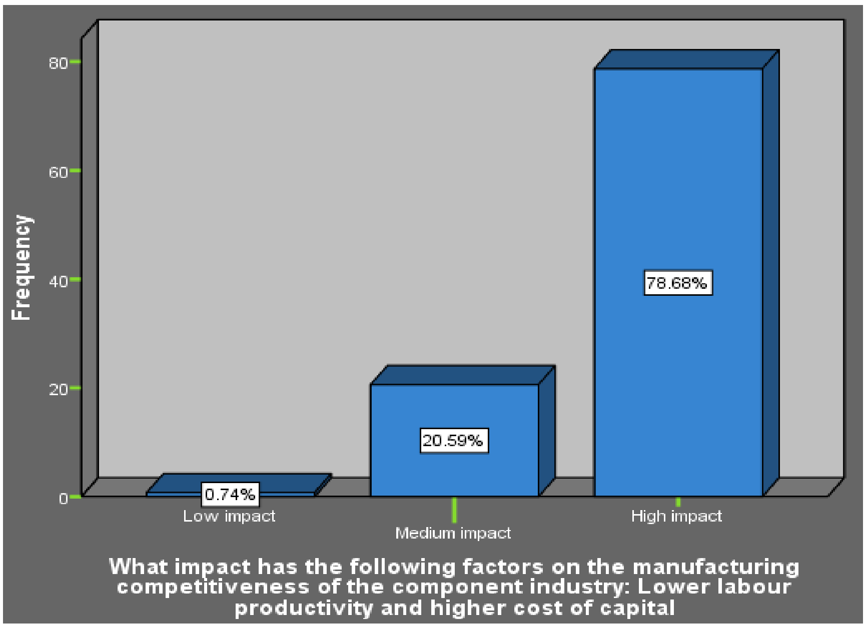
The results further indicate that 9.6% of respondents view labour productivity costs as having a medium impact and 0.7% as having a low impact.

Table 5.6: Cross tabulation between the influences of collaborative inter organisational relationships on determining competitiveness versus position held in a company

Labour productivity costs impacting on manufacturing competitiveness	Skills as a major factor impacting on competitiveness (B4.1)					Total
	major factor	slightly major factor	neither major nor minor	slightly minor factor	minor factor	
Low impact	0	0	0	0	1	1
Medium impact	10	3	0	0	0	13
High impact	98	5	9	4	6	122
Total	108	8	9	4	7	136

According to the cross tabulation there is significance between labour productivity costs impacting on manufacturing competitiveness and skills as a major factor impacting on competitiveness. The cross tabulation between the two variables indicate that skills is a major factor having a high impact of 90.7% on labour productivity costs impacting on manufacturing competitiveness of the automotive component industry.

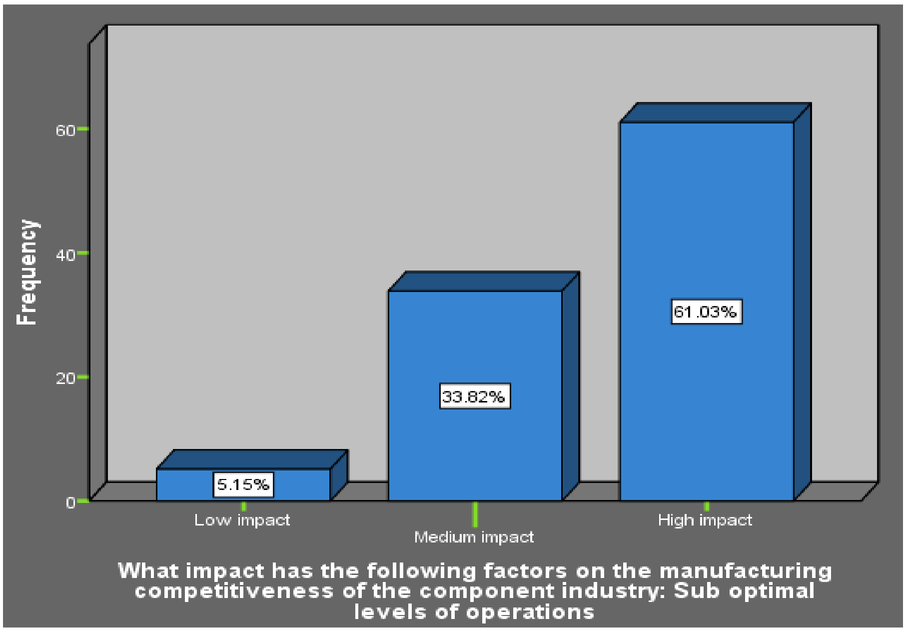
Figure 5.20: The impact lower labour productivity and higher cost of capital has on the manufacturing competitiveness of the components industry



It is clearly evident from the findings in figure 5.20 that 70.7% of the respondents view lower productivity and higher cost of capital as having a high impact on the manufacturing competitiveness of the component industry, while 20.59% respondents view lower productivity and higher cost of capital as having a medium impact and 0.7% respondents view lower productivity and higher cost of capital as having a low impact. 78.6% of first, second and third tier suppliers based in in all three provinces share the same view of lower productivity and higher cost of capital as having a high impact on the manufacturing competitiveness of the component industry.

The results of the findings presented in figure 5.20 indicate that there is a significant, positive correlation between lower labour productivity and higher cost of capital (r = 0.422) and tougher competition challenging the future growth, and competitiveness of the automotive component industry. The results of this finding supports Tay (2003:24), who states that the main challenges in the automotive component industry future growth is tougher competition, high cost of capital and low labor productivity, which has direct impact on future economic sustainability of the industry.

Figure 5.21: The impact sub optimal levels of operations has on the manufacturing competitiveness of the components industry



The results of figure 5.21 reveals that 61% of respondents rated sub-optimal levels of operations as having a high impact on the manufacturing competitiveness of the component industry, while 33.8% viewed sub-optimal levels of operations as having a medium impact and 5.1% viewed sub-optimal levels of operations as having a low impact. Most of the first, second and third tier suppliers agreed that sub-optimal levels of operations have a medium to high impact on manufacturing competitiveness.

Figure 5.22: The impact lower operational efficiencies and higher transactional costs has on the manufacturing competitiveness of the components industry

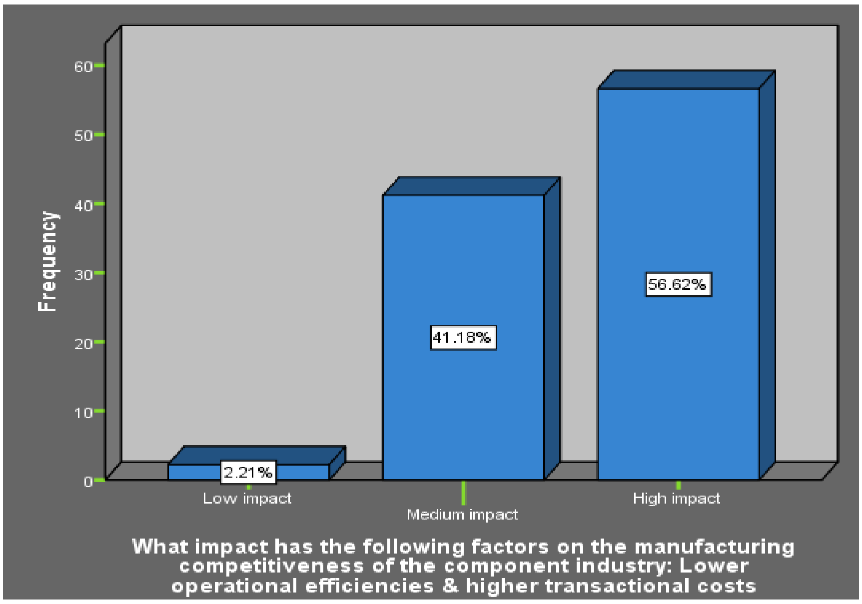
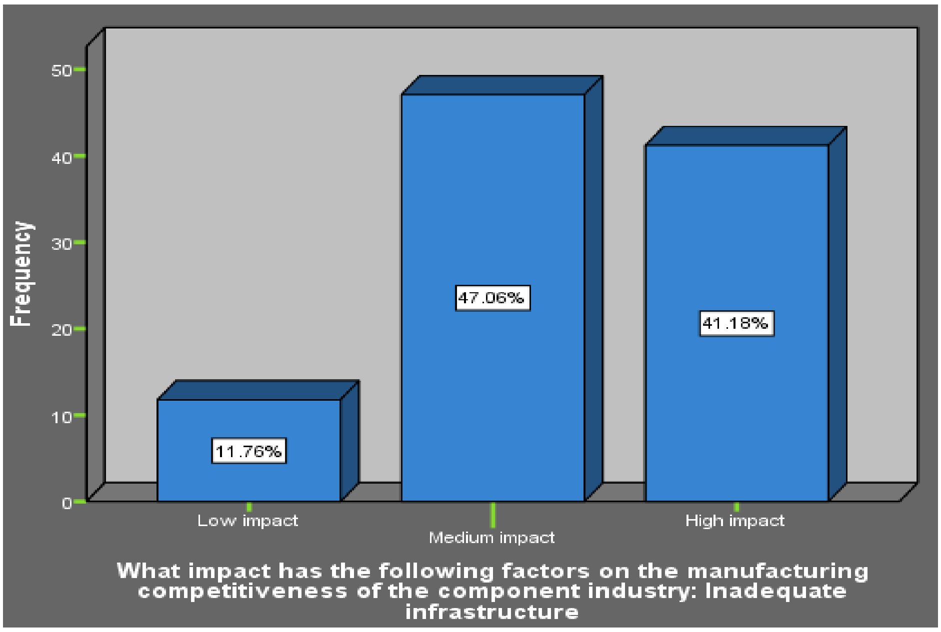


Figure 5.22 shows that 56.6% of respondents rated lower operational efficiencies and higher transactional costs as having a high impact on the manufacturing competitiveness of the component industry, 41.2% as medium impact, and 2.21% as having a low impact. Therefore it is clearly evident that 97.8% of respondents agreed that lower operational efficiencies and higher transactional costs have a medium to high impact on manufacturing competitiveness of the automotive component industry. The results of this finding supports Damoense and Alan (2004), who emphasized that globalization led to the restructuring and reshaping of domestic operations hence the industry has to deal with obstacles like relatively high costs associated with production of low volumes, the dependency of foreign technology as well as limited research and development budgets.

Figure 5.23: The impact inadequate infrastructure has on the manufacturing competitiveness of the components industry



The findings presented in figure 5.23 indicates that 41.8% % of respondents rated inadequate infrastructure as having a high impact on the manufacturing competitiveness of the component industry, while 47.1% respondents viewed inadequate infrastructure as having a medium impact and 11.8% viewed it as having a low impact. Of the 41.8% of respondents that rated inadequate infrastructure as having a high impact on the manufacturing competitiveness, 50% of the responses were from KZN. This finding can be attributed to the fact that KZN is the only province that does not have an automotive supplier park infrastructure to support the competiveness of the component industry within the province.

The findings further indicate that 55.5% of the respondents from Gauteng and 45% of the respondents from Eastern Cape view inadequate infrastructure as having a high impact on the manufacturing competitiveness. This result can be attributed to the developed supplier park infrastructure within these provinces. There is a significant moderate, positive correlation between the impact that inadequate infrastructure has the on the manufacturing competitiveness of the component industry(r = 0.419) and governments policy led reforms in rationalisation of the automotive industry, through the MIDP, having improved the SA automotive component industry’s global competitive position.

The results of this finding strongly supports (Fishwick 2005:260), who emphasized that the success of the South African automotive component industry is vitally dependent on first-class logistics and infrastructure, in unlocking South Africa's economic potential hence positively impacting on the competitiveness of the automotive component sector. The objective is to stimulate economic development of the component sector by creating first class supplier infrastructure networks that will reduce logistics costs and improve competitiveness in the automotive sector.

5.4.1.7 Factors influencing South Africa's global competitiveness in the automotive component industry

Figure 5.24: Increase in local ownership between local companies and transnational companies

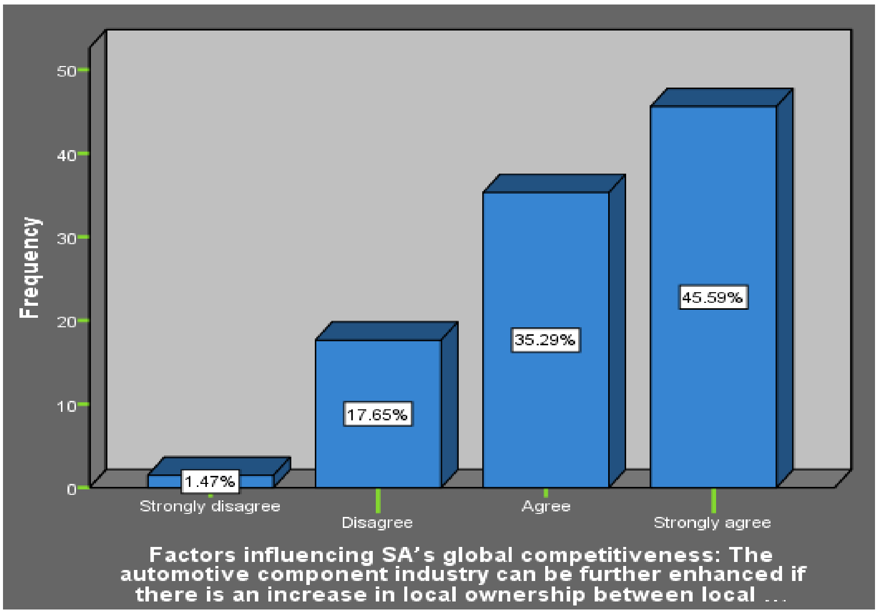
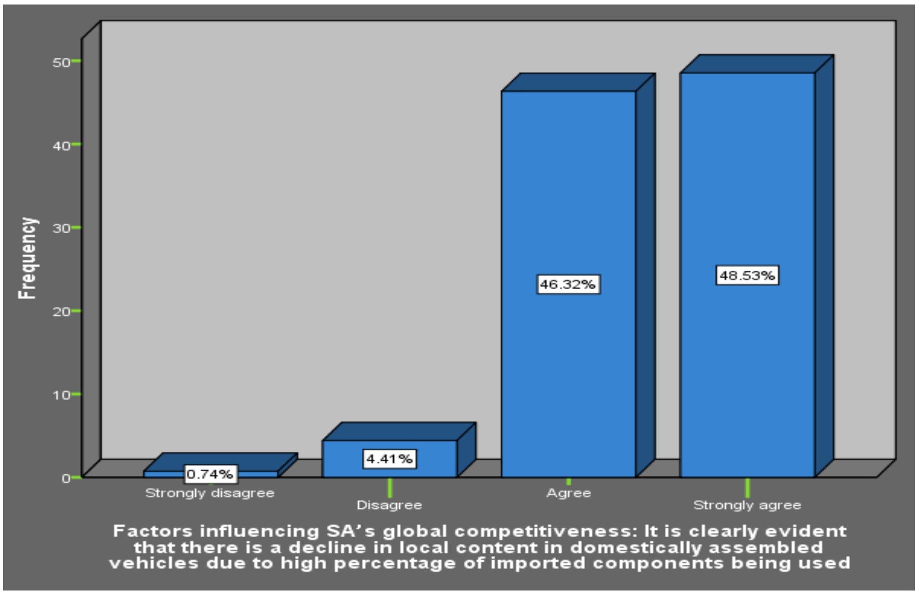


Figure 5.24 shows that 45.6% of respondents strongly agreed that the automotive component industry can be further enhanced if there is an increase in local ownership between local companies and transnational companies, while 35.3% respondents agreed. However the findings further indicate that 17.7% respondents disagreed and 1.5% strongly disagreed that the automotive component industry can be further enhanced if there is an increase in local ownership between local companies and transnational companies.

It is clearly evident from the findings that 80.9% of the respondents agreed that the automotive component industry can be further enhanced if there is an increase in local ownership between local companies and transnational companies.

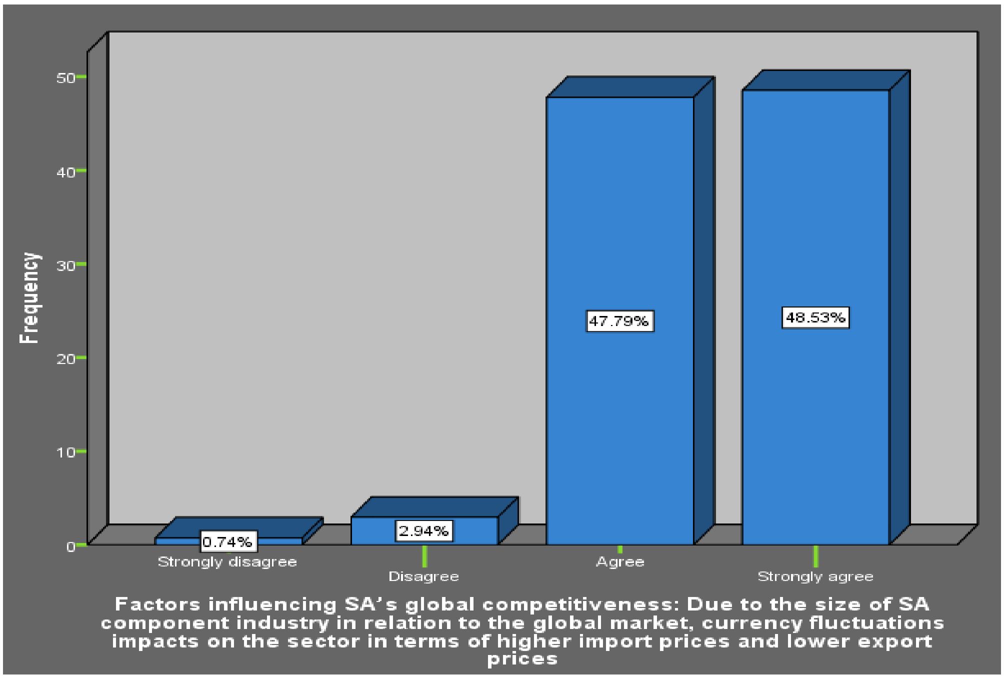
Figure 5.25: Decline in local content due to high percentage of imported components



The results of the findings in figure 5.25 reveals that a total of 0.7% of respondents strongly disagreed that it is clearly evident that there is a decline in local content in domestically assembled vehicles due to high percentage of imported components being used, 4.4% disagreed, 46.3% agreed, and 48.5% strongly agreed. The results clearly indicate that 94.8% of respondents agreed that a decline in local content in domestically assembled vehicles due to high percentage of imported components being used influences SA's global competitiveness.

There is a significant, moderate, positive correlation between a decline in local content in domestically assembled vehicles due to high percentage of imported components being used(r = 0.419), and the MIDP being specifically designed to encourage the incorporation of SA assembly and component production into the global value chain. This finding supports that (Damoense and Simon, 2004), who outlined that the revision of the MIDP in 2002 introduced an import-export complementation scheme that allowed both vehicle and component manufacturers to offset import duties against exports, resulting in an increase of imports.

Figure 5.26: Currency fluctuations impacting on higher import prices and lower export prices



According to figure 5.36, the results of the finding reveal that 48.5% respondents strongly agreed that due to the size of SA component industry in relation to the global market, currency fluctuations impacts on the sector in terms of higher import prices and lower export prices, while 47.8% of the respondents agreed. The results further indicate that 2.9% respondents disagreed while 0.7% strongly disagreed. It is clearly evident form the results that majority (96.3%) of respondents agreed that due to the size of SA component industry in relation to the global market, currency fluctuations impacts on the sector in terms of higher import prices and lower export prices.

The results supports the research of (Gastrow, 2012:5900) who states that owing to the small size of the South African automotive industry in relation to the global market, currency fluctuations will always impact on the automotive sector in terms of higher import prices or lower export prices. Gastrow, (2012:5900), further outlines that Currency depreciation was not limited to South Africa, but impacting across emerging markets.

Figure 5.27: Due to acceptance in national markets, local manufacturers are forced to increase their international competitiveness

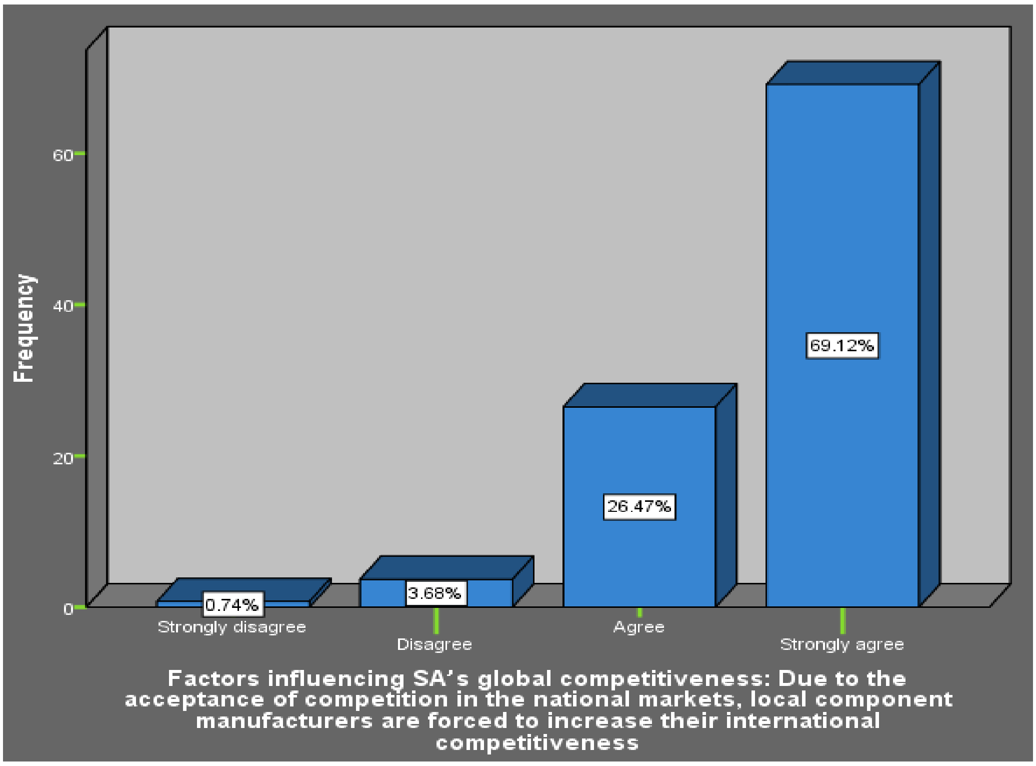


Figure 5.27 shows that 69.1% strongly agreed that due to the acceptance of competition in the national markets, local component manufacturers are forced to increase their international competitiveness. Of the 69.1% respondents, 75.4% were first tier suppliers who are locally owned South African companies operating under international licences and joint ventures between South African company and International suppliers. The findings further indicate that 26.5% of the respondents agree, while 3.9% disagree and 0.7% strongly disagrees. The results indicate that there is a 95.6% of agreement that due to the acceptance of competition in the national markets, local component manufacturers are forced to increase their international competitiveness. The results the findings compliments the research of Oxford Intelligence Business Analysis, (2003) who indicated that the pressure to liberalize the markets are external and barriers to imports have to be removed to comply with WTO regulations, resulting in pressure to liberalize internally.

Therefore governments have set their sights on export markets, which forces local companies to increase their competitiveness.

The results of the findings of objective one support Black and Bhanisi (2006:27) who states that local content levels are derived from foreign direct investment and the different sourcing patterns of multinational suppliers resulting in most of the components being sourced from international supply networks of the OEMs and multinational suppliers to limit direct investment and take advantage of economies of scale in a price sensitive market. The findings of this study supports the argument of Black and Bhanisi (2006:26) that the foreign direct investment by first tier suppliers is there to engage in the assembly of imported knock down units, or draw on the domestic supplier base. Hence it is clearly evident that there is a decline in local content in domestically assembled vehicles due to the high percentage of imported components being used. The results indicate that there is a significant, positive correlation between the automotive component industry being further enhanced if there is an increase in local ownership between local companies and transnational companies. The results support the arguments of Humphrey and Memedovic, (2003:20) that the domestic component industry can be further enhanced, if there was an increase in local ownership in the form of joint ventures between local companies and transnational companies.

5.4.2 Objective two: To investigate South Africa’s global competitiveness in the automotive component industry

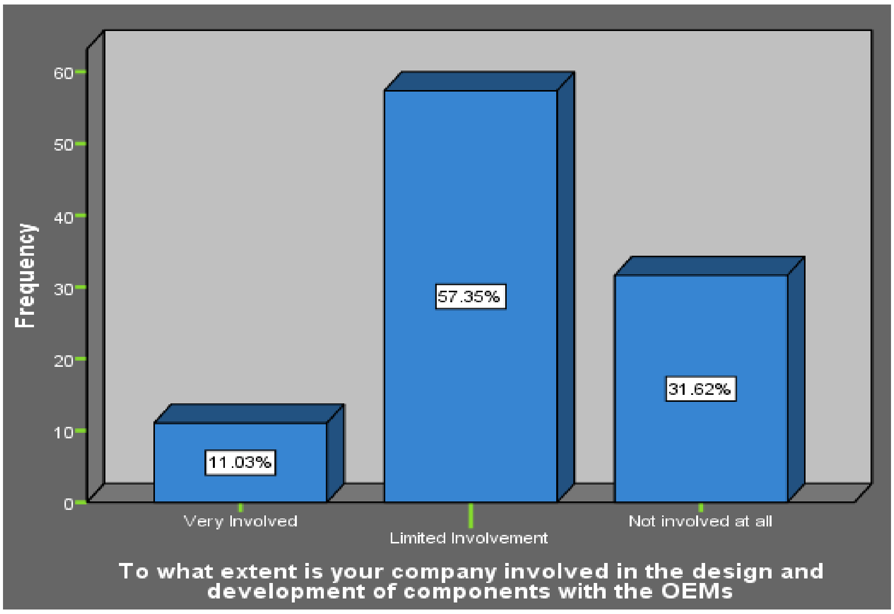
Section C of the questionnaire aimed to establish South Africa’s global competitiveness in the automotive component industry. The findings relating to this objective will be presented.

Joshi and Dixit (2011), asserts that the automotive component industry is a determinant of the competitiveness of the automotive industry due to the fact that the global automotive industry is increasingly sourcing components and raw materials globally.

BRIC countries strategy to revolutionise global markets focused on cloned solutions by adapting it to suit low cost manufacturing approach hence providing superior value at low prices (Sturgeon, et al., 2009). Ndamase and Steyn (2011) outlined that TNCs are the main agents of productive globalisation as a result the South African automotive industry transformation from local market focus to global market manufacturing was driven by parent automotive manufacturing companies.

5.4.2.1 The extent local companies are involved in design and development of components with OEMs

Figure 5.28: The extent local companies are involved in the design and development of components with OEMs



The results presented in figure 5.28 indicate that, 11% of respondents rated their level of involvement with the design and development of components with the OEMs as very involved, 57.4% as limited involvement, and 31.6% not involved at all.

Table 5.7: Cross tabulation between the extent of the company's involvement in design and development, province of location and tiers of suppliers.

		Extent of the company's involvement in design and development of components with OEMs (C1)			Total
		Very Involved	Limited Involvement	Not involved at all	
Province of Location (A2)	KwaZulu Natal	7	29	9	45
	Eastern Cape/PE	2	21	21	44
	Gauteng	6	28	13	47
Tiers of Suppliers(A7)	First Tier Supplier	11	44	14	69
	Second Tier Supplier	4	20	15	39
	Third Tier Supplier	0	13	13	26
	Other (Specify)	0	1	1	2

Table 5.7 outlines the cross tabulation between the extent of the company's involvement in design and development of components with OEMs, the province of location and the tiers of suppliers. There is a significant difference in the extent to which the company involved in the design and development of components with the OEMs, and the province within which the company is situated (p = 0.009). This relationship was further explored using Kruskal-Wallis, which indicated a significant difference between the variables. Mann-Whitney revealed this significant difference lay between KZN and Eastern Cape/Port Elizabeth (p = 0.003), and between Eastern Cape/Port Elizabeth and Gauteng (p = 0.030). The cross tabulations reveal that more companies from KZN were very involved, compared to Eastern Cape/Port Elizabeth not involved at all, and more Gauteng based companies have limited involvement, and are also very involved.

Further examination of the crosstabs in figure 5.7 reveal that most involvement stems from first tier suppliers, in the KZN area. However, most respondents had limited involvement, especially as first tier suppliers.

Whilst the results of this finding indicate that there is a significant difference in the extent the company is involved in the design and development of components with the OEMs, the province in which the company is situated; and how respondents classify the company as a component supplier, therefore conclusions can be made that local suppliers are likely to have minimal involvement in design and engineering as these functions are moved to a centralised functions of MNC.

The results of this finding provides ample evidence that subsidiaries of MNCs in the domestic market are engaging in innovation activities, whilst locally owned supplier have limited or no involvement. The results supports the research of Humphrey and Memedovic (2003:21) who outline that MNCs as global firms, in the domestic market are engaging in new technology and innovations, whilst locally owned South African suppliers have limited or no involvement in the design and development of new technology.

5.4.2.2 Local companies export their products and the percentage of exports

Figure 5.29: The level of exports of local automotive component companies

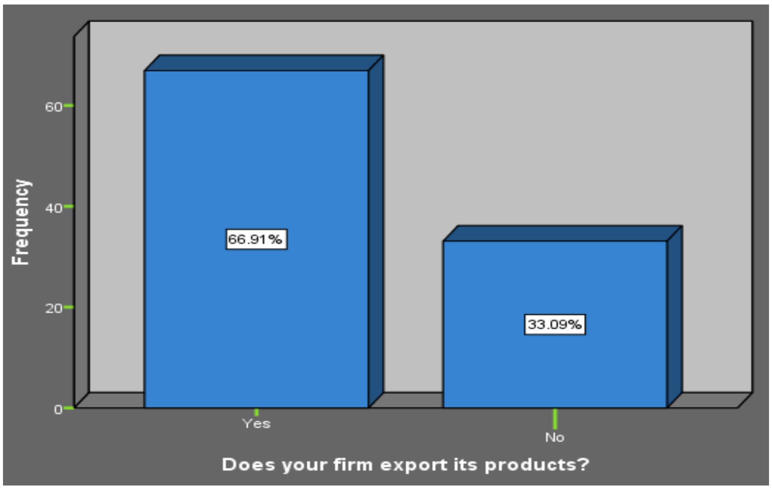


Figure 5.29 outlines that 66.9% of respondents indicated that their firm exports its products, while 33.1 respondents indicated that no products are exported. Of the 66.9% of companies that indicated that they export their products, 43.3% export between 0-25%, 18.7% exports between 26-50%, 5.2% exports between 51-75%, and 1.5% exports between 76-100%.

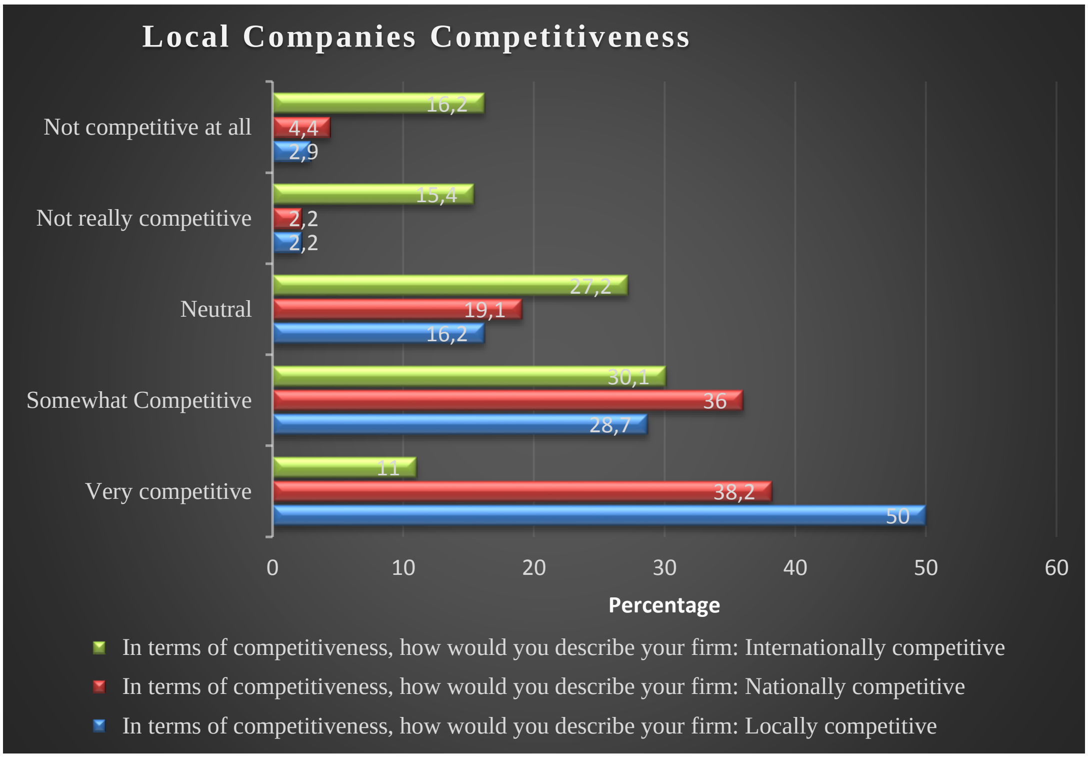
Table 5.8: Cross tabulation between the tiers of supplier, ownership of the company and if the company exports its products or not

		Does your firm export its products (C2)		Total
		Yes	No	
Tiers of Suppliers (A7)	First Tier Supplier	53	16	69
	Second Tier Supplier	24	15	39
	Third Tier Supplier	14	12	26
	Other (Specify)	0	2	2
Ownership of the company(A8)	Locally owned South African company	40	29	69
	Locally owned South African company operating under international licences	14	1	15
	Joint venture between South African company and International Supplier	29	10	39
	International owned company (No SA shareholding)	8	5	13

The examination of the cross tabulation in figure 5.8 reveal that first tier supplier export a higher volume of products than third tier suppliers. The findings further indicate that, locally owned South African companies, and joint venture companies between South Africa and international suppliers are more likely to export their products. The findings clearly outline that locally owned South African companies operating under international licences, exports 93% of their volume of products.

5.4.2.3 Level of competitiveness of local companies

Figure 5.30: Level of Competitiveness of local Companies



The results of the findings in figure 5.30 reveal that 50% of respondents described their local competitiveness as very competitive while 28.7% view their local competitiveness as somewhat competitive, 16.2% were neutral, 2.2% rated their local competitiveness as not really competitive and 2.9% rated their local competitiveness as being not competitive at all.

The results further indicates that with regard to nationally competitiveness, 38.2% of respondents viewed their local firm as very competitive, 36% as somewhat competitive, 19.1% were neutral, 2.2% as not really competitive and 4.4% not competitive at all.

The results indicate that in terms of international competitiveness, 11% of respondents rated their firm as very competitive, 30.1% as somewhat competitive, 27.2% were neutral, 15.4% not really competitive, and 16.2% as not competitive at all.

Table 5.9: Cross tabulation between the province of location and the level of competitiveness of the local companies

		Province of Location (A2)		
		KwaZulu Natal	Eastern Cape/PE	Gauteng
In terms of competitiveness, how would you describe your firm: **Locally competitive (C3.1)**	Very competitive	22	24	22
	Somewhat Competitive	7	14	18
	Neutral	9	6	7
	Not really competitive	3	0	0
	Not competitive at all	4	0	0
In terms of competitiveness, how would you describe your firm: **Nationally competitive(C3.2)**	Very competitive	18	20	14
	Somewhat Competitive	12	14	23
	Neutral	10	8	8
	Not really competitive	1	0	2
	Not competitive at all	4	2	0
In terms of competitiveness, how would you describe your firm: **Internationally competitive(C3.3)**	Very competitive	5	4	6
	Somewhat Competitive	14	16	11
	Neutral	17	10	10
	Not really competitive	4	7	10
	Not competitive at all	5	7	10

Figure 5.9 outlines the cross tabulation between the province of location and the level of competitiveness of local companies. The cross tabulation reveals that all three provinces view their local competitiveness as being very competitive to somewhat competitive. The cross tabulation also highlights that only companies from KZN viewed themselves as being not really competitive to not competitive at all.

The cross tabulation further indicates that in terms of national competitiveness, Eastern Cape viewed themselves very competitive compared to KZN and Gauteng. In terms of international competitiveness, Gauteng view themselves as very competitive compared to KZN and Eastern Cape. KZN and Eastern Cape viewed themselves as being somewhat competitive to neutral with regard to international competiveness. The results of the findings indicate that companies are locally and nationally competitive from all three provinces when compared to the levels of competitiveness internationally.

5.4.2.4 Local Companies global competiveness in the market place

Figure 5.31: Local companies global competiveness in the market place

The findings of figure 5.31 indicate that 49.6% of respondents strongly agreed that their companies identified opportunities in the global market place, while 34.8% agreed, 11.1% disagreed and 4.4% strongly disagreed. Therefore it is clearly evident from the findings that 84.5% of the respondents agreed that their companies identify opportunities in the global market place.

With regards to analysing technological advancements and product development of international competitors and improving standards to compete globally, 46.3% strongly agreed and 46.3% agreed, 4.4% disagreed ad 2.9% strongly disagreed. This result clearly outlines that the 92.6% of the respondents agree that the South African automotive component industry analyses technology advancements and product development of international competitors and improve the South African standards to compete globally.

In terms of the company being strongly dependant on investment and financial stability through stakeholders' relationship to react to foreign competitors, 42.6% strongly agreed and 42.6% agreed, 9.6% disagreed ad 5.2% strongly disagreed.

These findings reveal that companies are strongly dependant on financial stability through stake holder relationship to react to foreign competitors. With regards to the company maintaining and developing good stake holder engagements as forecasting future trends is a challenge due to more competitors entering the market place, 35.3% of the respondents strongly agreed, 55.9% agreed, while 5.9% disagreed and 2.9% of respondents strongly disagreed agreed.

The results further indicate that 41.2% of the respondents strongly agree that the industry has developed skilled labour in accordance to international standards to compete internationally and 39.7% agree, while 16.2% disagree and 2.9% strongly disagree. The results reveals that 80.9% of the industry agrees that the skilled labour has been developed in accordance to international standards to compete internationally.

There is a significant moderate, positive correlation between having developed skilled labour in accordance to international standards, to compete internationally ($r = 0.462$) and International Standards determining growth in competitiveness, resulting in economic growth of the component sector.

Table 5.10: Cross tabulation between the tiers of suppliers and local companies global competiveness in the market place

With regard to the global competitive market place (C4)		Tiers of Suppliers (A7)		
		First Tier Supplier	Second Tier Supplier	Third Tier Supplier
Our company identifies opportunities in the global market place	Strongly agree	46	16	4
	Agree	15	18	13
	Disagree	4	4	7
	Strongly disagree	4	1	1
We do analyse technology advancements and product development of international competitors and improve our standards to compete globally	Strongly agree	43	14	5
	Agree	23	23	16
	Disagree	1	1	4
	Strongly disagree	2	1	1
Our company is strongly dependant on investment and financial stability through stakeholders' relationship to react to foreign competitors	Strongly agree	35	15	7
	Agree	25	21	5
	Disagree	6	2	12
	Strongly disagree	3	1	2
Our company maintains and develop good stake holder engagements , as forecasting future trends is a challenge due to more competitors entering the market place	Strongly agree	31	13	3
	Agree	32	24	20
	Disagree	4	1	2
	Strongly disagree	2	1	1
We have developed skilled labour in accordance to international standards, to compete internationally	Strongly agree	35	13	7
	Agree	18	22	14
	Disagree	14	2	5
	Strongly disagree	2	2	0

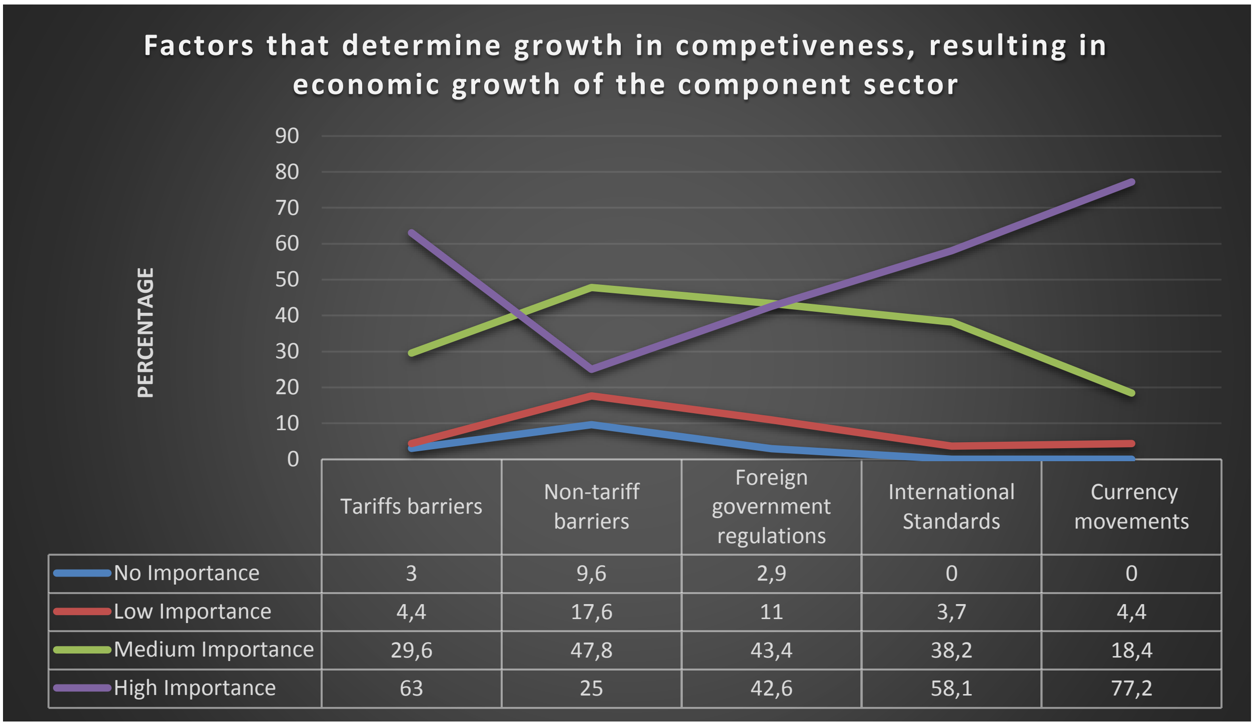
The cross tabulation in table 5.10 outlines the relationship between the tiers of suppliers and component manufacturers viewed themselves with regard to global competitiveness in the market place. There is a general agreement between all tiers of suppliers that their companies identifies opportunities in the global market place. However 28% of the third tier suppliers disagrees that their companies identifies opportunities in the market place.

The cross tabulation analysis indicates that 95.6% of the first tier, 95% of second tier and 80.8% of the third tier suppliers are in agreement that analysis of technology advancements and product development of international competitors helps the industry to improve their standards of operation to compete globally.

The cross tabulation also reveals that 87% first and 92% second tier suppliers are in agreement that their companies are strongly dependant on investment and financial stability through stakeholders relationship to react to foreign competitors, however 54 % of third tier suppliers are in disagreement.

5.4.2.5 Factors determining the growth in competitiveness, resulting in economic growth of the component sector

Figure 5.32: Factors that determine growth in competitiveness, resulting in economic growth of the component sector



	Tariffs barriers	Non-tariff barriers	Foreign government regulations	International Standards	Currency movements
No Importance	3	9,6	2,9	0	0
Low Importance	4,4	17,6	11	3,7	4,4
Medium Importance	29,6	47,8	43,4	38,2	18,4
High Importance	63	25	42,6	58,1	77,2

The results of the findings in figure 5.32 reveals that 63% respondents view tariff barriers as having a high importance in determining growth in competitiveness of the component sector, while 29.6% view it as medium importance, 4.4% view it as low importance and 3% view it as no importance. All tiers of suppliers share the view that tariff barriers has a medium to high importance in determining growth in competitiveness, however 8.7% of first tier suppliers, who are internationally owned companies with no South African shareholding, view tariffs barriers as having low to no importance in determining growth in competitiveness.

Non-tariff barriers was viewed as being of high importance by 25% of respondents, while 47.8% viewed it as medium importance, 17.6% as low importance and 9.6% as being of no importance in determining growth in competitiveness of the component sector.

Non-tariff barriers was viewed by 78% of first tier supplier and 82% of second tier as having medium to high importance on growth in competitiveness, while 80% of third tier suppliers viewed non-tariff barriers as having medium to low importance. 69.8% of respondents from KZN indicated that non-tariff barriers has low to medium importance on competitiveness, however 76.5% of respondents from Gauteng and 70.5% of respondents from East London indicated non-tariff barriers as having a medium to high impact on competitiveness.

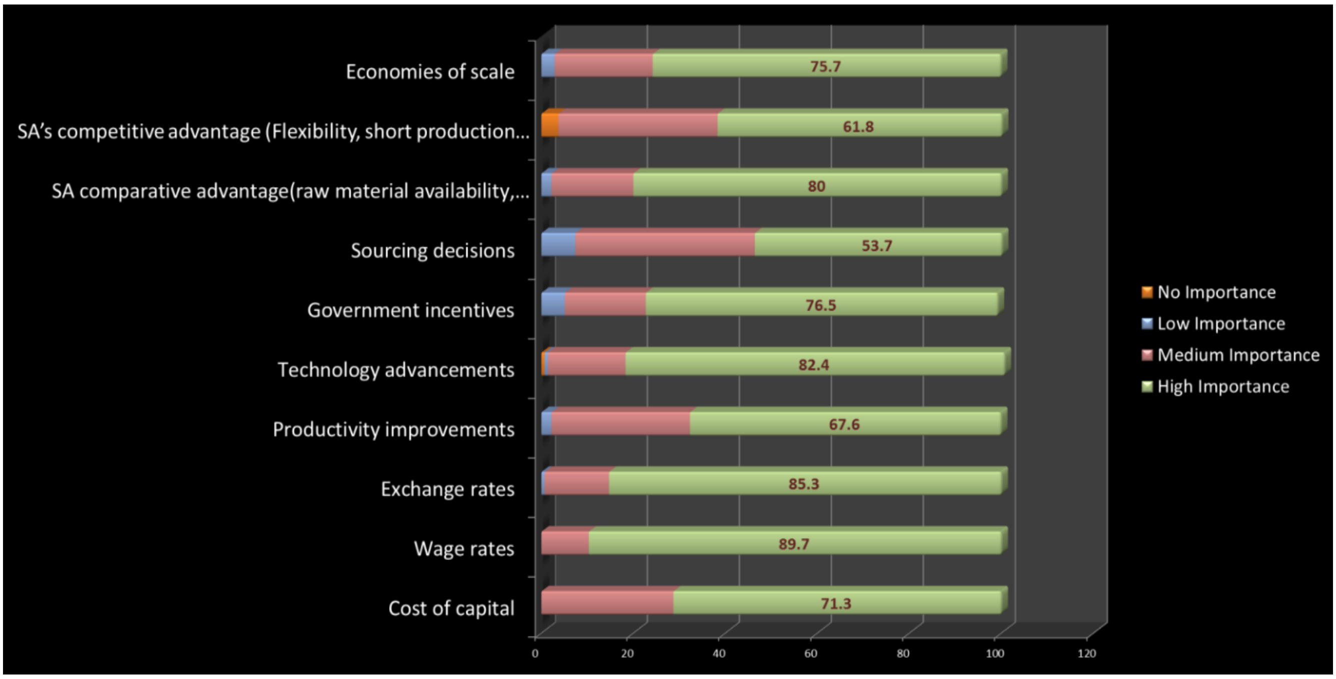
Foreign regulations and policies were viewed by 42.6% as being of high importance, while a further 43.4% viewed it as being medium importance, 11% saw it as being of low importance and 2.9% as no importance to determining growth in competitiveness. The results of these findings clearly indicates that the respondents are in agreement that foreign government regulations and policies have a medium to high importance on determining the growth in competitiveness of the automotive sector.

The results of the findings further indicate that 58.1% of the respondents view international standards as high importance, while 38.2% view it as being of medium importance and 3.7% view it as being of low importance. This result clear indicates that 96.3% of the industry view international standards as a major factor that determines growth in competitiveness of the automotive component sector.

Currency movement is a major factor contributing to growth in competitiveness as 77.2% of the respondents indicated this to be of high importance and 18.4% as medium importance, while only 4.4 % view this as a low importance. The results in figure 5.32 outlines that tariffs, non-tariff barriers, foreign government regulation, international standards and currency movements are key factors of importance that impacts on the in competitiveness resulting in economic growth of the component sector.

5.4.2.6 Factors contributing to the increase in competitiveness of SA auto component manufacturers

Figure 5.33: Factors contributing to the increase in competitiveness of SA auto component manufacturers



The finding presented in figure 5.33 shows that 71.3% of respondents rated the cost of capital as being high importance while 28.7% respondents rated it as of median importance in contributing to the increase in competitiveness of SA auto component manufacturers.

There is a significant, moderate, positive correlation (r = 0.435) between the importance of cost of capital in contributing to the increase in competitiveness of SA auto component manufacturers, and for automotive component industry to improve its competitiveness, it has to rationalise the components it manufacturers to achieve higher volumes from much smaller range of products The Platykurtic distribution is (-1.187), thereby indicating a high degree of importance to cost of capital in contributing to the increase in competitiveness of SA auto component manufacturers, which supports the National manufacturing Competitiveness Strategy(2006), that outlines cost of capital as a major factor impacting on manufacturing competitiveness of the automotive component industry.

Wage rates is of high importance to contributing to the increase in competitiveness of the SA automotive component manufacturers, as 89.7% of the respondents indicated that wage rate is of high importance and 10.3%5 as medium importance. Leptokurtic distribution of 5.284 indicates a very strong degree of importance to wage rates in increasing competitiveness. This finding of wage rate being of high importance relates to the findings of Kuboniwa (2009), who indicated that Russia's competitiveness in the automotive component manufacturing industry is less predictable to other developing BRIC countries due to Russia's high wage rate, escalating at 20% per annum, which has resulted in a drastic decrease in localisation of components

The results in figure 5.33 further indicate that exchange rates is viewed by 85.3% respondents as having high importance in contributing to the increase in competitiveness of SA auto component manufacturers. Figure 5.33 also outlines that 14% of the respondents rated exchange rates as having medium importance and 0.7% as having low importance. The results clearly indicate that exchange rate is a major factor contributing to increased competitiveness of the automotive component sector. This result supports AIEC (2012:76) that outlines the risks associated with fluctuation in interest rates and the negative impact this has on the competitiveness of the domestic component industry.

Productivity improvements were viewed by 63.7% respondents as having high importance in contributing to the increase in competitiveness of the automotive component sector, while 30.1% view productivity improvements as having medium importance and 2.2% rated productivity improvements as having low importance. There is a significant, positive, moderate correlation(r=0.418) between productivity improvements, and the level of influence localisation will have on the component manufacturer’s turnover. The results further indicate that there is a significant difference in the province in which the company is situated and productivity improvements as being of low importance in contributing to the increase in competitiveness. Man Whitney reveals a significant difference lies between Eastern Cape and Gauteng and KZN and Eastern Cape, as 88.9% of KZN and 72.3% of Gauteng rated productivity improvements as high importance, while only 42.9% of Eastern Cape rated productivity improvements as high importance.

Technology improvements has been rated by 82.4% of the respondents as having high importance in contributing to the increase in competitiveness of the automotive component sector, while 16.9% rated it as having medium importance and 0.7% as low importance. Of the 82.4% respondents, 78.3% % are first tier supplier, 87.2% % are second tier suppliers and 84.6% are third tier suppliers. The Platykurtic distribution of 2.533 indicates that technology advancements are a high degree of importance in contributing to the increase in competitiveness of SA auto component manufacturers. There is a significant, moderate, positive correlation (r = 0.405) between technology advancements and the level of influence localisation will have on the growth of research and development in the component manufacturing industry. Therefore improved advanced technology within the domestic industry will influence localisation of components resulting in growing competitiveness of the component sector.

The results in figure 5.33 outlines that government incentives have been viewed by 76.5% of the respondents as having high importance in contributing to the increase in competitiveness of the automotive component manufacturers, while 17.6% view it as having medium importance, 5.1% rated it as having low importance and 0.74% rated it as having no importance. The results indicate that there is a very strong degree of importance to government incentives in increasing competitiveness; however 19.4% of third tier suppliers view government incentives as having low to no importance in contributing to the increase in competitiveness of the automotive component manufacturers.

Sourcing decisions were viewed by 53.7%% as being of high importance, while a further 39% viewed it as being medium importance and 7.4% viewed it at having low importance. There is a significant, moderate, positive correlation (r = 0.469) between sourcing decisions contributing to the increase in competitiveness of SA auto component manufacturers, and saturated markets have on the future growth and competitiveness of the automotive component industry. The results of this finding supports (AIEC 2012:76), who outlines that increasing local sourcing levels in South African manufactured vehicles is a prerequisite for establishing a more sustainable productive base and creating a competitive component manufacturing industry.

The results of the findings in figure 5.33 reveals that 80% respondents view SA comparative advantage (raw material availability, emerging markets) as being of high importance, while 17.8% view it as being of medium importance and 2.2% view it as being of low importance. From the findings it is clearly evident that first, second and third tier suppliers located in all three provinces are of the similar view that SA comparative advantage (raw material availability, emerging markets) indicates a very strong degree of importance in contributing to the increase in competitiveness of the component manufacturers.

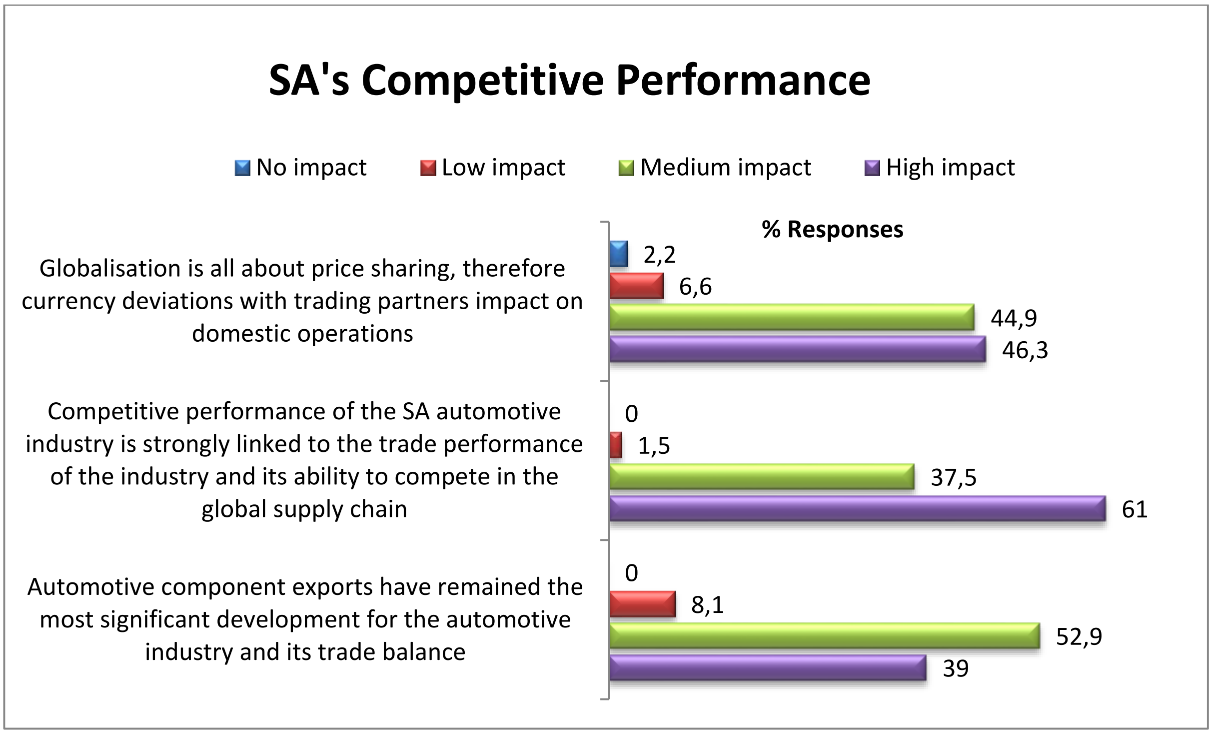
SA’s competitive advantage (flexibility and short production runs) is rated by 61.8% of respondents as high importance, while 34.6% rate it as medium importance and 3.7% rate it as low importance. The results indicate that SA's competitive advantage (flexibility and production short runs) are of medium to high importance in contributing to increase of competitiveness of the automotive component sector.

The results in figure 5.33 indicates that 75.7% of respondents rated economies of scale as being of high importance in contributing to the increased competitiveness of the component industry, while 21.3% rated economies of scale as having a medium impact and 2.9% rated economies of scale as low importance. The results indicate that there is a significant, moderate, positive correlation (r=0.402), between economies of scale contributing to the increase in competitiveness of the automotive component manufacturers, and the impact localisation will have on improving growth potential in the export market. This correlation supports Bhattacharya and Michael (2008) who emphasises that economies of scale becomes vitally important in areas of component manufacturing and improved competitiveness, as the benefit of globalisation for the global automotive industry is dependent upon the increase standardization of models across the markets.

Therefore the results of the finding in figure 5.33 can be summarised as wage rate, exchange rates, technology advancements and SA comparative advantages as having high importance of over 80% rating in contributing to the increase in competitiveness of the automotive component sector.

5.4.2.7 South Africa's competitive performance in the automotive industry

Figure 5.34: South Africa's competitive performance in the automotive industry



The findings of figure 5.34 indicate that, 46.3% of the respondents stated that globalisation is all about price sharing, therefore currency deviations with trading partners has a high impact on domestic operations, while 44.9% said it has medium impact, 6.6% said it has low impact and 2.2 % said it has no impact. The results of the findings clearly outlines that all tiers of suppliers, from all three provinces are in agreement that currency deviation with trading partners has a medium to high impact on domestic operations.

The results of figure 5.46 shows that 61% of respondents indicated that the competitive performance of the SA automotive industry is strongly linked to the trade performance of the industry and its ability to compete in the global supply chain had high impact on South Africa's competitiveness, while 37.5% indicated that it had medium impact and 1.5% indicated that it had low impact.

There is a significant, moderate, positive correlation (r=0.419) between competitive performance of the SA automotive industry being strongly linked to the trade performance of the industry and its ability to compete in the global supply chain, and the MIDP being specifically designed to encourage the incorporation of SA assembly and component production into the global value chain. This finding compliments Kaggwa, Steyn and Pouris (2007) who indicated that the main objective of the MIDP was to implement a sector specific industrial policy to rapidly increase the international competitiveness of the domestic automotive industry and to facilitate the increased exports of CBUs and automotive components, which resulted in the transformation of the automotive component industry.

Figure 5.47 reveal that 39% of respondents indicated that the automotive component exports have remained the most significant development for the automotive industry and its trade balance, which has had a high impact on the competitive advantage of the component industry. However 52.9% of respondents indicated that it has medium impact, while 8.1% indicated that it had a low impact. These results indicate that the competitive performance of the SA automotive industry is strongly linked to the trade performance of the industry and its ability to compete in the global supply chain, and is rated as being of the most important in terms of SA's competitiveness, which supports the AIEC, (2013:33), who outline that the automotive components exports have remained the most significant development for the automotive industry and its trade balance, as exports have been growing by a compounding annual rate of 19.5% since 1995 up to 2013

The aim of objective two was to establish South Africa's global competitiveness in the automotive component industry. The findings of the objective clear outlines that South Africa is very competitive locally and nationally and there is growing potential in the international markets, as the component exports have indicated positive growth. The finding further outlines that the South African automotive component industry analyses technology advancements and product development of international competitors and improve the South African standards to compete globally, by identifying opportunities in the global market place

The results outlines that tariffs, non-tariff barriers, foreign government regulation, international standards and currency movements are key factors of importance that impacts on the in competitiveness resulting in economic growth of the component sector.

Wage rate, exchange rates, technology advancements and SA comparative advantages is seen as having high importance in contributing to the increase in competitiveness of the automotive component industry.

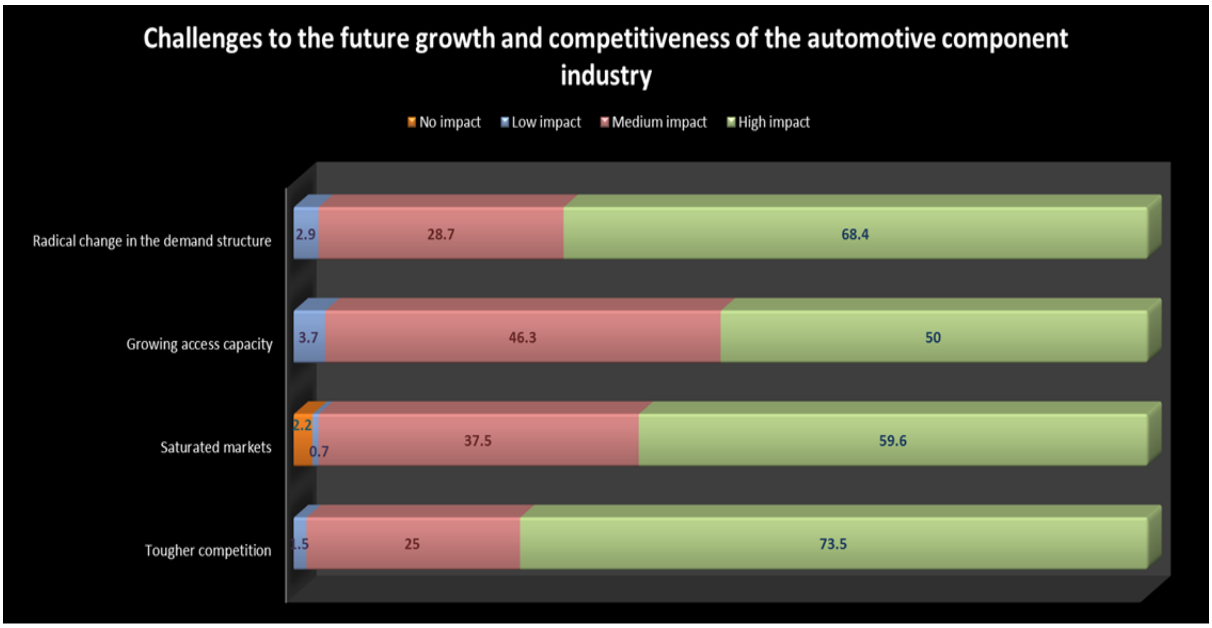
5.4.3 Objective three: To determine the impact global competitiveness will have on the economic sustainability and growth of the automotive component industry in South Africa.

Section D of the questionnaire aimed to determine the impact global competitiveness will have on the economic sustainability and growth of the automotive component industry. The findings relating to answering this objective will be analysed and presented.

Sturgeon, et al. (2009:11) outlined that Governments around the world have realized the benefits that automotive investments generate and the multiplier effect of the industry in terms of economic growth, development and technology transfer, hence governments have placed intense focus on promoting their countries as a prime destination for automotive investment. South Africa's governments intention is to develop the automotive industry into an internationally competitive industry in order for this sector to make a greater contribution to the economic growth of SA, by increasing production and technological competition, hence achieving sectorial balance (AIEC 2013:17).

5.4.3.1 The impact of global competitiveness on the economic sustainability and growth of the automotive sector.

Figure 5.35: Challenges to the future growth and competitiveness of the automotive component industry



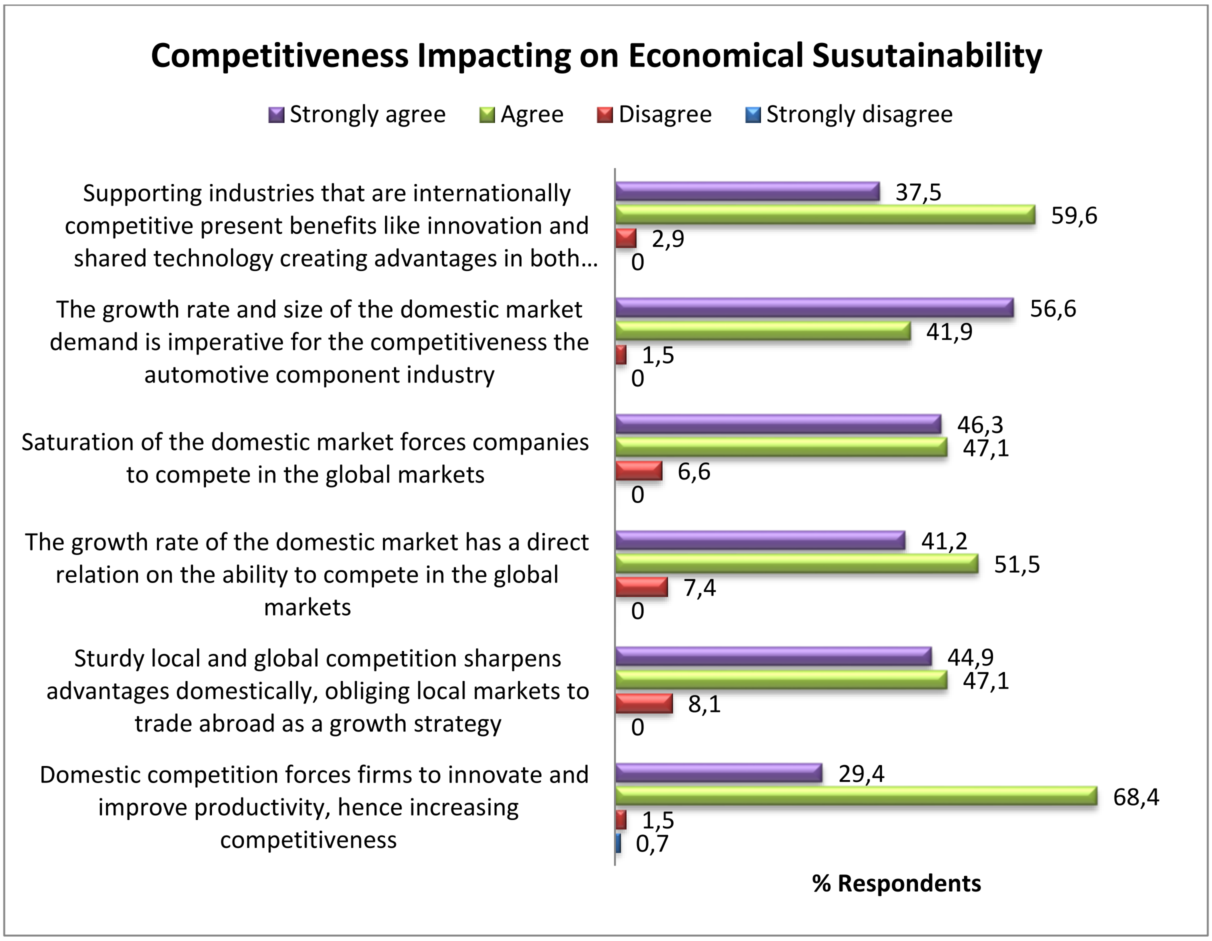
The findings in figure 5.35 reveals that 73.5% of the respondents viewed tougher competition as having a high impact on the future growth and competitiveness of the automotive component industry, while 25% viewed it as having medium impact and 1.5% viewed it as having low impact. The results indicate that there is a significant, positive, moderate correlation (r = 0.415) between tougher competition challenging the future growth and competitiveness of the automotive component industry, and global overcapacity of vehicle production having a direct impact on component manufacturer's production volumes. This correlation supports the conclusions made by Barnes and Morris (2008:32) who highlighted that one of the key reasons for rapid change in the automotive industry is global production overcapacity.

With regard to saturated markets, 59.6% respondents believed that saturated markets would have a high impact on future growth and competitiveness of the automotive component industry, 37.5% view it as having medium impact and 2.2% view it as having no impact, which are made of first tier suppliers only. First tier supplier rated saturated markets as having a high impact, while second and third tier suppliers rate saturated markets as having a medium to high impact on future growth and competitiveness of the automotive component industry. Growing access capacity has been rate by 50% of respondents as having a high impact on future growth and competitiveness of the automotive component industry, 46.3% rated it as having medium impact and 3.7% as having a low impact. First tier suppliers rated growing access capacity as having high impact, while third tier suppliers rated it as having medium impact and second tier suppliers rate saturated markets as having medium to high impact.

Radical change in the demand structure has been viewed by 68.4% of the respondents as having a high impact on the future growth and competitiveness of the automotive component industry, while 28.7% viewed it as having a medium impact and 2.9% as having a low impact. The results clearly indicate that radical change in the demand structure has a high impact on the future growth and competitiveness of the automotive component industry. The results of the findings of saturated markets growing access capacity and radical change in demand structures supports the conclusions made by ACMA (2012:6), who outlined that a combination of excess capacity and rigid demand conditions will result in continuing intense pricing pressures on the OEMs, who have employed a variety of cost reduction strategies which have directly impacted on automotive component suppliers.

5.4.3.2 The competitiveness impacting on economical sustainability

Figure 5.36: Competitiveness impacting on economical sustainability



The results of the findings in figure 5.36 indicates that 29.4% of the respondents strongly agree that domestic competition forces firms to innovate and improve productivity, hence increasing competitiveness, while 68.4% of the respondents agree, 1.5% disagrees and 0.7% strongly agrees. The findings indicate that here is an agreement from all tier of suppliers located in all three provinces that domestic competition forces firms to innovate and improve productivity hence improving competitiveness.

Figure 5.36 indicates that 44.9% of respondents strongly agrees that sturdy local and global competition sharpens advantages domestically, obliging local markets to trade abroad as a growth strategy, while 47.1% respondents agree and 8.1% respondents disagree.

The results clearly states that the general industry is in agreement on the impact that sturdy local and global competition has in improving the trade growth strategy. The results further indicate that there is a significant, moderate, positive correlation (r = 0.405) between sturdy local and global competition sharpens advantages domestically, obliging local markets to trade abroad as a growth strategy, and SA being a cost competitive location for auto component manufacturing.

The results of the findings in figure 5.36 indicate that 41.2% of respondents strongly agree that the growth rate of the domestic market has a direct relation on the ability to compete in the global markets, while 51.5% agree and 7.4% disagrees. The results of the findings further indicate that first tier suppliers strongly agree, while second and third tier suppliers agree, therefore it is clearly evident that there is a general agreement in the industry that the growth rate of the domestic market has a direct relation on the ability to compete in the global markets.

Figure 5.36 indicates that 46.3% of respondents strongly agree that the saturation of the domestic market, forces companies to compete in the global markets, while 47.1% of the respondents agree, and 6.6% disagree. The results of the finding outlines that all tiers of suppliers located in all three provinces are in agreement that saturation of the domestic market forces companies to compete in the global markets.

Figure 5.36 outlines that 56.6% of respondents strongly agree that the growth rate and size of the domestic market demand is imperative for the competitiveness the automotive component industry, 41.9% agree and 1.5% disagrees.

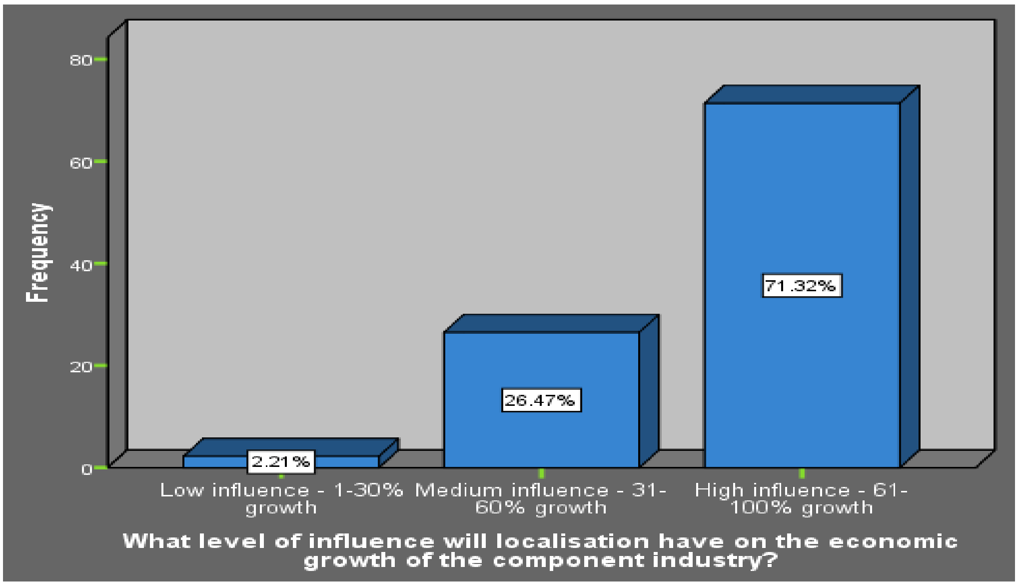
Further analysis of the results indicates that there is a significant, moderate, positive correlation (r = 0.412) between the growth rate of the domestic market has a direct relation on the ability to compete in the global markets, and restructuring of production networks having important implications in the component industry as trends toward global sourcing impacted on emerging markets as the trend is towards fewer tier suppliers and more foreign owned companies.

Figure 5.36 reveals that 37.5% strongly agree that supporting industries which are internationally competitive present benefits like innovation and shared technology creating advantages in both downstream and upstream industries, while 59.6% respondents agree, and 2.9% of respondents disagree. The results of the finding indicate that there is a general agreement in the industry on the benefits of downstream and upstream industries.

The overall results of the findings clearly outlines that the growth rate and size of the domestic market demand is imperative for the competitiveness the automotive component industry.

5.4.3.3 Level of influence localisation will have on economic growth of the component sector

Figure 5.37: Level of influence localisation will have on economic growth of the component sector



According to figure 5.37 the results reveal that 71.3% of the respondents rated localisation as have a high level of influence (61-100%) on the growth of the component industry. Of the 26.5% respondents that reported a medium influence (31-60%), 38,5% were international owned companies with no SA holding and 28.5% were Joint venture between South African company and International Suppliers. Only 2.2% of the industry rated localisation as having low influence (1-30%) on the economic growth of the component industry.

This result reinforces the fact that all tiers of supply in every classification of the supply chain view localisation as a high influencing factor in the growth of the automotive industry. These results support the comments by Black (2011) who stated that; pooling local content to achieve economies of scale will influence the growth of local content and positively impact on the growth of the industry. The cross tabulation in table 5.11 outlines the relations between the level of influence localisation will have on economic growth of the component sector and the OEMs perception of increasing localisation.

Table 5.11: Cross tabulation between the levels of influence localisation will have on economic growth of the component sector and OEMs perception of increasing local sourcing

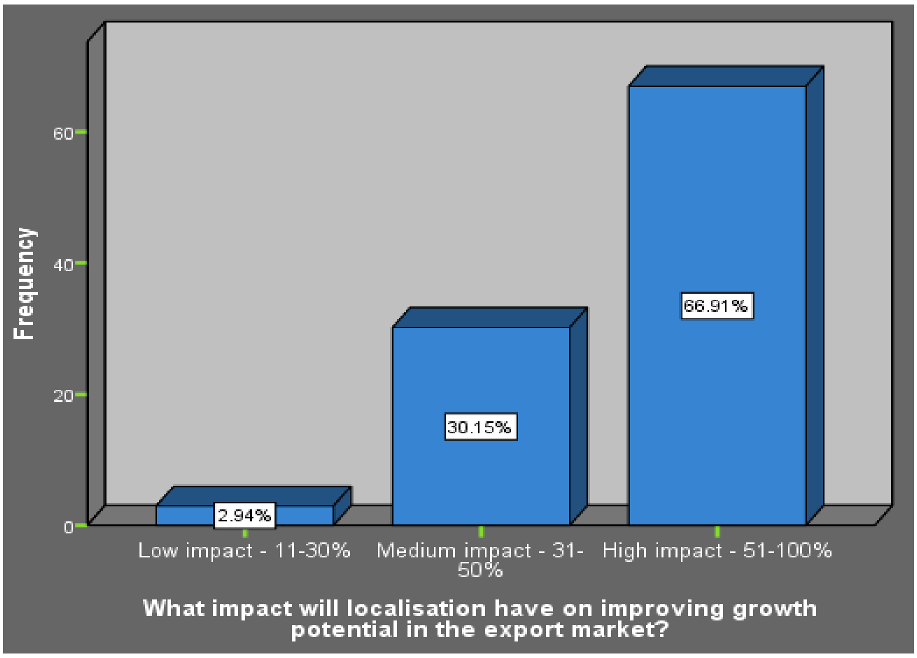
The level of influence localisation will have on the economic growth of the component industry (D3)	OEMs perceive increasing local sourcing levels in SA manufactured vehicles as a pre-requisite for establishing a sustainable production line (D9.2)				Total
	Strongly disagree	Disagree	Agree	Strongly agree	
Low influence - 1-30% growth	0	1	2	0	3
Medium influence - 31-60% growth	1	0	24	11	36
High influence - 61-100% growth	2	16	(50.5%) 49	(30.9%) 30	97
Total	3 (2.2%)	(12.5%) 17	(55.2%) 75	(30.1%) 41	136

The cross tabulation in table 5.11 indicates that 30.9% of the respondents strongly agree that OEMs perception in increasing local sourcing in SA manufactured vehicles as having a high influence (61-100%) on the economic growth of the component industry, while 50.5% agree that OEMs perception in increasing local sourcing in SA manufactured vehicles as having a medium influence (31-60%) on the economic growth of the component industry.

The cross tabulation highlights a general agreement of the OEMs perception of localisation as having a medium to high influence on the economic growth of the industry.

5.4.3.4 The impact localisation will have on automotive components export market

Figure 5.38: The impact localisation will have on automotive components export market

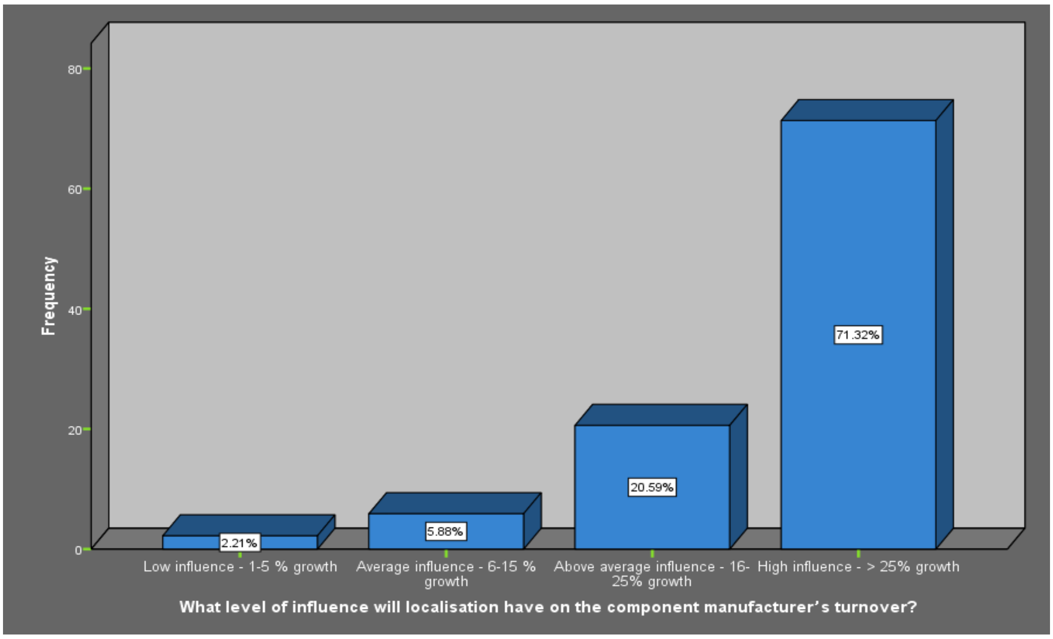


The results of the findings in figure 5.38 indicate that 66.9% of the respondents say localisation will have a high impact (51-100%) on improving growth potential in the export market, while 30.1% of the respondents say it will have a medium impact (31-50%) and 2.9% of respondents believe that localisation have a low impact.

There is a significant, moderate, positive correlation(r=0.611) between the impact localisation will have on improving growth potential in the export market, and the introduction of new standards and technology influencing the production of components for the global market requiring new quality standards and updated technology Therefore this correlation compliment Pitot (2011) conclusion that localisation is certainly one of the main driving forces behind the successful integration of the South African automotive component industry into the global market, with the implementation of new technology. In terms of the impact localisation will have on improving growth potential in the export markets, the results of the finding clearly indicates that all tier of suppliers within the value chain rate localisation as having a medium to high impact on the automotive components export market.

5.4.3.5 The impact localisation will have on automotive components manufactures turnover

Figure 5.39: The impact localisation will have on automotive components manufactures turnover

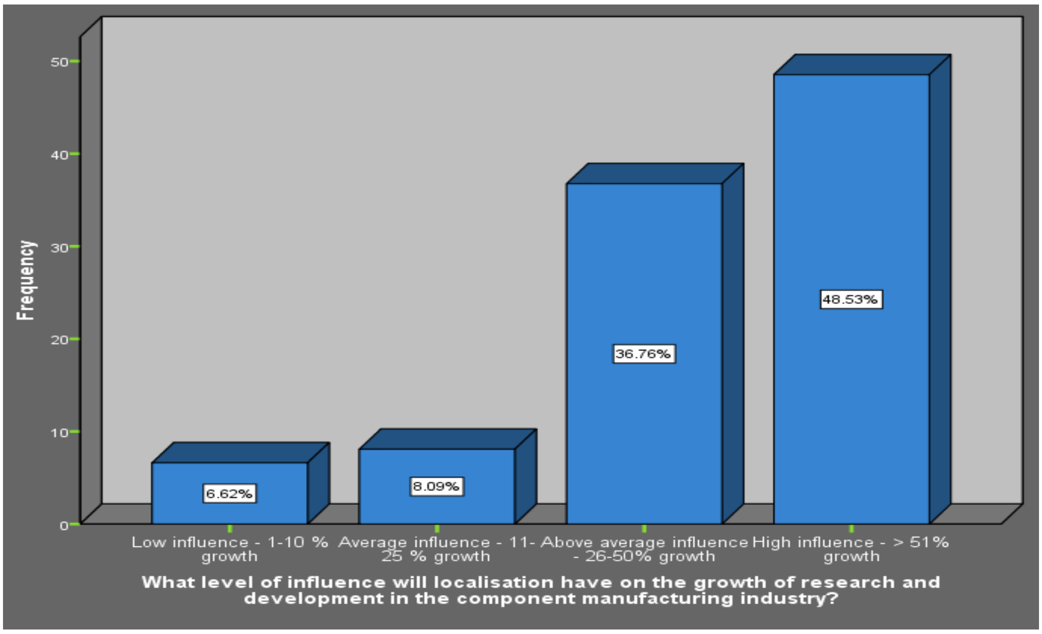


The results of the finding in figure 5.39 indicates that a total of 71.3% of respondents believe that localisation will have a high influence (above 25%) on the component manufacturer's turnover, while 20.6% of the respondents believe that localisation will have an above average influence (16-25%), 5.9% believe it will be an average influence (6-15%) and 2.2% of respondents believe it will have a low influence (1-5%).

There is a significant moderate, positive correlation($r = 0.548$); between level of influence localisation will have on the component manufacturer's turnover, and the level of influence localisation will have on the growth of research and development in the component manufacturing. The results of the finding clearly indicate that the industry is in agreement that localisation has a high influence (above 25%) on the component manufacturer's turnover.

5.4.3.6 The impact localisation will have on the growth of research and development in the automotive components manufacturing industry

Figure 5.40: The impact localisation will have on the growth of research and development in the automotive components manufacturing industry



The findings presented in figure 5.40 indicate that 48.5% of respondents believed that the localisation will have a high influence (>51%) on the growth of research and development in the component industry, while 36.8% of respondents view localisation as having an above average influence (26-50%), 8.1% of respondents view localisation as having of average influence (11-25%) and 6.6% of respondents view localisation as having low influence (1-10%). The results of the findings indicate that all tiers of suppliers from the three provinces of location share the similar view that localisation has a above average to high influence on the growth of research and development of the automotive industry component sector.

The findings agrees with the comments by Barnes (2010) who states that local companies are not lacking in capacity, however companies spent little or nothing on research and development because of their dependence on foreign partnership and licences.

5.4.3.7 Current global market trends

Figure 5.41: The current global marketing trends

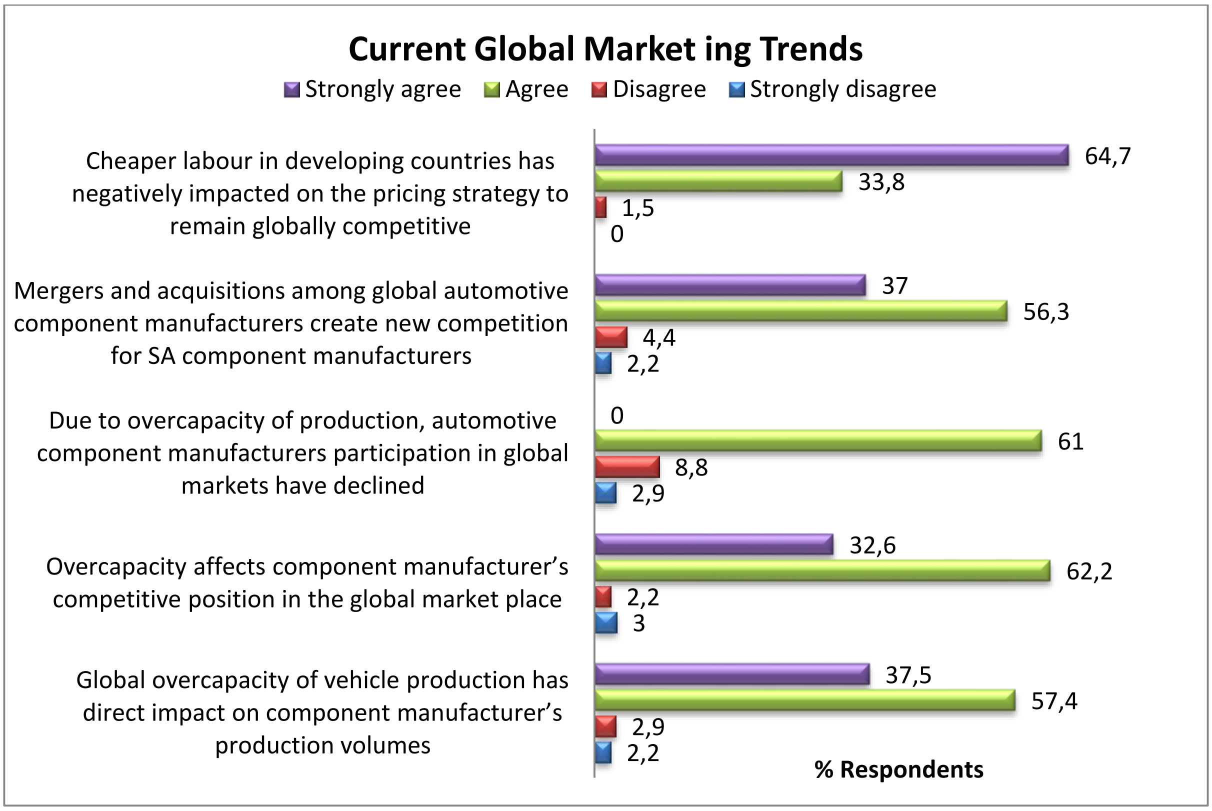


Figure 5.41 outlines that 37.5% of the respondents indicated that they strongly agree that global overcapacity of vehicle production has direct impact on component manufactures production volumes while 57.4% of the respondents agreed, 2.9% disagreed and 2.2% strongly disagreed. The findings of the results indicate that 5.2% of internationally owned companies with no SA shareholding, that are subsidiaries of multinational companies, who are operating as first tier suppliers, are not in agreement that global overcapacity impacts on component manufacturers production volumes. However there is a strong degree of agreement between all tiers of suppliers located in all three provinces, that overcapacity impacts on component manufactures production volumes. Further analysis indicated that there is a significant, moderate, positive correlation(r = 0.416) between global overcapacity of vehicle production having a direct impact on component manufacturer's production volumes, and SA being in a competitive location to produce and export auto components. The Platykurtic distribution of 2.068 indicates that global overcapacity of vehicle production is a high degree of importance in impacting on component manufacturers production volumes.

The results of the findings in figure 5.41 outlines that 32.6% of the respondents strongly agree that overcapacity affects component manufacturer's competitive position in the global market place, while 62.2% of the respondents agree, 2.2% disagrees and 3% strongly disagrees. The Platykurtic distribution of 2.525 indicates that global overcapacity is a high degree of importance, as it affects component manufacturer's competitive position in the global market place. The results indicate that there is a 94.8% agreement of the industry that overcapacity affects the competitive position of the component manufacturers.

The results in figure 5.41 indicate that the 27.2% of the respondents strongly agree that due to overcapacity of production, automotive component manufacturers participation in global markets have declined, while 61% agreed, 8.8% disagreed and 2.9% strongly disagreed. There is a significant, moderate, positive correlation (r = 0.418) between overcapacity affecting component manufacturer's competitive position in the global market place, and restructuring of production networks having important implications in the component industry as trends toward global sourcing impacted on emerging markets as the trend is towards fewer tier suppliers and more foreign owned companies

The results of the findings of the impact of overcapacity on the component manufactures supports the conclusions of Barnes and Morris (2008:32) who concluded that the magnitude of overcapacity is significantly evident in the automotive component sector, because of the nature of changes in the value chain relationships between OEMs and automotive component manufacturer.

The results indicate that 37% respondents strongly agree and 56.3% respondents agree that that mergers and acquisitions among global automotive component manufacturers created new competition for SA component manufacturers, while 4% respondents disagree and 2.2% of respondents strongly disagreed.

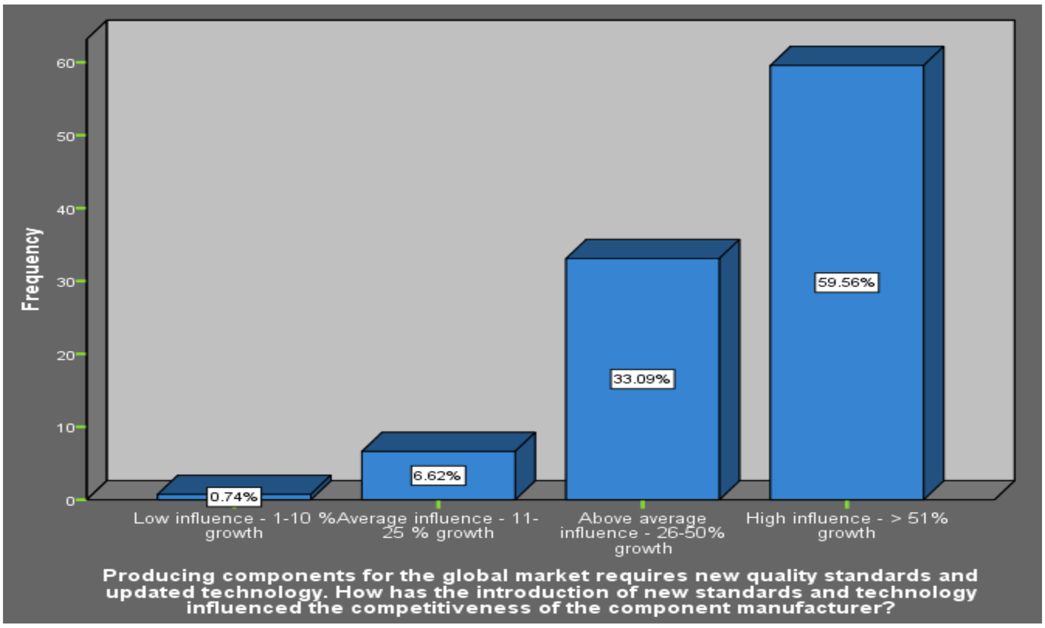
The results indicate that there is a general agreement from all tiers of suppliers within the value chain that mergers and acquisitions have created new competition for SA component manufacturers.

There is a significant, moderate, positive, correlation (r=0.408); between mergers and acquisitions among global automotive component manufacturers creating new competition for SA component manufacturers, and restructuring of production networks having important implications in the component industry as trends toward global sourcing impacted on emerging markets as the trend is towards fewer tier suppliers and more foreign owned companies for automotive component industry to improve its competitiveness. This correlation supports AIEC (2013:21) who outlined that the underlying global trends of mergers and acquisitions has significant impact on the development and future of the global automotive value chain role-players as well as on the developing automotive producing countries like SA.

The findings in figure 5.41 indicate that 64.7% respondents strongly agree that cheaper labour in developing countries has negatively impacted on the pricing strategy to remain globally competitive, 33.8% respondents agree and 1.5% respondents disagree. The results clearly indicate that the industry in general strongly agrees that cheap labour in developing countries is an influencing factor on the pricing strategy.

5.4.3.8 The influence of new standards and technology on the competitiveness of the automotive component manufacturer

Figure 5.42: The influence of new standards and technology on the competitiveness of the automotive component manufacturer.



Findings presented in figure 5.65 indicate that 59.6% of respondents view new standards and technology as having a high influence (>51%) on the competitiveness of the component sector, while 33.1% of the respondents view it as having above average influence (26-50%), 6.6% view it as having average influence (11-25%) and 0.7% as having low influence (1-10%). Table 5.12 below illustrates the cross tabulation between the tiers of suppliers and the influence new standards and technology has on the competitiveness of these suppliers.

Table 5.12: Cross tabulation between the tiers of suppliers and the influence new standards and technology on the competitiveness of the automotive component manufacturer

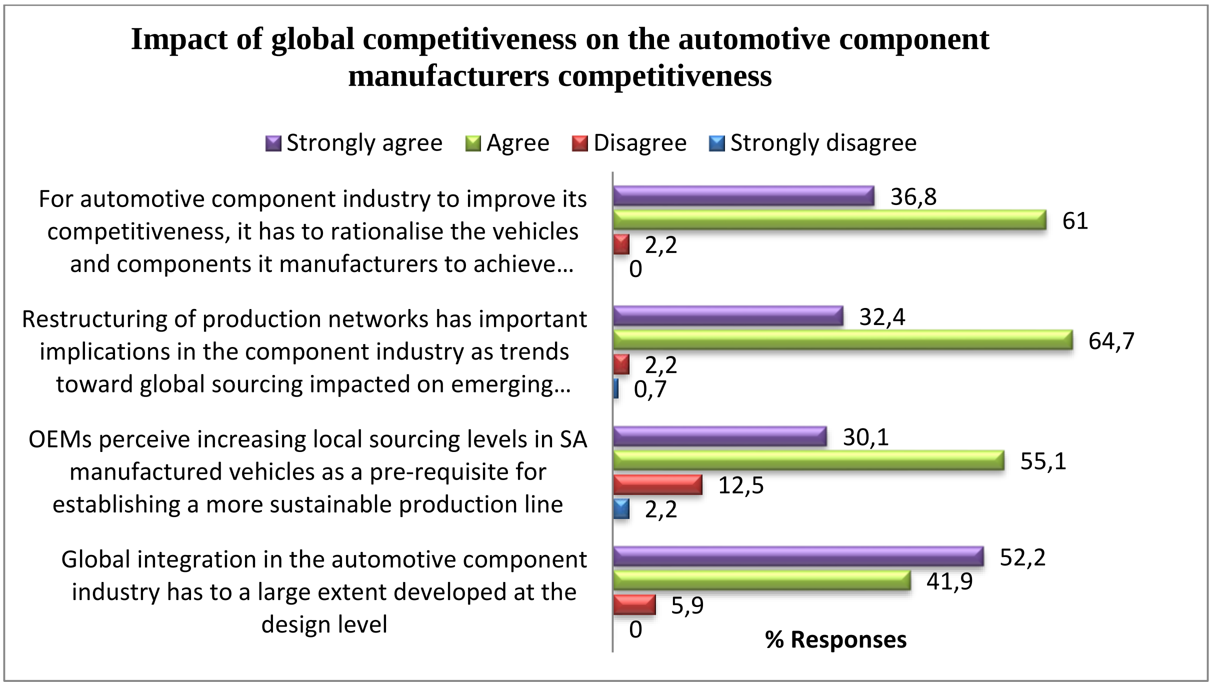
Tier of Suppliers (A7)	The influence of new standards and technology on the competitiveness of the automotive component manufacturer (D8)				Total
	Low influence - 1-10 % growth	Average influence - 11-25 % growth	Above average influence - 26-50% growth	High influence - > 51% growth	
First Tier Supplier	0	5	18	46	69
Second Tier Supplier	0	3	16	20	39
Third Tier Supplier	1	1	10	14	26
Other (Specify)	0	0	1	1	2
Total	1	9	45	81	136

The cross tabulation highlights a general agreement between all tier of suppliers that new standards and technology has a high influence of greater than 51% on the competitiveness of the component sector. The results further indicate that 41% of second tier and 39% of third tier suppliers rate new standards and technology as having an average influence between 26-50% on the competitiveness of the sector.

Therefore the cross tabulation indicates a high degree of importance from all tiers of suppliers for new standards and technology to impact positively on the competitiveness of the automotive component sector.

5.4.3.9 Impact of global competitiveness on auto component manufactures economic sustainability

Figure 5.43: Global integration in the automotive industry has developed to a large extent at design level



According to figure 5.43, the results indicate that 52.2% of respondents strongly agreed that Global integration in the automotive component industry has to a large extent developed at the design level, impacting on auto component manufactures economic sustainability, 41.9% respondents agree and 5.9% disagree. Table 5.13 indicates the cross tabulation between tiers of suppliers and the impact global integration in the component industry has developed at a design level influence component manufacturers economic sustainability.

Table 5.13: Cross tabulation between the tiers of suppliers and the impact of global integration

Tiers of Suppliers (A7)	Global integration in the component industry has to a large extent developed at a design level (D9.1)			Total
	Disagree	Agree	Strongly agree	
First Tier Supplier	6	16	47	69
Second Tier Supplier	0	24	15	39
Third Tier Supplier	2	16	8	26
Other (Specify)	0	1	1	2
Total	8	57	71	136

The results of the cross tabulation outlines that all tier of suppliers within the value chain strongly agree that global integration has to a large extent developed at a design level, which impacts on the component manufacturers economic sustainability. However the analysis also reveals that 61.5% second and third tier suppliers within the value chain agrees the impact global integration has on the component manufacturers economic sustainability. Therefore the cross tabulation indicates a high degree of importance the impact global integration in the component industry that has developed at a design level will have on the component manufacturers economic sustainability.

Figure 5.43 further outlines that the 30.1% of the respondents strongly agree that OEMs perceive increasing local sourcing levels in SA manufactured vehicles as a pre-requisite for establishing a more sustainable production line, impacting on auto component manufactures economic sustainability, while 55.1% of respondents agree, 12.5% disagree and 2.2% strongly disagree. It is clearly evident from the finding that the majority (85.2%) of respondents generally agreed that OEMs perceive increasing local sourcing levels in SA manufactured vehicles as a pre-requisite for establishing a more sustainable production line.

The findings of figure 5.43 clearly outlines that 32.4% respondents strongly agree, 64.7% respondents agree, 2.2% respondents disagree and 0.7% respondents strongly disagree, that the restructuring of production networks has important implications in the component industry as trends toward global sourcing impacted on emerging markets as the trend is towards fewer tier suppliers and more foreign owned companies which impacts on the component manufactures economic sustainability. The results reveal that 97 % of the industry is in agreement, which indicates the significant importance that restructuring production networks has on the component manufacturer's economic sustainability.

The findings presented indicates that 36.8% respondents strongly agree, and 61% respondents agree that for the automotive industry to improve its competitiveness, it has to rationalise the component it manufacturers to achieve higher volumes from much smaller product range, which has direct impact on the economic suitability of the component manufacturers.
Only 2.2% of the respondents are in disagreement, who is international owned companies with no SA shareholding located in KZN who are modular suppliers of imported parts.

The aim of objective three was to determine the impact global competitiveness will have on economic sustainability and growth in the component sector in SA. The results of the findings clearly indicates that tougher competition, saturated markets, growing access capacity and a change in demand structures are of a high degree of importance on the future growth and competitiveness of the automotive component industry. The results support the research by Sirikrai and Tang, (2006:75) who states that the global automotive industry is dominated by few OEMs, with intense competition for increased market share, resulting in challenges, as well as opportunities for emerging economies.

The results further indicate that localisation is certainly one of the main driving forces behind the successful integration of the South African automotive component industry into the global market. Localisation has a significant influence on improving the growth potential of the export market resulting in improved turnover of the industry. The results also reveals that the major global trends of production overcapacity, saturated markets, new technology, innovation and strategic outsourcing have significant impact on the future of the automotive component sector.

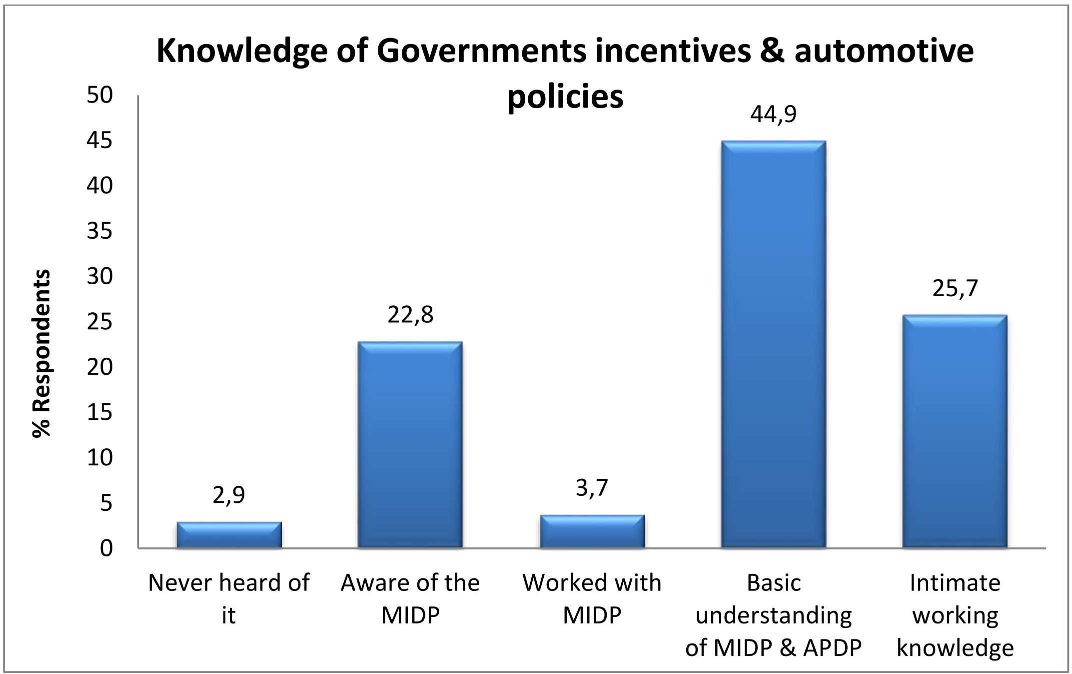
5.4.4 Objective four: To analyse the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market

Section E of the questionnaire aimed to establish the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market. The findings relating to answering this objective will be analysed and presented.

According to Flatter (2002) the automotive industry has a significant distinguishing factor to other industries because of the high importance of government policies in steering the automotive sector development. South Africa’s, entry into the global economy was planned, with trade liberalization occurring in stages alongside a range of industrial policies designed to increase productivity and promote exports, resulting in South Africa being able to seize the opportunities and overcome many of the challenges presented by globalization.

5.4.4.1 Companies knowledge of government automotive incentives and policies for SA

Figure 5.44: Knowledge of government's automotive incentives and policies

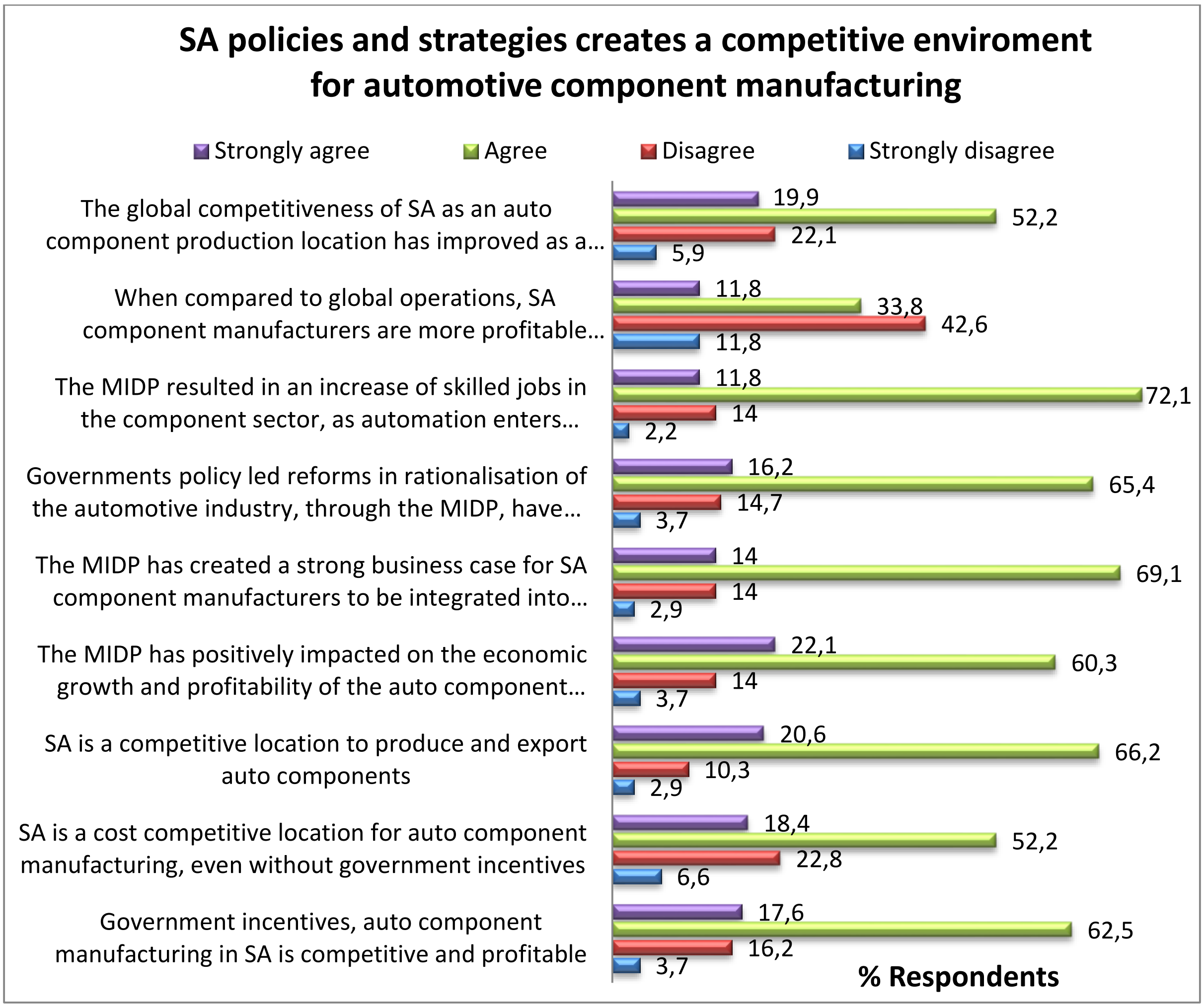


The result in figure 5.44 reveals that 25.7% of the respondents indicated that they have an intimate working knowledge of the MIDP and APDP. Of the 25.7% respondents 92% were first tier suppliers, who are subsidiaries of multinational companies. The results further indicates that 44.9% of the industry have a basic understanding of the MIDP and APDP, who are mainly from first and second tier suppliers. A very small percentage of 3.68% of the industry indicated that they have worked with the MIDP. 22.8% of the industry from tier two and tier three indicated that they are aware of the MIDP and 2.9% indicated that they never heard of the MIDP.

The results clearly indicate that the all tier of suppliers within the supply chain has an understanding and knowledge of the government incentives and policies for the automotive industry.

5.4.4.2 SA policies and strategies for creating a competitive environment for automotive component manufacturing

Figure 5.45: SA Policies and Strategies for creating a competitive environment for automotive component manufacturing



The results of figure 5.45 outlines that 17.7% of the industry strongly agrees and 62.5% of the industry agrees that with the support of government incentives, manufacturing in SA is competitive and profitable. However 16.2% of the industry disagrees and 3.7% strongly disagree. The results indicate that the there is a general agreement in the industry that with government incentives the component industry is competitive and profitable. The 19.9% of the industry that disagrees are mainly from the third tier supplier, who don’t benefit directly from these incentives.

Figure 5.45 indicates that 18.4% of the respondents strongly agree that SA is a cost competitive location for auto component manufacturing, even without government incentives, while 52.2% of the respondents agree, 22.8% respondents disagree and 6.6% of respondents strongly disagree. It is evident from the results that 29.4% of the industry who are subsidiary of multinationals and international owned companies with no SA shareholding disagree that that SA is a cost competitive location, even without government incentives. The results further indicate that there is a significant moderate, positive correlation(r = 0.428) between SA being a cost competitive location for auto component manufacturing, even without government incentives, and the MIDP making a great contribution to the economic growth of the country by increasing competitiveness at a global level and increasing productivity output. Table 5.14 indicates the cross tabulation between the province of location and SA being a cost competitive location even without government incentives.

Table 5.14: Cross tabulation between provincial location and SA being a cost competitive location even without government incentives.

Province of Location(A2)	SA is a cost competitive location even without government incentives(E2.2)				Total
	Strongly disagree	Disagree	Agree	Strongly agree	
KwaZulu Natal	2	15	19	9	45
Eastern Cape/Port Elizabeth	6	10	23	5	44
Gauteng	1	6	29	11	47
Total	9	31	71	25	136

As indicated in table 5.14 there is a significant difference in the provincial location of the company and SA being a cost competitive location for auto component manufacturing, even without government incentives ($p = 0.033$). This relationship was further explored using Kruskal-Wallis, which indicated a significant difference between the variables. Mann-Whitney revealed the difference lay between Eastern Cape/Port Elizabeth and Gauteng ($p = 0.010$). The cross tabulation reveal that more companies from KZN and Eastern Cape were in disagreement than companies from Gauteng.

The results of the findings in figure 5.45 indicate that 20.6% of respondents strongly agree and 66.2% agree that SA is a competitive location to produce and export auto components, however 10.3% of respondent disagree and 2.96% strongly disagree.

The results clearly indicate that the industry is in agreement that SA is a competitive location to produce and export auto components. Table 5.15 outlines the cross tabulation between the province of location and SA being a cost competitive location to produce and export components.

Table 5.15: Cross tabulation between provincial location and SA being a cost competitive location to produce and export components

Province of location(A2)	SA being a cost competitive location to produce and export components (E2.3)				Total
	Strongly disagree	Disagree	Agree	Strongly agree	
KwaZulu Natal	0	2	31	12	45
Eastern Cape/Port Elizabeth	4	8	26	6	44
Gauteng	0	4	33	10	47
Total	4	14	90	28	136

Table 5.15 indicates that that there is a significant difference in the provincial location of the company and SA being a competitive location to produce and export auto components ($p = 0.010$). This relationship was further explored using Mann-Whitney, which revealed that the difference lay between Eastern Cape/Port Elizabeth and Gauteng ($p = 0.026$); and KZN and Eastern Cape/Port Elizabeth ($p = 0.005$). The cross tabulation results clearly indicates that a small percentage of the industry from KZN and Gauteng are is disagreement compared to Eastern Cape.

With regard to the impact the MIDP has on the economic growth and profitability of the sector, the results indicated in figure 5.45 outline that 22.1% of the industry strongly agrees, 60.3% agree, while 14% disagree and 3.7% strongly disagree. There is a significant, moderate, positive correlation between the MIDP positively impacting on the economic growth and profitability of the auto component manufacturers, and the MIDP specifically being designed to encourage the incorporation of SA assembly and component production into the global value chain ($r = 0.587$), and the MIDP making a great contribution to the economic growth of the country by increasing competitiveness at a global level and increasing productivity output ($r = 0.599$). This correlation supports Kaplan (2004) who outlined that the MIDP was one of the key drivers behind the shift towards vehicle and component exports contributing to the economic growth of the sector.

The results in figure 5.45 indicate 14% of respondent strongly agree and 69.1% agree that the MIDP has created a strong business case for SA component manufacturers to be integrated into global component development and production, while 14% of the respondents disagree and 2.9% strongly disagree. There is a significant, moderate, positive correlation(r = 0.446) between the MIDP creating a strong business case for SA component manufacturers to be integrated into global component development and production, and the key objective of the MIDP being to empower the local auto manufacturer to become more competitive in the global markets. The overall results indicate that 83% of the industry is in agreement that the MIDP has created a strong business case for the component manufacturers to be integrated into the global production and development.

In terms of the MIDP improving SA component manufacturer's global competitive position, figure 5.45 indicates that 16.2% of the respondents strongly agree and 65.4% agreed, while 14.7% disagree and 3.7% strongly disagrees. The results of the finding clearly indicates that all tiers of suppliers within the value chain are in agreement that the MIDP has improved SA component manufacturers global competitive position, however 18.4% is in disagreement, who are mainly third tier suppliers located in KZN and Eastern Cape. The results further indicate that there is a moderate, positive, significant correlation (r=0.548) between governments policy led reforms in rationalisation of the automotive industry, through the MIDP, having improved the SA automotive component industry's global competitive position, and the MIDP shifting the auto industry towards an increasing integration into the global value chains; the MIDP empowering the local auto manufacturer to become more competitive in the global markets (r =0.551).

The results of the findings in figure 5.45 indicates that 11.8% of respondents strongly agree that the MIDP resulted in an increase of skilled jobs in the component sector, as automation enters plants around SA, while 72.1% agree, 14% disagree and 2.2% strongly disagree. The results indicate that 83.8% of the industry is in agreement that the MIDP has resulted in an increase in skilled jobs.

In terms of SA component manufacturers being more profitable that the rest of the world, 11.8% of the industry strongly agrees and 33.8% of the industry agrees. The 45.6% of respondents that are in agreement are mainly from first and second tier supplier located in Gauteng. The results further indicate that 42.6% of the industry disagrees and 11.8% strongly disagree. Of the 54.4% of respondents that are in disagreement, 48% are from KZN and 33% from Eastern Cape. Figure 5.45 reveals that 19.9% of the respondents strongly agree that the global competitiveness of SA as an auto component production location has improved as a result of government interventions, while 52.2% of respondents agree, 22.1% respondents disagree and 5.9% of respondents strongly disagree. Of the 28% of respondents that disagree, 59% are local owned SA companies and 32% are joint ventures between South African company and International Suppliers. However 72% of the industry is in agreement that government intervention has positively impacted on global competitiveness of SA as an automotive production location.

5.4.4.3 The extent the MIDP has impacted on the competitiveness of the automotive industry

Figure 5.46: The Impact of the MIDP on the competitiveness of the automotive industry

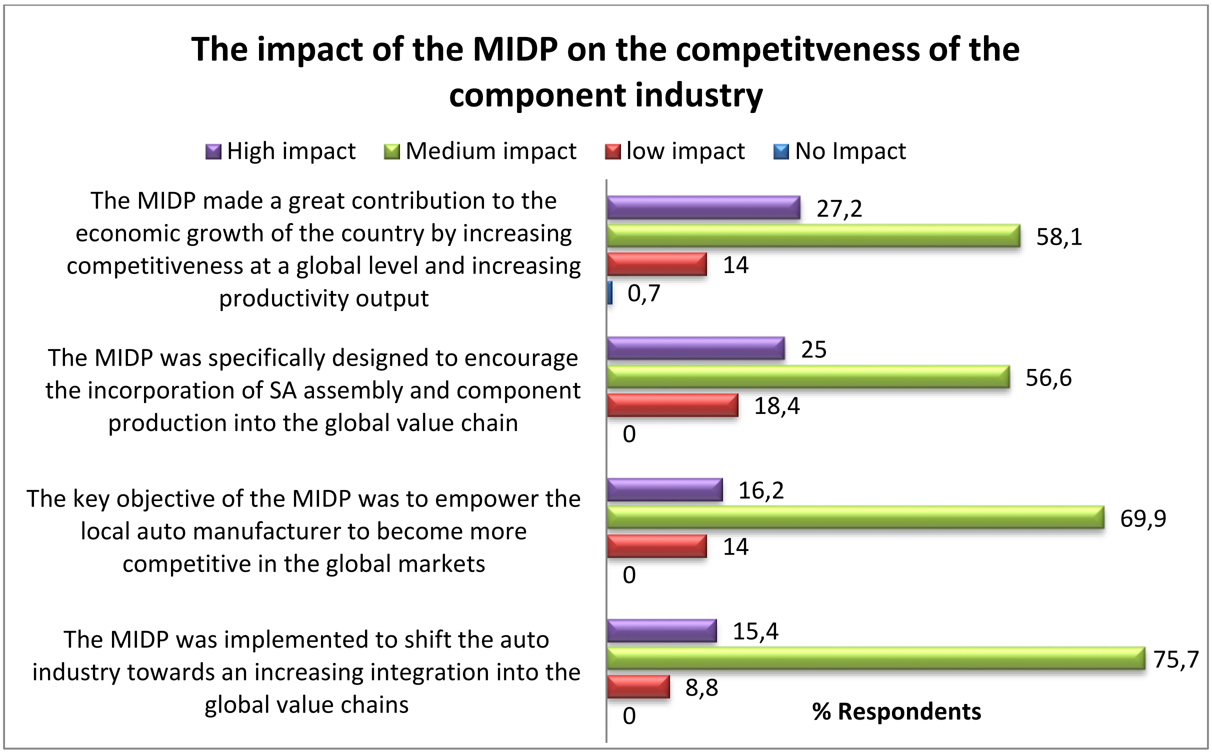


Figure 5.46 outlines that 15.4% of the respondents view the MIDP as having a high impact towards increasing integration into the global value chain, while 75.7% view it as having a medium impact and 8.8% as having low impact. The results indicate that 91.2% of the industry view the MIPD has having a medium to high impact on increasing integration into the global value chain.

The findings indicate that 25% of the respondents rated the MIDP has having a high impact on empowering local manufacturers to become more competitive in global markets, while 69.9% rated it as having a medium impact and 14% rated it has having a low impact. The results of the finding clearly indicates that all tiers of suppliers within the value chain are in agreement that the MIDP has a medium to high impact on empowering local manufacturers to become more competitive in global markets.

In terms of the MIDP encouraging the incorporation of SA assembly and component production into the global value chain, 25% of the respondents rate this as having a high impact, while 56.6% rate it as having a medium impact and 18.4% as having low impact. The analysis further indicates that third tier suppliers, who are single plant firms, rate the MIDP incorporation of component production into the global value chain as having a low to medium impact, while the first and second tier suppliers rate it as having a medium to high impact.

Figure 5.46 indicated that 27.2% of respondents believe that the MIDP had a high impact on the economic growth of the country by increasing competitiveness at a global level and increasing productivity output, while 58.1% believe that it had a medium impact, 14% believe it had a low impact and 0.7% believe it had no impact. The results indicate that 85.3% indicate that the MIDP has a medium to high impact on the economic growth of the country by increasing competitiveness at a global level.

5.4.4.4 Trade liberalisation policies

Figure 5.47: The impact of trade liberalisation policies

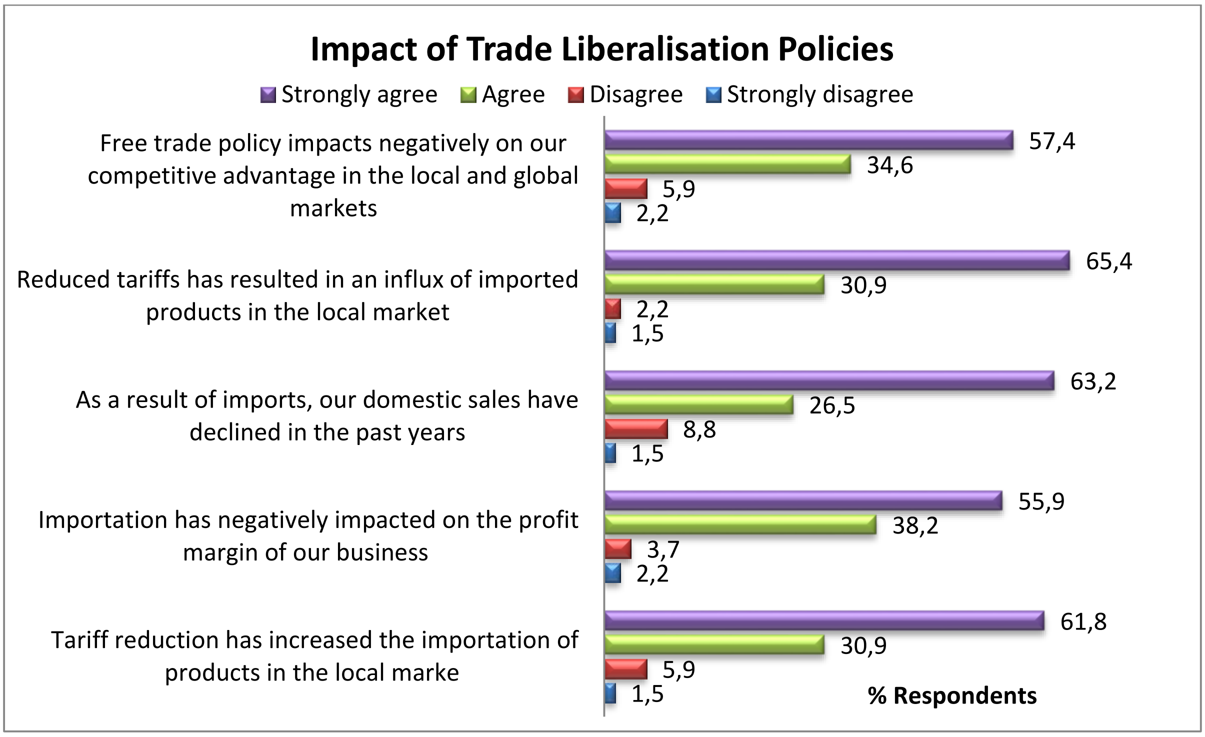


Figure 5.47 shows that 61.8% of respondents strongly agree that tariff reductions have increased imports in the local market, while 30.9% of respondents agree and 5.9% of respondents disagree. The results further indicate that there is a significant, moderate, positive correlation (r=0.447) between increased tariff reduction on the importation of products in the local market, and governments policy frameworks seeking to improve international competitiveness of component manufacturers through re-orientation of incentives towards local manufacturing and capacity building. The finding clearly indicates that all tiers of suppliers within the value chain are in agreement that tariff reduction has increased the imports in local markets

The results in figure 5.47 indicate that 55.9% of respondents strongly agree that importation has negatively impacted on the profit margins of the business, while 38.2% of respondents agree, 3.7% disagree and 2.2% agree. The results indicate that there is 94.1% agreement within the industry that importation has negatively impacted on the profit margins of the business.

The results of the findings in figure 5.47 outlines that 63.2% of respondents strongly agree that as a result of imports, domestic sales have declined in the past years, while 26.5% agree and 8.8% disagree. The results indicate that 89.7% of the industry is agreement that as a result of imports domestic sales have declined.

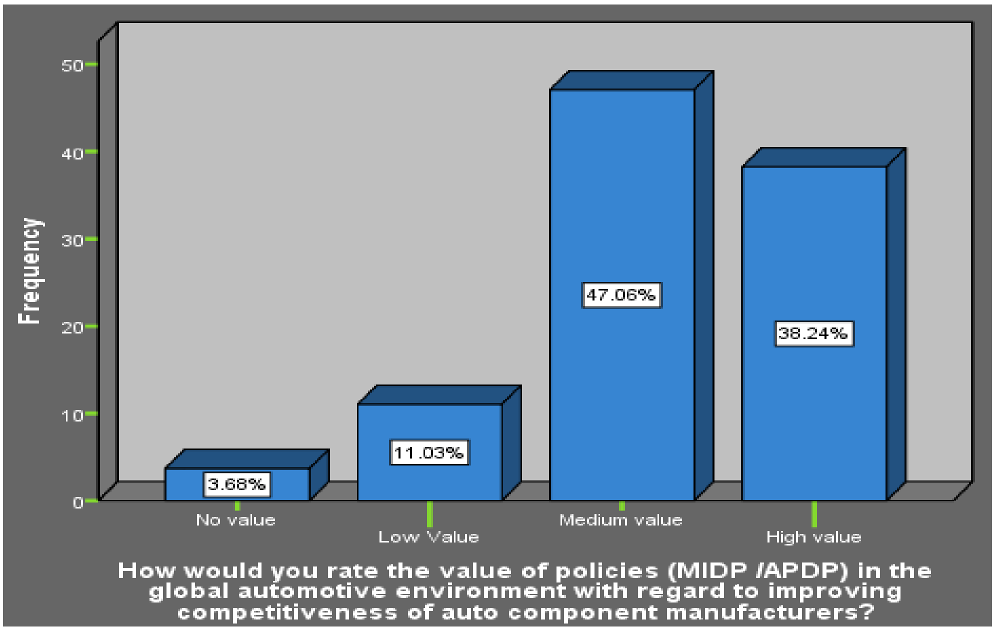
The results of figure 5.47 further indicate that 65.4% of respondents strongly agree and 30.9% agree that reduced tariffs have resulted in an influx of imported products in the local market. There is a significant, moderate, positive correlation($r = 0.423$) between reduced tariffs resulting in an influx of imported products in the local market, and Government policy frameworks seeking to improve international competitiveness of component manufacturers through re-orientation of incentives towards local manufacturing and capacity building.

The findings presented in figure 5.47 outlines that 57.4% of respondents strongly agree, and 34.6% of respondents agree that free trade policy impacts negatively on our competitive advantage in the local and global markets, however 5.9% of respondents disagree and 2.2% of respondents strongly disagree. The results indicate that there is a significant, moderate, negative correlation ($r = -0.413$) between free trade policies impacting negatively on the competitive advantage in the local and global markets, and government incentives on import and export compensation mechanisms not helping the growth and sustainability of the component manufacturers in the long term.

The analysis of the data in figure 5.47 provides evidence that a high influx of imported components have negatively impacted on the local markets competitive advantage. According to the data provided by AIEC, (2012:23), imports have also grown from R88.5 billion in 2006 to R136.1 billion in 2013, a growth rate of 35%, which supports the results of the findings of figure 5.47.

5.4.4.5 The value of policies in improving competitiveness in the global environment

Figure 5.48: The value of policies in improving competitiveness in the global environment

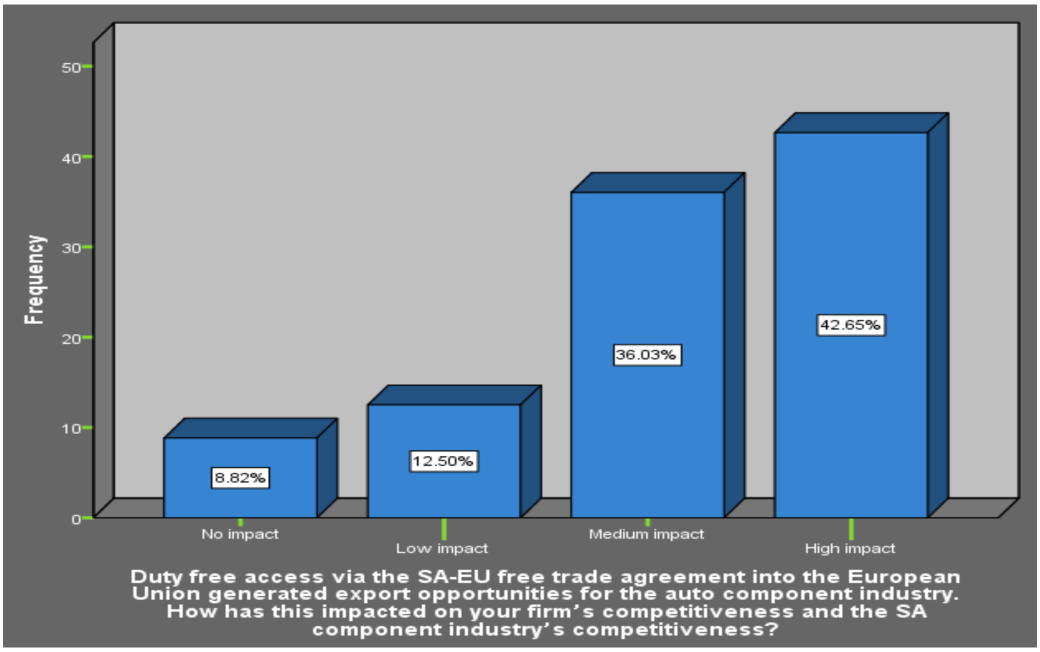


The value of government policies in improving the competitiveness of the automotive component industry is viewed by 38.3% of the industry as having high value and 47.1% as having medium value.

The results further indicate that 14.7% of the industry, who are mainly third tier suppliers of single plant firms, that view government policies in improving competitiveness as having no to low value in improving competitiveness.

5.4.4.6 The impact of free trade agreements on SA component industry's competitiveness

Figure 5.49: The impact of free trade agreements on SA component industry's competitiveness

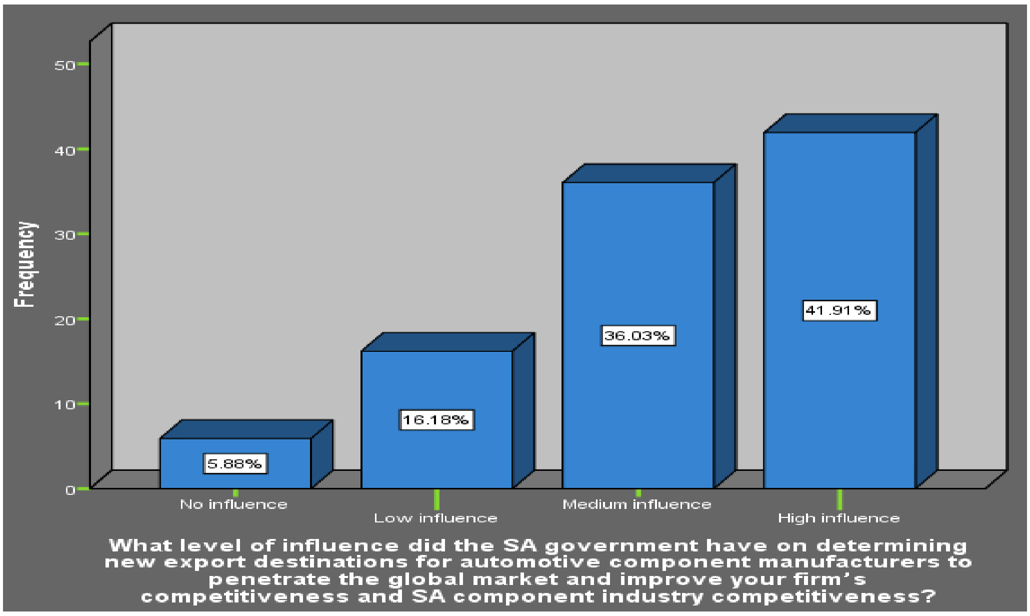


The impact of SA-EU free trade agreement into the European Union is viewed by 42.65% of the industry as having a high impact on SA component industry's competitiveness, and 36% viewed it as having medium impact. The results indicate that 78.7% of first and second tier suppliers view the free trade agreement into the EU as having a medium to high impact on the competitiveness of the component industry. The results further indicate that 21.3% of the industries, who are mainly third tier suppliers of single plant firms, view SA-EU free trade agreements as having low to no impact on competitiveness on the component industry, because the third tier suppliers have limited export capabilities.

The analysis of the results indicate that there is also a significant, moderate, positive correlation($r = 0.449$); between duty free access via the SA-EU free trade agreement into the European Union generating export opportunities for the auto component industry, and the auto component industry growing at a faster pace in the next 15 years as a result of the APDP.

5.4.4.7 The level of influence of SA government in determining the export markets

Figure 5.50: The level of influence of SA government in determining new export markets



The results of the findings of figure 5.50 outlines that 41.9% of respondents rated the influence SA government have on determining new export destinations for automotive component manufacturers to penetrate the global market and improve the firm's competitiveness as having a high influence and 36% rated it as having a medium influence, while 16.2% rated it as having a low influence and 5.9% as having no influence.

The results indicate that there is a significant, moderate, positive correlation (r=0.508) between the level of influence the SA government has on determining new export destinations for automotive component manufacturers to penetrate the global market and; the APDP improving inter industry linkages and more synergy between non-automotive industries will result in robust growth for SA.

5.4.4.8 The impact in reduction of tariffs on the firm's competitiveness and the competitiveness in the domestic market.

Figure 5.51: The impact of tariff reductions on the firm's competitiveness and competitiveness of the domestic market

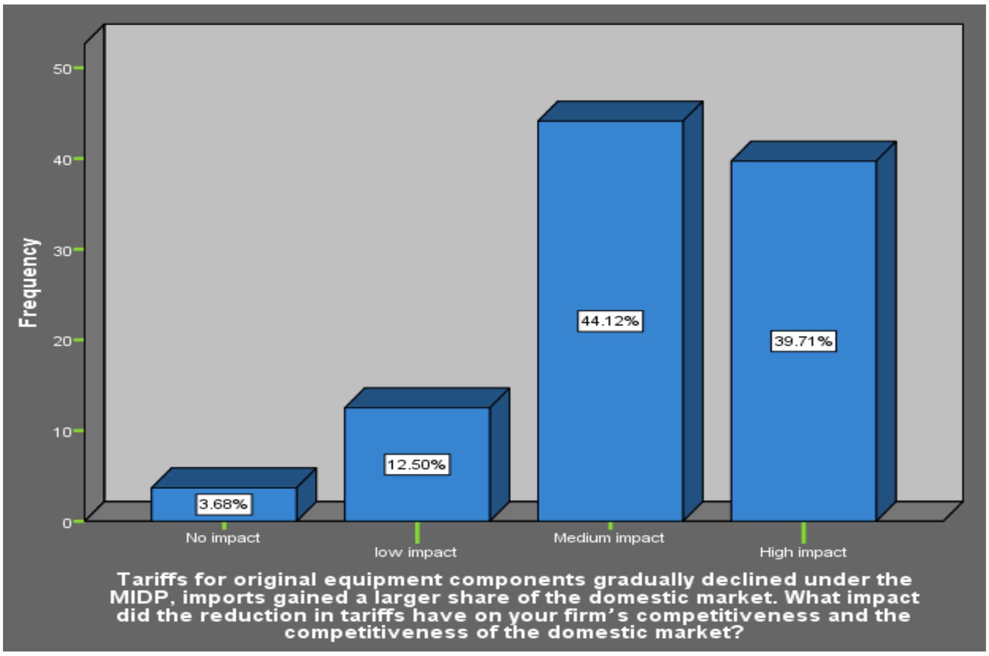


Figure 5.51 indicates that 39.7% of respondents rated reduction in tariffs as having high impact on the firm's competitiveness and 44.1% rated it as having a medium impact on competitiveness. Figure 5.51 further indicate that 12.5% rate reduction in tariffs as having low impact on competitiveness and 3.7% as having no impact. The results further indicate that locally owned, single plant firms rated reduction in tariffs as having a medium to high impact on competitiveness compared to multinational companies who rated reduction in tariffs as having low to medium impact on competitiveness.

The results also indicate that there is a significant, moderate, positive correlation between the impact of tariffs for original equipment components gradually declining under the MIDP, with imports gaining a larger share of the domestic market, and the rating of the automotive components industry dependence on future government support in form of the APDP or new revised support programmes ($r = 0.425$, $n = 136$, $p < 0.0001$).

The aim of objective four was to establish the role of strategies and policies in creating a competitive advantage for the SA automotive component industry in the global market.
The results clearly outline that government policies and strategies, like the MIDP and APDP have created a strong business case for the component manufacturers to be integrated into the global value chain, improving SA components industry's competitive position. The results of the finding supports the argument by Black (2009:492), who stated that government intervention, support and attractive incentives have been identified as the key factors impacting on the manufacturing competitiveness of the automotive component industry.

The results further indicate that trade liberalisation policies has negatively impacted on the profit margin the business and reduced tariffs resulted in an influx of imported products which has negatively impacted on the competitive advantage in the local and global market. These findings clearly provide evidence that support (AIEC 2013:14) who outlines that the South African automotive industry distinctive feature of industrial policy affecting the sector is the effective array of selective policies that were adopted. A cause-effect relationship exists between government developmental automotive policy and the operations and market structure that apply to the domestic automotive industry. The overall regulatory regime in South Africa is therefore very important in determining the actions of the domestic automotive firms and the evolution of the automotive policy regime in South Africa has had decisive impact on the actions of the firms.

The results further outlines that the MIDP is seen as a high influencing factor in determining new export markets, which has positively impacted on the competitiveness of the industry. These findings strongly support Kaplan (2004) who stated that the MIDP as an export-stimulating industrial policy was one of the key drivers behind the shift towards vehicle and component exports.

These findings further agree with AIEC (2013:17) who outlined that the national objectives of the MIDP were achieved by encouraging a phased integration into the global automotive industry and encourage modernization and upgrading of the automotive industry in order to promote higher productivity and facilitate the global integration process.

5.4.5 Objective five: To establish government's interventions in stimulating industry competitiveness by changes in policy and the impact of such changes on the competitiveness of the automotive industry

Section F of the questionnaire aimed to establish government's interventions in stimulating industry competitiveness by changes in policy and the impact of such changes on the competitiveness of the automotive industry. The results of the findings of this objective will be analysed and presented.

According to Black (2009:503), the trajectory of global growth in the automotive industry naturally has important implications for all emerging market producers including South Africa. Governments globally are actively attempting to promote their countries by attracting automotive investments via policy measures in recognition of the benefits that automotive investments generate with regard to economic growth, development and technology transfer.

Humphrey and Oeter (2000:44) outlined that active government support in developing countries has further encouraged industry development, therefore effective and efficient policy must ensure that the domestic automotive industry is competitive and can attract foreign direct investment. Its attractiveness is dependent on government's intervention and support to make the environment competitively conducive.

5.4.5.1 Governments intervention to stimulate industry competitiveness through change in policies and strategies

Figure 5.52: Government's intervention to stimulate industry competitiveness through change in policies and strategies

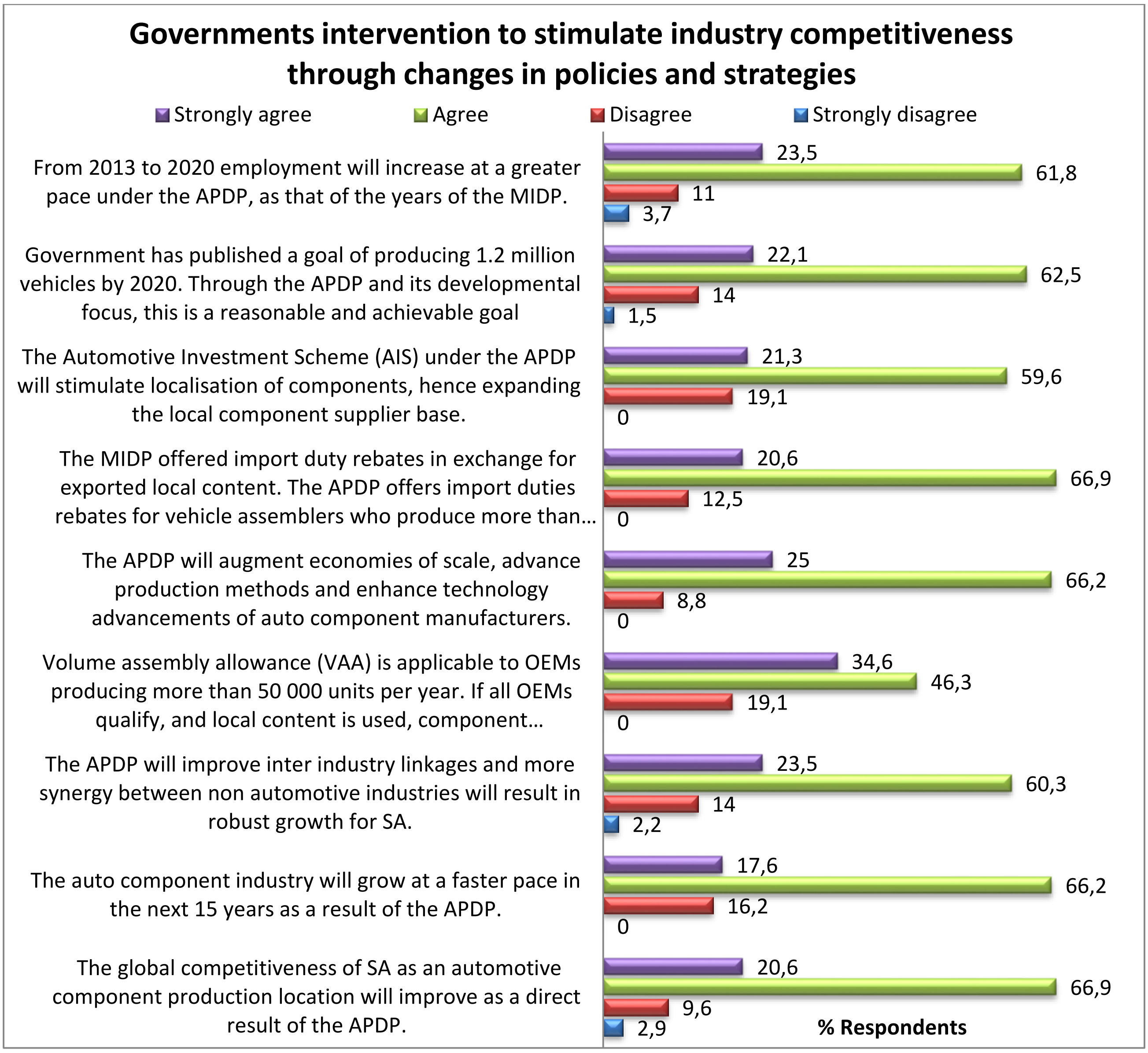


Figure 5.52 shows that 20.6% of respondents strongly agree that the global competitiveness of SA as an automotive component production location will improve as a result of the APDP and 66.9% of respondents agreed. The results of the finding clearly indicate that all tiers of suppliers within the value chain, from the three provinces of location, are in agreement. The results also show that 9.6% of respondents disagree and 2.9% strongly disagree.

The 12.5% of the industry that disagree are third tier suppliers that are locally owned companies, who do not benefit directly from the APDP.

The results of the findings presented indicate that 17.7% of the industry strongly agrees that the auto component industry will grow at a faster pace in the next 15 years as a result of the APDP, while 66.2% of respondents agree and 16.2% of respondents disagree. The results indicate that 83.8% of the industry are in agreement. There is a significant moderate, positive correlation (r = 0.477) between the auto component industry growing at a faster pace in the next 15 years as a result of the APDP, and government interventions stimulating the automotive component industry competitiveness assisted component manufacturers to increase their competitive position globally.

Figure 5.52 indicates that 23.5% of respondents strongly agree and 60.3% of respondents agree that the APDP will improve inter industry linkages resulting in robust growth for SA. This indicates that 83.8% of the industry is in agreement. The results also indicates that 14% of respondents disagree and 2.2% strongly disagree. Table 5.16 outlines the cross tabulation between the provincial location and the linkages and synergies created as a result of the APDP.

Table 5.16: Cross tabulation between provincial location and the linkages and synergies created as a result of the APDP

Provincial Location (A2)	Linkages and synergies created as a result of the APDP(F1.3)				Total
	Strongly disagree	Disagree	Agree	Strongly agree	
KwaZulu Natal	0	6	27	12	45
Eastern Cape/Port Elizabeth	2	9	27	6	44
Gauteng	1	4	28	14	47
Total	3	19	82	32	136

There is a significant difference in 2.2% of respondents who strongly disagree that the APDP will improve inter industry linkages resulting in robust growth for SA (p = 0.049). Mann-Whitney revealed the difference lay between Eastern Cape/Port Elizabeth and Gauteng (p = 0.024).

The cross tabulation indicates that of the 22 respondents that were in disagreement, 50% of the respondents were from Eastern Cape compared to 22% from Gauteng and 27% from KZN.

Figure 5.52 further indicate that 34.6% of respondents strongly agree and 46.3% of respondents agree that local content demand will achieve economies of scale resulting in cost competitiveness as a result of the volume assembly allowance (VAA).while 19.1% of respondents disagree. It is evident from the results that 80.9% of the industry is in agreement however 19.1% who are mainly third tier suppliers operating as single plant firms are in disagreement. The findings clearly provide evidence that there is a significant, moderate, positive correlation(r = 0.445) between local content demand will achieve economies of scale resulting in cost competitiveness as a result of the VAA, and Government interventions stimulating the automotive component industry competitiveness assisted component manufacturers to increase their competitive position globally.

Figure 5.52 indicates that 25% of respondents strongly agree and 66.2% agree that that APDP will advance production methods, enhance technology advancements and augment economies of scale of component manufacturers. The data analysis clearly provides evidence that 91.2% of the industry is in agreement, however 8.8% of the industry disagrees, who are third tier suppliers located in Eastern Cape.

The results of figure 5.52 indicate that 20.6% of respondents strongly agree and 66.9% agree that the integration from MIDP to APDP will encourage further integration of SA operations into global operations of OEMs and component manufacturers. The results further indicated that 12.5% of respondents disagreed that the MIDP offered import duty rebates in exchange for exported local content, and that the APDP offers import duties rebates for vehicle assemblers who produce more than 50 000 units per annum. The data analysis in figure 5.52 indicates that 21.3% of respondents strongly agree and 59.6% agree that the AIS under the APDP will stimulate localisation hence expand the local supplier base, however 19.1% of respondents disagree. The analysis provides evidence that there is a significant, moderate, positive correlation (r = 0.467) between the AIS under the APDP stimulating the localisation of components, hence expanding the local component supplier base, and the rating of the automotive components industry dependence on future government support.

Table 5.17 indicates the cross tabulation between the provincial location and the AIS under the APDP stimulating localisation hence expanding the supplier base.

Table 5.17: Cross tabulation between provincial location and AIS under the APDP stimulating localisation hence expanding the supplier base

Province of location (A2)	The AIS under the APDP will stimulate localisation hence expand the local supplier base (F1.7)			Total
	Disagree	Agree	Strongly agree	
KwaZulu Natal	7	28	10	45
Eastern Cape/Port Elizabeth	15	24	5	44
Gauteng	4	29	14	47
Total	26	81	29	136

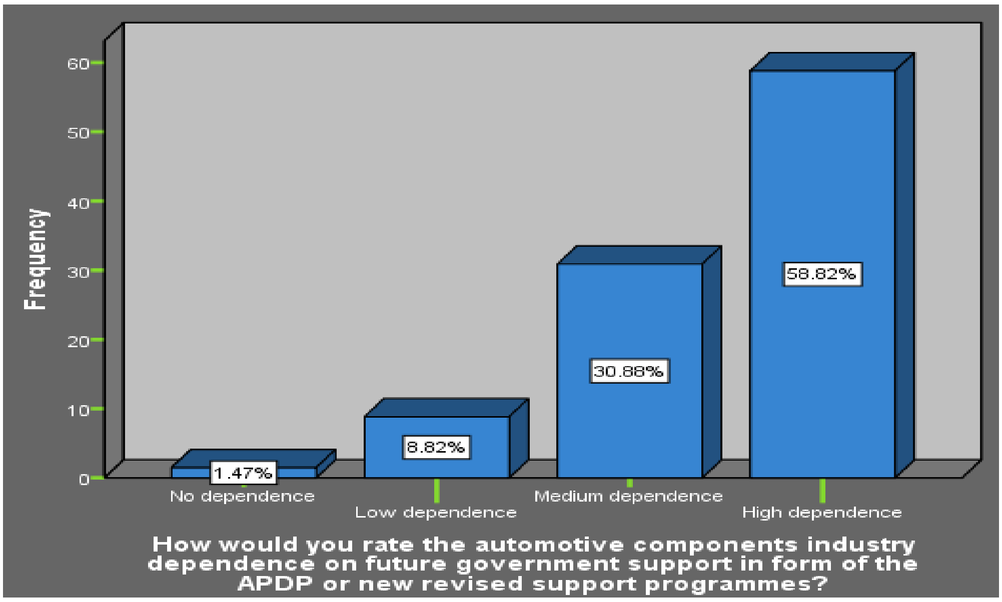
The cross tabulation indicates that there is a significant difference in the province of location between KZN and Eastern Cape (p = 0.030); were 57.7% of respondents from Eastern Cape disagree, while 26.9% of respondents from KZN disagree. There is also a significant difference between and Eastern Cape and Gauteng (p = 0.002) were 57.7% of respondents from Eastern Cape disagree while 15.4% of respondents from Gauteng disagree.

The results of the data in figure 5.52 clearly provides evidence that 22.1% of the industry strongly agree and 62.5% of the industry agree that through the APDP the goal of achieving 1.2 million vehicles is achievable by 2020. However 14% of the industry disagrees and 1.5% of the industry strongly disagrees.

The results of the findings of figure 5.52 clear indicate 23.5% of respondents strongly agree and 61.8% of respondents agree that employment will increase at a greater pace under APDP. The results also indicate that 11% of respondents disagree and 3.7% of respondents strongly disagree. The results of the finding clearly indicates that all tiers of suppliers within the value chain, from the three provinces of location, are in agreement, however 14.7% of the industry, who are mainly third tier suppliers are is disagreement.

5.4.5.2 Automotive industry dependence on future government support

Figure 5.53: Automotive Industry dependence on future government support

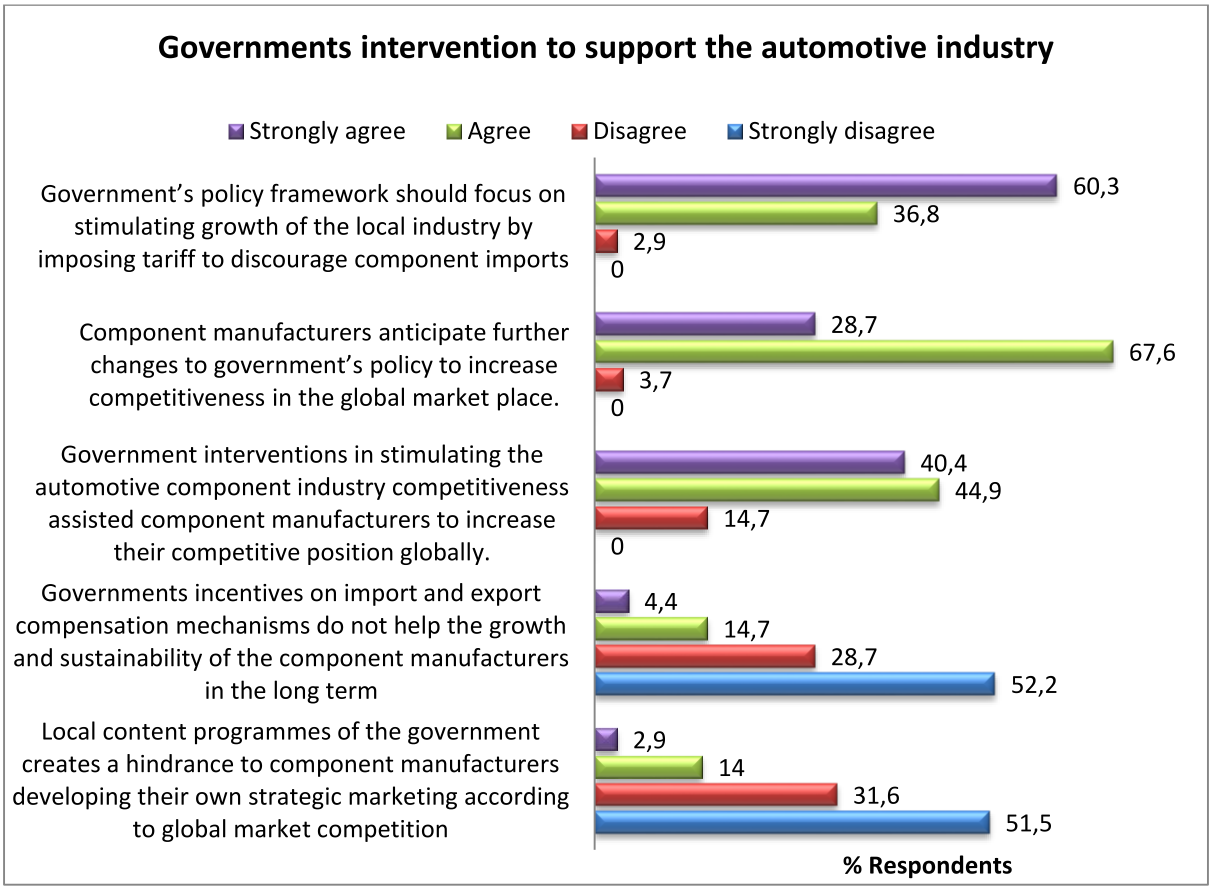


The findings in figure 5.53 show that 58.8% view the dependence on government support as high, while 30.9% view the dependence as medium, 8.2% view the dependence as low and 1.5% view government support as no dependence.

The analysis clearly outlines that 89.7% of the industry has a medium to high dependence on future government support. The 10.3% of the industry that view government support as having no to low dependence are locally owned SA companies that are single plant firms located in all three provinces.

5.4.5.3 Governments intervention to support the automotive industry

Figure 5.54: Governments intervention to support the automotive industry



Results of figure 5.54 indicate that 51.5% of respondents strongly disagree and 31.6% disagree that local content programmes of the government creates a hindrance to component manufacturers developing their own strategic marketing according to global market competition. The results also indicate that 14%of respondents agree, and 2.9% of respondents strongly agree. The 16.9% of respondents that are in agreement that a local content program creates a hindrance to component manufacturers, are first tier suppliers, who are subsidiaries of multinational companies, operating as modular assemblers of imported parts, with limited or no local content value addition, supplying directly to OEMs. This finding support the argument of Barnes and Black (2011), who stated that multinationals are mostly 'system integrators' where they operate as assemblers of imported components and use minimal local content in their assembly process.

Figure 5.54 shows that 52.2% of respondents strongly disagree and 28.7% of respondents disagree that government's incentives on import and export compensation mechanisms do not help the growth and sustainability of the component manufacturers in the long term, whereas 14.7% of respondents agree, and 4.4% of respondents strongly agree. The results reinforces the fact that 81% of the respondents in all tiers of operation and in every classification of the supply chain view government incentives as supporting the growth and sustainability of the component manufacturers in the long term.

The industry is in agreement that government's interventions assisted component manufactures to increase their competitiveness globally, as indicated in figure 5.54, where 40.4% of the industry strongly agreed and 44.9% of the industry agreed. A very small percentage of 14.75 of respondents disagree, which can be attributed to the fact that they form part of the lower levels of the value chain and do not benefit directly from government incentives. The analysis of the results indicate that there is a significant, moderate, positive correlation(r = 0.415) between government interventions stimulating the automotive component industry competitiveness assisted component manufacturers to increase their competitive position globally, and government interventions seeking to create an enabling environment for the domestic industry to significantly grow production volumes and enhance local value addition.

Figure 5.54 illustrates that 28.7% of the industry strongly agrees and 67.6% agrees that component manufacturer's anticipated further changes to policy to increase competitiveness in the global market place, whereas 3.7% of the industry disagree. The sentiment of agreement is shared throughout the supplier value chain and by all types of ownership in the different tiers of operation.

Government policy framework must focus on stimulating growth of the local industry by imposing tariffs is strongly welcomed by the industry as illustrated in the findings in figure 5.54, where 60.3% of the respondents strongly agree and 36.8% of respondents agree, however a very small percentage of 2.9% of respondents disagree. From the analysis it is clearly evident that all tiers of suppliers within the value chain, from the three provinces of location, are in agreement.

The results of the finding indicate that there is a significant, moderate, positive correlation (r = 456) between government's policy framework focussing on stimulating growth of the local industry by imposing tariff to discourage component imports, and government policy frameworks seeking to improve international competitiveness of component manufacturers through re-orientation of incentives towards local manufacturing and capacity building. The results of this finding is in agreement with Barnes (2010), who outlined that low import tariffs have put considerable pressure on the competitiveness of the South African automotive component manufacturing industry, hence implementation of tariffs will help reduce the trade deficit that the South African automotive industry has seen over the past years.

5.4.5.5 Government's intervention and policy framework to improving competitiveness of the automotive component industry

Figure 5.55: Government's intervention and policy framework to improving competitiveness of the automotive component industry

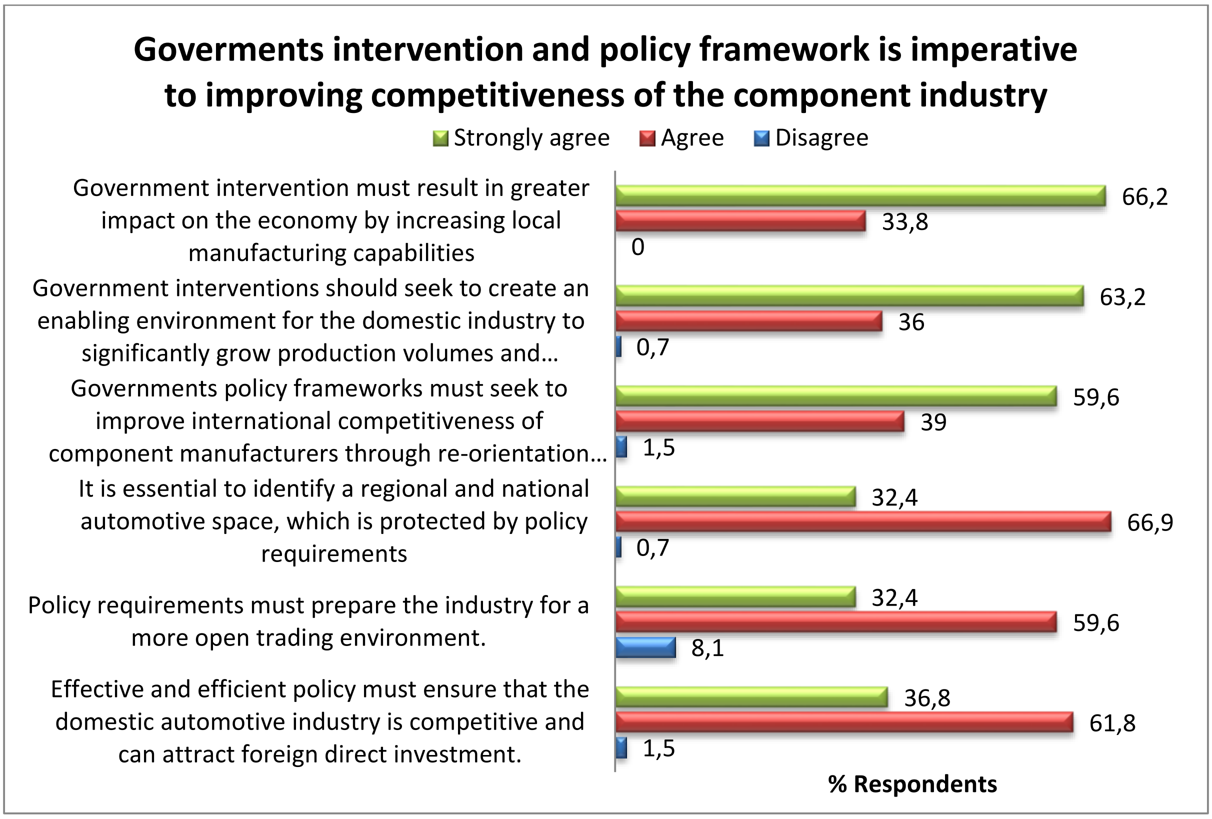


Figure 5.55 outlines that 36.8% of respondents strongly agree and 61.8% of respondents agree. Effective and efficient policy must ensure that the local industry is competitive and can attract foreign direct investment, whereas 1.5% of respondents disagree. This result reinforces that fact that respondents in all tiers of operation and in every classification of the supplier value chain are in agreement.

Policy requirements must prepare the industry for a more open trading environment is welcomed by the industry as illustrated in the findings in figure 5.55, where 32.4% of the industry strongly agrees and 59.6% agree, however a small percentage of 8.1% of the industry disagree.

From the findings in figure 5.55, it clearly evident that 32.4% of respondents strongly agree and 66.9% of respondents agree that it is essential to identify a regional and national automotive space, which is protected by policy requirements, whereas 0.7% of respondents disagree. The sentiment of agreement is clearly evident from the results.

It is clearly evident in figure 5.55, where 59.6% of respondents strongly agree and 39% of respondents agree that government's policy framework must seek to improve international competitiveness of component manufacturers through re-orientation of incentives towards local manufacturing and capacity building, whereas 1.5% of respondents disagree. It can be deduced from the analysis that the all tiers of operation and in every classification are in agreement.

Figure 5.55 shows that 63.2% of respondents strongly agree and 36% of respondents agree that governments intervention must create an enabling environment for local industry and enhance local value addition, however 0.7% of respondents disagree. The results indicate that there is an agreement throughout the supplier value chain in all tiers of operation.

The findings in figure 5.55 indicate that 66.2% of respondents strongly agree and 33.8% of respondents agree that government intervention must result in greater impact on the economy by increasing local manufacturing capability. This result reinforces the sentiment of the agreement of the industry.

The results of this finding agrees with Flatters (2005) who stated that government intervention , support and attractive incentives have been identified as the most important factors impacting on the growth of the automotive component industry. The aim of objective five was to establish government interventions in stimulating the industry competitiveness by changes in policy and the impact of such changes on the competitiveness of the automotive industry. The findings outlines that it is imperative for government intervention to stimulate the industry competitiveness through changes in policies and strategies. The findings relates to the DTI (2012) were it was noted that government intention of the APDP was to create an enabling environment for the domestic industry to significantly grow production volumes and local value addition thereby developing a world class automotive component manufacturing industry in SA.

The results further outlined that changes in policies will encourage further integration of SA operations into global operations resulting in sufficient demand to achieve economies of scale which will improve cost competitiveness. The results reinforced the agreement of the industry that government intervention and support is imperative to improving competitiveness of the automotive component industry. The results are in support to NAACAM (2013), who outlined that the APDP will reflect a quantum leap in terms of processes, technologies and the scale on which the domestic industry has functioned. The APDP focus is to ensure the sector has a greater impact on the economy and on national employment levels by increasing local content manufacturing.

5.5 Summary

The aim of the quantitative empirical research discussed in this chapter was to establish South Africa’s global competitiveness, identify factors that influence South Africa’s global competitiveness and determine the impact global competitiveness will have on the growth and sustainability of the automotive component manufacturer’s. This chapter gave an in depth discussion of the analysis and validation of the data collected from the questionnaires. The data were analysed by means of descriptive statistics and nonparametric analysis.

This concludes that analysis of the quantitative research findings. Recommendations will be made and final conclusions drawn in chapter 7. The next chapter will analyse and present the findings from the qualitative research undertaken.

CHAPTER SIX
Qualitative findings and discussions

6.1 Introduction

The nature of competition between firms, industries and nations has changed as a result of globalisation, which is evident by the shift in international trade patterns. Barnes and Kaplinsky (2000:797) outlines that by opening the economy and entering global trade, the South African automotive industry is facing an extremely competitive environment, both in entering the external markets and to cope with new entrants into the domestic markets. Due to the acceptance of competition in the national market, local companies are forced to increase their international competitiveness.

Barnes and Morris (2008:32), emphasized that the pace of development and the level of complexity in the global automotive industry has expanded exponentially over the past decades, however the SA automotive industry has retained its capability, where single production facilities manufacture a range of products at competitive prices to satisfy the domestic and export markets. The increasing orientation of OEMs towards exports has fundamentally changed the structure of their SA owned operations as well as the automotive component industry.

This chapter presents the findings of the interviews conducted with four industry experts. In line with the research questions, the purpose of this chapter was to explore the factors that influence South Africa’s global competitiveness and the impact global competitiveness will have on the growth and sustainability on the automotive component manufacturers.

This study adopted a qualitative, inductive approach to the analysis, inductively coding themes. Thereafter, a backdrop with the literature is provided to contextualize findings further.

6.2 Thematic analysis of qualitative data

According to Federay and Muir-Cochrone (2006:1) thematic analysis of qualitative data is used to identify themes or major ideas in a document or set of document. It is a form of pattern recognition within the data, where emerging themes become the categories or codes for analysis. The data collected was analysed using content analysis. Data was categorised as per each objective and guideline questions. From reviewing the data, key themes emerged and common trends across the interviewee's synthesized into key findings. The themes in this study were allowed to emerge from the data collected from the interviews.

6.3 Identification of themes

From the inductive coding process themes or nodes emerged from the text identified but at the same time also sub-themes or sub-nodes, which will be incorporated in the discussion. The themes that emerged from perceptions and insights expressed by respondents, illustrated the challenges the automotive component industry is experiencing to remain competitive in the market. Qualitative analysis software NVIVO 10 was used for detailed observations to uncover trends and words that are similar in meaning to identify word trees and tag clouds and from this main and sub-themes.

6.4 Word frequency and word or tag clouds

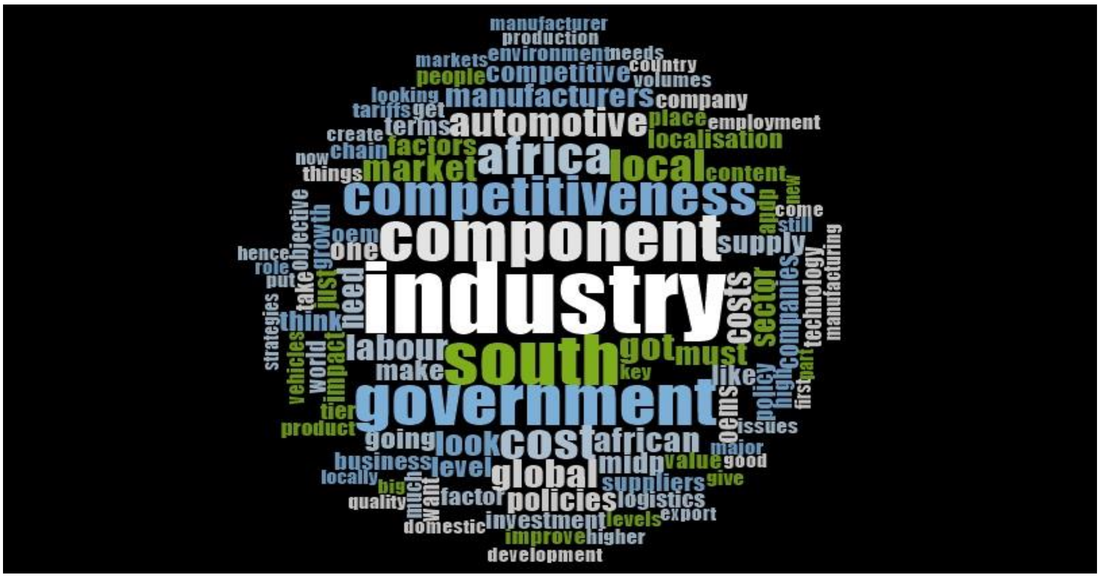
Tag Clouds are a graphical representation that displays up to 1000 words alphabetically in varying font sizes where frequently occurring words from the interviews are in larger fonts which assist researchers with technical analysis. It must, however, be noted that tag clouds only display frequently occurring words and not necessarily according to importance (Better Evaluation, 2013:1).

6.4.1 Word trees

The Word Tree is a visual tool used in Thematic Analysis that shows the different contexts in which words appear. The contexts are arranged as a tree with branches to expose recurring phrases and themes. The font size of the word that is used more frequently is displayed in a larger font size (Better Evaluation, 2013: 3).

The words that were most frequently used were, competitiveness, component, industry, South, Government, Automotive, Africa, Local, market, labour, cost, global, policies, and factors, as illustrated in figure 6.1. These findings are not surprising given the topic under study.

Figure 6.1: Word tree



Tree maps are diagrams that show hierarchical data as a set of nested rectangles of various sizes. Tree maps can be used to compare the number of coding references. Further investigation was prompted by the key words that were frequently used, namely competitiveness, automotive, government, and OEM's.

6.4.1.1 Competitiveness

Figure 6.2 illustrates the word tree highlighting the word 'competitiveness'.

Figure 6.2: Word Tree highlighting the word ‘competitiveness’

From figure 6.2, the following sentences were note worthy.

“when we look at global competitiveness we look at it too simplistically”

“competitiveness, we look at the cost and delivery”

“If it is about inefficiencies that brings about a lack of cost competitiveness then you need to look at the entire value chain”

“Competitiveness is a never ending process, the moment you improve one element, a weakness shows in another element”

“the competitiveness gap is widening year on year”

“competitiveness is such a broad determination. You can throw billions into this, it’s not going to make it global competitiveness”

“You can throw billions into this, it’s not going to make it global competitiveness”

“issues that impact on their global competitiveness their logistics costs, electricity disruptions, labour disruptions, port congestion. These issues must be split to internal and external factors”

“but you cannot base competitiveness on currency deviations. Its more than that, it’s also based at the company level in terms of cooperation efficiencies”

“The low tier suppliers in the South African industry are grasping onto incentives like the APDP, which is focusing on lower tier development to improve lower tiers competitiveness hence, increasing their benefits as lower tier suppliers to the first tier suppliers”

“The APDP is seen as the key to improving international competitiveness in the automotive component industry”

"Projects will come economically viable because of higher volumes”

“The increased volumes will obviously be a contributing factor to improve their competitiveness and assist the component manufacturers in becoming world viable”

“Definitely government policies have impacted positively on the growth, sustainability and improved competitiveness of the industry”

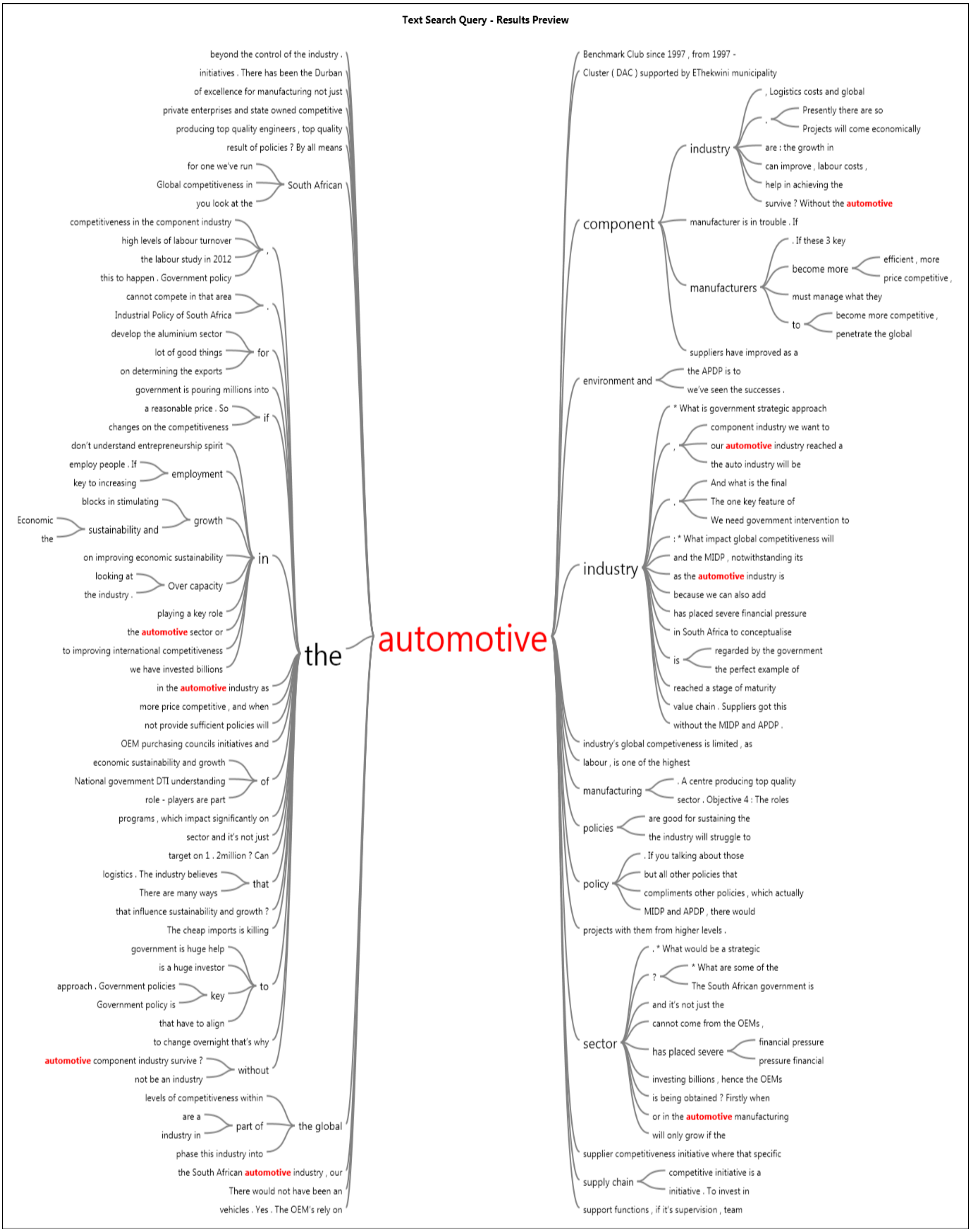
This points to certain consideration in theme development:

I. Simplistic view of competitiveness;
II. Overhead costs and inefficiencies leading to the inability to be globally competitive;
III. Not addressing these factors, resulting in a wider gap, and money wastage, and still not achieving targets;
IV. Need to increase local volume;
V. Government policy being key.

6.4.1.2 Automotive industry

Figure 6.3: Illustrates the word tree highlighting the word ‘automotive industry’.

Figure 6.3: Word Tree highlighting the word ‘automotive industry’



As illustrated in figure 6.3, the following sentences were noteworthy:

“government is pouring millions into the automotive industry”

“automotive industry is the perfect example of a catalytic industry. It can create things for us, it just doesn’t, because we don’t create the framework to maximize the potential it gives us”

“If you cannot utilize your productive labour forces effectively so you have high levels of absenteeism, low levels of value added per employee, high levels of labour turnover, the automotive component manufacturer is in trouble”

“the automotive industry’s global competiveness is limited”

“the automotive labour, is one of the highest numerated sectors in the country”

“Automotive component manufacturers must manage what they can control”

“areas outside of the control of these programs, which impact significantly on the automotive component industry”

“Government is playing a key role in the automotive industry as the automotive industry is regarded by the government as a strategic asset”

“There are many ways that the automotive component industry can improve, labour costs, logistics costs and operating systems”

“The cheap imports is killing the automotive component industry”

“tier2 and tier 3 suppliers are key to increasing employment in the automotive sector”

“The automotive sector will only grow if the demand in vehicles grow”

“The black population, I don’t think they are much mature yet, they don’t understand entrepreneurship spirit in the automotive sector or in the automotive manufacturing sector”

“The OEM’s rely on automotive component manufacturers to become more competitive more efficient, more productive, and leaner component manufacturers, to produce a better product”

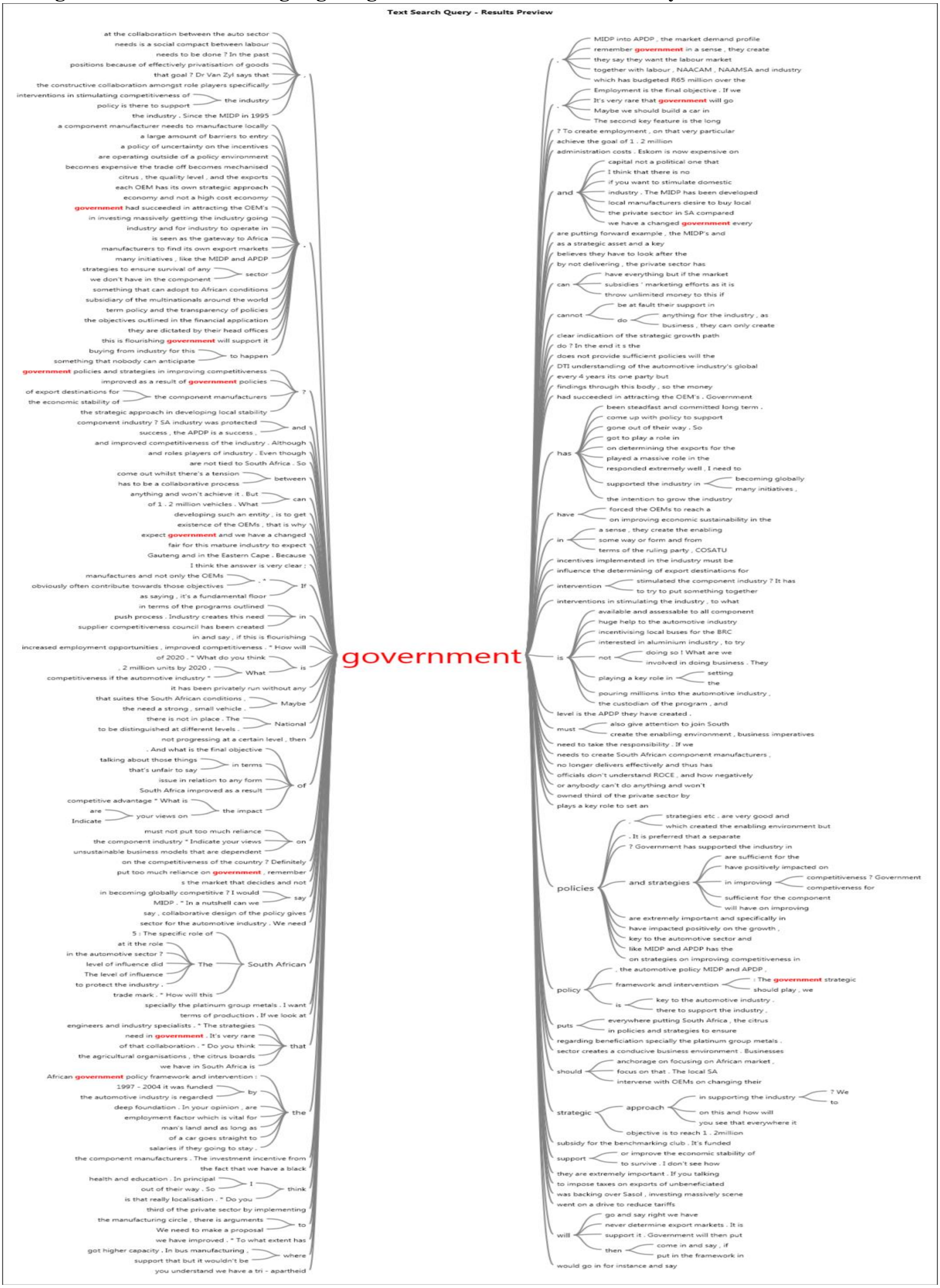
This points to certain consideration in theme development:

i. There is a lot more room for improvement;
ii. Government plays an important role in the automotive industry;
iii. There is a need for growth;
iv. Need to consider both external and internal factors impacting on the automotive industry;
v. Tariffs have a great impact on the current status of the automotive industry.

6.4.1.3 Government

Figure 6.4 illustrates the word tree highlighting the word ‘government’.

Figure 6.4: Word Tree highlighting the word ‘automotive industry’



As illustrated in figure 6.4, the following sentences were noteworthy:

There's a "tension between government and local manufacturers desire to buy local content"

"Since the MIDP in 1995, government has been steadfast and committed long term".

"Government can throw unlimited money to this if that can make us competitive, it means we spent a lot of money"

"But if you look at the collaboration between the auto sector, government and the private sector in SA compared to what you find in India, compared to what you find in Japan, compared to what you find in Korea etc., we are at an infancy stage in terms of that collaboration"

"Government must create the enabling environment, business imperatives must still come through"

"Government in a sense, they create the enabling environment but the enabling environment needs to be determined by private sector"

"Government will then come in and say, if this is flourishing government will support it"

"Government no longer delivers effectively"

"The government by not delivering, the private sector has to then carry the cost"

"The governments has just killed off the ability of the private sector to grow and create jobs"

"South Africa needs is a social compact between labour, government and capital not a political one that sounds good but means nothing"

"South African government is huge help to the automotive industry and the MIDP, notwithstanding its faults"

"National government DTI understanding of the automotive industry's global competiveness is limited

"If we look at government, MIDP into APDP, the market demand profile has it been fixed. Yes or no? No it's just been subsidised. It hasn't really fixed the market failures"

"Government is not involved in doing business.

"Government sector creates a conducive business environment. Businesses do business"

"Government plays a key role to set an environment but businesses do business"

"Government policies are extremely important"

"Government believes they have to look after the OEMs to sustain the component industry"

"The component sector is obviously difficult as they don't receive much support in terms of the programs outlined in government policies"

"Although government policy is there to support the industry, government cannot do anything for the industry, as they don't know what the industry wants"

“There has to be a collaborative process between government and industry”

“Government cannot do business, they can only create a conducive business environment”

“SA industry was protected and government went on a drive to reduce tariffs which resulted in the leather industry disappearing and the textile industry being knocked apart”

“Other countries are using tariffs to protect themselves and to protect the industry. The South African government is not doing so!”

“Employment factor which is vital for the government. Employment is the final objective

“Government will never determine export markets”

“I want government to impose taxes on exports of unbeneficiated raw materials that leaves our country”

“Government had succeeded in attracting the OEM’s”

“And what is the final objective of government? To create employment”

“Government must also give attention to join South African owned component manufacturers, with multinationals”

“Government should intervene with OEMs on changing their capability from making complicated and more sophisticated vehicles to making vehicles conducive to the African markets”

“In the end it’s the market that decides and not government”

“Government has supported the industry in many initiatives, like the MIDP and APDP”

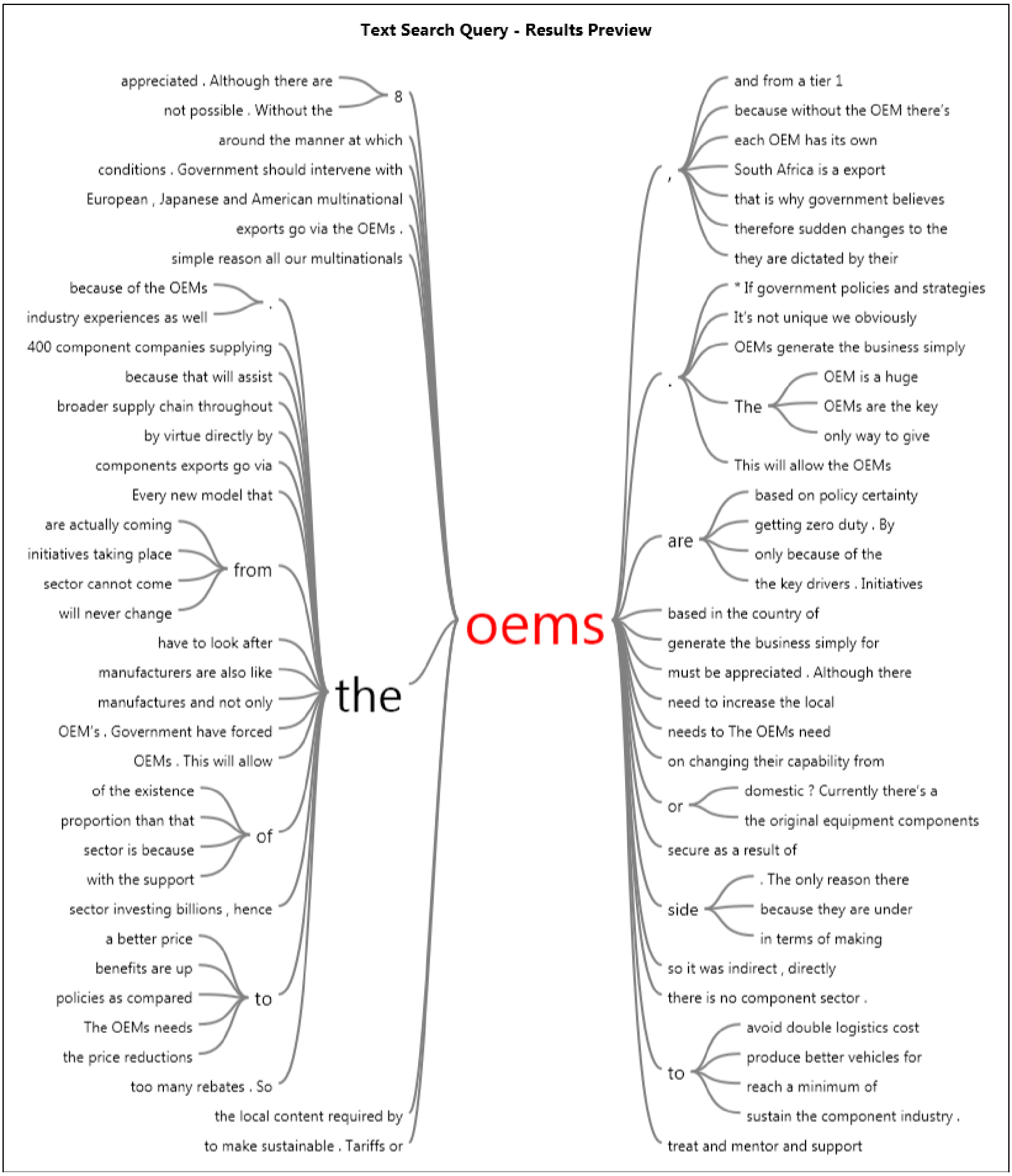
These points to certain consideration in theme development:

i. Government has help;
ii. Government intervention can only go so far;
iii. Government acts in isolation – needs more collaboration with other sectors;
iv. Government should create a platform, but entrepreneurs should do business;
v. Government needs to do something about the cheap imports, and improve local content and volume.

6.4.1.4 OEM's

Figure 6.5 illustrates the word tree highlighting the word 'OEM's'.

Figure 6.5: Word tree highlighting the word 'OEM's'



As illustrated in figure 6.5, the following sentences were noteworthy:

“A simple reason all multinationals OEMs, South Africa is an export orientated economy”

“The OEMs need to increase the local content”

“The only reason there is a component sector is because of the OEMs”

“The OEMs are the key drivers”

“Initiatives are actually coming from the OEMs side in terms of making it more viable for the component manufacturers”

“80% of the components exports go via the OEMs”

“OEMs generate the business simply for the component sector that’s why all the benefits are up to the OEMs, because without the OEM there’s no link for the component manufacturer to the multinational to export from South Africa”

“Although there are 8 OEMs, each OEM has its own strategic approach”

“Component manufacturers strongly believe that they are not getting many benefits from the policies as compared to the OEMs”

“OEMs are based on policy certainty and framework, therefore the policies can be improved, with the support of the OEMs, therefore sudden changes to the policy is not possible”

“Without the 8 OEMs there is no component sector”

“Government believes they have to look after the OEMs to sustain the component industry”

“Localisation is critical because that will assist the OEMs to avoid double logistics cost”

“OEM’s are getting too many rebates”

“Employment in the automotive sector cannot come from the OEMs, and from a tier 1 suppliers, tier2 and tier 3 suppliers are key to increasing employment in the automotive *sector”*

“Government should intervene with OEMs on changing their capability”

“OEM will be prescriptive on a price, the supplier needs to adjust his processes to give that product at the dictated cost”

“Because without the OEM there’s no link for the component manufacturer to the *multinational to export from South Africa”*

“The component manufacturers on the other hand do not see the policy as value adding to the component industry, but rather directly beneficial to the OEM”

“5% of components from every OEM should be localised automatically”

“The first factor will be the willingness of the OEM’s to buy locally”

“The first factor to hamper localisation is the willingness of the OEM’s”

“Labour costs are increasing, OEM ask for price reduction, they want to decrease the *pricing every year, they want productivity gains”*

"The OEM's won't create employment"

"The only objective of the OEM is to cut costs, by reducing employment"

"OEM's have invested into new equipment"

"The local SA OEM should make their own SA model vehicle"

"The OEM's rely on automotive component manufacturers to become more competitive"

These points to certain consideration in theme development:

i. Needs to be more localisation;
ii. Need to increase OEM's motivation to buy locally;
iii. OEM's are key drivers, and perceived important by government;
iv. OEM's are the link to exports;
v. OEM's are vital for the component sector.

6.5 Core themes identified

For the purpose of this study an inductive thematic analysis was followed whereby codes and themes emerged from the data that was obtained through face-to-face interviews with Mr Robert Houdet, Executive Director NAACAM, Mr Barlow Manilal, CEO of AIDC, Dr Norman Lamprecht, Executive Manager NAAMSA and Prof Justin Barnes, Chairman SAABC (BandM Analyst).

The themes developed were in relation to the objectives outlined for the research. The following themes were developed:

i. Major contributory factors impacting on competitiveness of the component sector;
ii. Inefficiencies addressed to improve global competitiveness;
iii. Impact of tariff reduction on the domestic market;
iv. Space for South African owned component suppliers in future of the South African supply chain;
v. Key determinants in stimulating the component industry competitiveness;
vi. Factors influencing stability and growth;
vii. Role of government policies and strategies in creating a competitive advantage;
viii. Governments interventions

6.5.1 Major contributory factors impacting on competitiveness of the component sector

This first theme aims to investigate the factors that impact on the competitiveness of the South African automotive component industry in the global automotive supply chain. Internal and external factors need to be separated, as both these factors aggregate to give the total picture.

> "The internal and the external factors must be separated because all of them at the end of the day aggregate to give you the total picture"

This total picture requires an overall conception of both the internal and external factors operating on a component supplier at any given time. This requirement precludes the need to therefore consider the social, political and historical climate when coming to appreciate the status quo. This requirement is further evident in the below statement discussing the factor of labour in SA:

> "When talking labour stability in the South African context, it's a bit different because if you understand we have a tri-apartheid government in terms of the ruling party, COSATU is one of them as well, so that is why you find strikes get a bit more protracted…In my opinion the strikes were drawn out a little bit because of some dynamics between COSATU and ANC, not necessarily because of the key issues around the salary discussions etc., so it is about cost, quality and delivery. It's about understanding our social company's environment in South Africa and the fact that we are a major economy"

The above quote confirms the need to understand the social and political environment within which a company operates when coming to understand meaningful factors that impact on competitiveness in South Africa. The South African landscape itself is limiting, and places a particular precedent over certain factors. One of which, as per the example above, is the issue of labour. Phillip and Kenneth (2012), outlined that the key challenges facing the SA automotive component suppliers in the supply chain, is the rising cost of labour, reduced pool of skilled labour and the continuous labour strikes.

In terms of external factors, this includes the social and political landscape within which the company operates. And as much as these are external factors beyond the control of the industry, this has direct impact on the competiveness of the industry. Therefore both internal and external factors impacting on the industry become imperative.

> "Looking at our infrastructure and most of this I am not talking about specifically a company, it is the South African landscape. The countries don't operate in an island, so when you look at plant level competitiveness that's one thing. You can have a situation where a company can have 99.8% in a quality. It gets lowered down to a vessel and the vessel is delayed two weeks due to circumstances beyond your control, all that competitive advantage is lost".

As highlighted again in the above statement, the need to consider not only factors within the component industry, but also those factors outside of the component industry's locus of control is imperative when appreciating competitiveness as a whole. These factors inherent to the South African climate do impact on competitiveness, and are often outside the control of the industry itself.

The component manufacturers can produce quality products, within specified time-frames, however, when it leaves company premises; there are certain supply chains that compromise efficacy. This evident below:

> "Externally I mentioned the political environment, the macro infrastructure in the company, the currencies, the investment perception of South Africa, at all these factors impact on competitiveness. Often when you look at a company, one starts looking at plant level and we just look at scrap rates and look at quality, you cannot look at it in an isolation way".

As such, some of the external factors include:

i. Striking;
ii. Government shortfalls- Inability for the government to deliver, which invariably means private sectors carry the burden;
iii. Small domestic market ;
iv. High cost of amenities;

v. Logistics costs and delays- High transport costs and vessel delays;
vi. Small economies of scale
vii. Perception of South Africa's investment potential.

As argued, in order to gain a more holistic understanding of SA’s automotive competitiveness, internal factors to the company should also be considered. Internal factors are briefly touched upon, as illustrated below:

> “Looking at the internal factors it is skilled, there is technology, it is access to finance, it is also a big thing around the manner at which OEMs treat and mentor and support the subsidiary companies with its below line and that’s inconsistent”

As such, internal factors included:

- Localisation;
- Skills shortage (including skilled managers);
- Technology Advancements.

What will ensue is a discussion of each of these factors, and how they relate to the broader picture of competitiveness in South Africa.

6.6 External factors

6.6.1 Striking

One of the most salient impacts to competitiveness is striking. This is typical example of those factors within the SA landscape that undermine effective and efficient service.

Striking is not unique to the South African context, however, there are certain characteristics that are unique to the South African climate:

> “In my opinion the strikes were drawn out a little bit because of some dynamics between COSATU and ANC, not necessarily because of the key issues around the salary discussions etc., so it is about cost, quality and delivery.

> It’s about understanding our social company’s environment in South Africa and the fact that we are a major economy”

These strikes have a major effect on the economy, and suggest that something inherent in the labour force, and the culture that surrounds work ethic, is somewhat displaced. One respondent comments on this notion, saying that there is low value-add to the current status of jobs:

> “Work anaemic culture that actually exists is a major issue around productivity which can be dealt through some form of compact that’s how we create jobs and how do we create high value jobs. We should be aggressively focusing on jobs were you are not exploiting cheap labour with no skills because we cannot compete in that area. The automotive industry is the perfect example of a catalytic industry. It can create things for us; it just doesn’t, because we don’t create the framework to maximize the potential that it gives us”

The above quote not only touches on the current anaemic state of work ethic, but also, that this could be a consequence of a poor skilled labour force, that are currently being exploited. He suggests that this notion be addressed, and we need to start adding value-add, and fulfilling work potential. Although the above respondent mentions exploitation of cheap labour, this is not true for other respondents.

One respondent mentions a dramatic increase in labour costs. This cost has been pushed-up not only by labour unions demanding particular wages, but also through securing talent.

> “On the component manufacturing, labour costs are a bigger proportion than that of the OEMs. It’s not unique we obviously do not compete on labour costs. SA labour costs based on the labour study in 2012, the automotive labour, is one of the highest numerated sectors in the country”

Often this means bringing expatriates back and paying them accordingly to ensure they stay. This hints at the loss of industry-related skills. The cost of labour is just like any other factor, if the wage demands increases, labour will get higher wages, but there will be a trade-off.

The more expensive labour becomes, the more mechanised the operations become, resulting in reduced labour requirements. This will be discussed further under the internal factors impacting on competitiveness.

It has been government's long-term view to create and increase employment in the automotive industry. However, the government itself has been a factor impacting on competitiveness, invariably impacting on its own goal achievement.

6.6.2 Government shortfalls

Government has a crucial role to play in increasing competitiveness, as competitiveness needs to be distinguished at different levels. However there are numerous barriers inherent within the government itself that undermines its efficacy. One of which is lodged at a myopic view is that government has been criticised for, and failing to understand the bigger picture:

> "National government DTI understanding of the automotive industry's global competiveness is limited, as they've got this mind-set where we give the industry billions of rands a year through the MIDP now the APDP they should be incredibly grateful for all their money we give them"

This myopic view is mentioned by another respondent:

> "What's happening now with the APDP, it is now literally at the front door that will definitely create improvement but you looking at 5-7 years before it becomes powerful. We are bit too impatient in these processes. We take a very short term view, we take a myopic view, we just kind of look at 1 or 2 things and we forget our country".

The collaboration between the automotive sector, government and the private sector is still in the infant stage when compared to other developing countries like India and China. According to Berger, (2009), governments in the BRIC countries have collaborated with industry, providing incentive funding in order to foster relevant industry domains in order to boost industry's competitiveness.

One respondent highlighted that South Africa is good at policy determination and development strategies, however weak at implementation, hence the collaboration between public and private sectors, which is important is lacking.

It is imperatively important for an implementing agent to bring all together, therefore the model of the AIDC creates the enabling environment between government and the industry. The AIDC, for example, is attempting to show how SA can improve their competitiveness. The results of the cluster program trial undertaken by AIDC indicate that there is steady improvement, however continuity is a challenge.

> "The cluster principal of 6-8 companies coming together is ideal for continuous improvements. It's not something that you must do today and forget in 4 months' time. It is continuous improvement, continuous exchange among the companies, willingness to improve productivity and willingness to cut costs. When they get back to the operations the teachings must be implemented and the outcome must be evaluated to determine the impact this has created"

This highlights the need to continuously implement and evaluate whatever initiatives are being implemented.

Another respondent emphasises this myopic tendency:

> "The industry thinking is myopic, as they are still arching back on the measurements of 10-12 years ago. In the auto industry in my opinion our parameters change every 3 years"

This myopic view is dangerous, as a respondent highlights, there is a need to continuously reflect and improve:

> "What we need to do is we need to look at all these fundamentals and we need to look at our productivity, competitiveness in a meaningful way. What we do is we talk about it and go to a company to put a simple process to reduce scrap and we think that's competitiveness.

> When you look at the World Bank competitiveness report it has multiple elements to it and SA need to take an entire value chain exercise to see where their weakness is. Competitiveness is a never ending process, the moment you improve one element, a weakness shows in another element."

If this continuity at any point stops, then the industry will fall behind, become absolute, irrelevant and lose all chance of being a competitor. Already this gap between the leading countries and South Africa is widening each year.

This short-term view could be argued to be a cultural facet inherent within our socio-economic and political history. This history permeates into the present, and presents itself as lack of skill and know-how. Within the current South African landscape, there is a huge gap between the older white generation who have the money to invest, and the upcoming black generation possessing similar money, however, without the necessary know-how. This gap is hampering investment:

> "The older white generation, are retiring, hence they don't want to invest. There's a gap before the black man can take over, in the sense that, they don't have entrepreneurship spirit linked with financial stability and there's a gap. White entrepreneurs might retire and the black people are not ready to take over".

Government is unable to determine and develop export markets, however support marketing efforts in doing so. It is up to component manufacturers, and people with an entrepreneurship mind-set to explore the opportunities created by government for collaboration and networking to determine the export opportunities. There is a gap of concern that the entrepreneurs in the automotive component industry and don't have the spirit linked with financial stability. Two respondents commented on this notion, saying that the problem with young entrepreneurs in the component industry is largely a socio-economic, and historical one:

> "This entrepreneurship spirit has not come up yet among the young black South Africans, certainly the Indians are more entrepreneurs than the black population. The black population, I don't think they understand entrepreneurship spirit in the automotive manufacturing sector"

These are factors unique to South Africa that are preventing the increase in automotive competitiveness, and leading to a lack of growth in the domestic market.

6.6.3 Small domestic market

There is a need to improve our local content, as this will increase local production contributing higher value-add, more efficient use of machinery, and invariably reduce amortisation. OEM's, regardless of their location of the manufacturing plant, requires 15% of components that are locally manufactured. This means that, regardless of efficiency, the local market automatically gets 15% of components due to logistics costs and import duties imposed on these components. However, to push this beyond 15% for the OEM market locally, there is a need for the component manufacturers to improve in both quality and cost competitiveness to compete in the global supply chain.

> "15% local content, these are component we have to manufacture locally, not because it's bulky, but it's needed just in time. Everything that is needed just in time have to be manufactured locally, whatever the costs are you got to do it locally. But if you want to grow much more than the 15%, the industry has to be protected by tariffs to be sustainable, especially if the volumes are low. If you have low volumes, you cannot be competitive, but if you have the tariff power, why not use it to become competitive"

This issue of low volume is very eminent throughout the interviews:

> "with the component manufacturers as well, the market has shrunk, and we are still producing lower than we did in the peak of 2007. Companies have still got the idle capacity, so there is still a lot of growth".

There is a need to improve local content in effort to meet the government goals of increasing employment. Ultimately, increasing employment is seen to contribute to competitiveness.

> "If we improve the level of local content it will give us more employment automatically and in the end it is the employment factor which is vital for the government.

> Employment is the final objective. If we have increased local content, this means increased employment opportunities, improved competitiveness”

Improved localisation can certainly be considered as a key driving force behind successful integration of the South African component industry into the global market resulting in increased employment opportunities and improved competitiveness.

6.6.4 High cost of amenities

The impact global competitiveness has on the stability of the component sectors profitability and turnover is the key contributors to the economic stability of the component sector. The high cost of amenities is an influencing factor on the growth of the component industry. Where low electricity costs once was a competitive advantage of South Africa and was used an incentive to attract investment is no longer a competitive advantaged. One respondent commented, saying that the cost of doing business in SA is impacting on the company’s profitability.

> “If raw material prices increases, electricity tariffs increases, logistics costs increases. The business can continue, but the impact on your profitability increases because of the rising input costs, hence the business doesn’t grow at the same rate as expected. The price hikes on all of these areas are much higher than inflation”

Humphrey and Memedovic, (2003:7) stated that the automotive manufacturing industry faced a mature market that is plagued with stagnant demand tough price competition and low profitability. Therefore, many OEMs have invested in manufacturing facilities in emerging economies, to ascertain lower costs of vehicle production. Increase in cost of basic amenities is impacting on profitability, and those incentives that used to attract foreign investment, and allow for competitiveness are no longer in existence. The benefits previously offered are no longer valid and the comparisons made now are outdated. Another respondent outlined that SA is gradually losing its competitive advantage.

> "South Africa in 1994-1995 had the lowest electricity cost in the world. Now we up to international rates so it's no longer an incentive. Many component manufacturers and assemblers came to SA because of the incentives offered, like the MIDP and stable cheap labour".

Since SA forms part of the BRICS community and have started competing globally therefore all the elements of competitiveness have now escalated providing much dynamism to the global economy. So the key consideration for SA being competitive 10 years ago is outdated. This means that SA now has to create a point of difference to manage their cost factors to create a comparative pricing structure at an overhead level.

6.6.5 Logistic costs and delays

The South African automotive industry is located at the Southern tip of the African continent, away from both European and American markets. The SA automotive industry has a disadvantage in terms of its position to the major global markets. For component industry to be an effective competitor in the global automotive markets, first class logistics network is imperative for the success of the industry.

A respondent outlined that the competitive advantage of the component suppliers are dependent on the logistics, because the company can produce efficiently with 99.8% quality, but if the vessel is delayed at the port due to circumstances beyond control, the competitive advantage is lost. The respondent further alluded to the fact that the logistics costs in SA are very high:

> "If you are looking at the total value chain it is the logistics costs, logistics cost which are sitting at about 30% of our vehicle costs at the moment"

One reason provided for this is due to large distance that needs to be covered as a result of SA's high thrust for exporting:

> "SA has to export quite vast distances hence losing any form of proximity advantages because the logistics costs are high"

In addition to the afore mentioned logistic costs, one respondent emphasizes the exacerbating effect of low volumes to outcomes in decreased competitiveness.

> "The starting point would be the low volumes and logistics costs; it's a combination of both. The costs of operation efficiencies is a major factor"

This illustrates that, you can have the most appealing product, most efficiently made, but there are other factors that will undermine its efficacy. When trying to understand competitiveness as a whole, there is a need to consider more than this:

> "There are lots of logistics in terms of geographic location or the currency and things like that"

This quote implicates not only geographic location, but also currency. Currency is argued against by another respondent, who says that logistics, currency and so forth are contributory factors, but fall short in providing a holistic understanding and solution:

> "The starting point would be the low volumes and logistics cost obviously, currency utility as well has played a role, but you cannot base competitiveness on currency deviations. Its more than that, it's also based at the company level in terms of cooperation efficiencies. We only do the processes; the product development is done overseas. Multinationals are in South Africa, why don't they apply their global benchmark in South Africa"

This respondent says that our solution lies in improvements in the process departments, by local manufacturers themselves, spring bouncing off multinational benchmarks. This is rooted in policy, and is reiterated by another respondent.

> "Look at Turkey and Thailand these beautiful big parks from a logistics point of view seamless display to move product from supplier to customer. I don't think we've got the policies in place. I think we've got the base policies in place"

This once again emphasises the need to streamline local manufacturing processes first, focussing on those competencies over which we have control, emphasised below:

> "Component manufacturers can use competitive logistics as a competitive advantage. If you are better than other companies making the same products in your logistics, the controllable factors in terms of the working environment, process development, operational efficiencies, and operational issues"

Once again, the respondents highlight the need to focus on those factors within the company's control, and considers these to include the working environment, process development, and operational issues and efficiencies. Fishwick (2005:260) emphasized that the success of the South African automotive component industry is vitally dependent on first-class logistics. Creating a first class logistics network and infrastructure will reduce logistics costs, which will unlock SA economic potential hence positively impacting on the competitiveness of the OEMs and automotive component sector.

6.6.6 Small economies of scale

Lamprecht (2006) highlighted that the global automotive industry can be characterized by economies of scale and low unit costs despite the increasing complexity of the fundamental product. SA in to global markets have poor economies of scale, due to the market mix. Due to the domestic market being too small, achieving the required economies of scale is difficult. In addition to this, the current market is inactive, invariably meaning that, by comparison, SA does not get the global scale of economies through the domestic market. This means that the current economy is not allowing for cheap, locally produced goods as the overhead costs are too high, making it cheaper to import goods.

> "The cheap imports are killing the automotive component industry. Presently there are so many brake-linings coming into the country, so many models, all manufacturers of break-linings are suffering".

The growth of cheap products into SA has negatively impacted on the competitiveness of the component industry. The automotive components constitute a large and growing segment of South Africa's imports.

This is as a result of the sharp increase in imported vehicles. The effect of this small market size and inability to secure economies of scale, investment is shallow.

> "Due to not having sufficient market size, the economies of scale are difficult to achieve. That's the reason why we have this shallow investment in South Africa, the investment only enough to make sure that they meeting the logistics cost requirements in terms of assembling components, and packaging them in ways to reduce logistics cost"

This statement shows that investment in SA is shallow, and assists only insofar as covering logistic costs. On respondent argued that the MIDP's major failure was that it never secured economies of scale. Quadros and Consoni, (2009), outlined that globalisation in the automotive industry have increased the scope for sharing automotive components between different models, hence increasing economies of scale, which is a critical aspect of competition in the industry. The MIDP has singularly never created a proper foundation on a larger scale production in SA because it never realised the opportunity and the market constraints.

6.6.7 Perception of South Africa's investment potential

Humphrey and Oeter (2000:44) outlined that Effective and efficient policy must ensure that the domestic automotive industry is competitive and can attract foreign direct investment. Its attractiveness is dependent on aspects like the size and growth rate of the market, the potential competitiveness as an export base, the location with respect to other markets and producing regions, and the general business environment.

South African government encourage investments by OEMs and component manufacturers, by providing policy and strategies in creating a competitive advantage for the industry. A respondent outlined that investment in proportional to risk. He further outlined that the there is a reason why there is a thin layer of investment in South Africa in the automotive sector, because the expected return of invest is in year 3 because the trust window in the economy is for 3 years only.

> "If I invest in a country I want my money out in 3 years because I only have a trust window in the economy for 3 years"

Even though South African firms generally make a higher profit than the global competition, people would rather invest in countries where risk factor is high, however the investment is proportional to the risk. South Africa is viewed negatively in the investment community, due to low ROCE, therefore improving on the ROCE will give confidence in future investment.

In addition to ROCE, overhead costs have been stated as a factor impacting on competitiveness. In addition, it is a barrier to investment:

> “To invest in SA, the cost factors and profitability factors must be sustained to be profitable”

These factors are currently undermining SA’s ability to sustain profit, thus deterring investment. All respondents were in agreement that government only creates a platform for investments, but before these will be effective, they require inputs from industry and labour, public and private sectors. However, multiple respondents mentioned the lack of collaboration between the public and private sector, which invariably impacts negatively on creating a platform for investments.

> “No communication and collaboration between public and private sectors - even those initiatives that were initially initiated by government have now been taken over and maintained by private sectors e.g. South African Automotive Benchmark Club”

This rift between public and private sector is mentioned by another respondent:

> “the collaboration between public and private sectors that’s important that’s lacking…if you look at the collaboration between the auto sector, government and the private sector in SA compared to what you find in India, compared to what you find in Japan, compared to what you find in Korea etc., we are at an infancy stage in terms of that collaboration.”

Given thus, it is imperative to mend this rift, and secure against over-reliance on the private sector. Barriers to secure OEM investments include the risk that OEM’s are getting too many rebates, with the result that OEMs are subject to zero duty.
This results in the temptation of arguing against localisation as they are not paying any duty on the components that are being imported. The components are duty free because of the numerous rebates. This has impacted on the local market, as the demand for locally produced components has dropped due to the cheap price with which goods are imported.

This small local demand, as a result of poor economies of scale means that local supply and consumption never occurred as local markets were perforated by imports.

Not only do respondents mention the poor investment profile of South Africa, there is also poor support post-investment, which further adds to this already negative perception of SA's investment potential:

> "Interviews, have revealed that investment support is not the issue, it’s the post sunk investments is the problem. Interestingly whenever a multinational comes to smell to see if there’s an opportunity the first thing they do is that they go speak to the firms that have made investments. The first thing they ask you isn’t how are you supported when you were looking to make the investment, they ask them how have you been supported post your investment. The response is incredibly negative not a great place to be actually, lots of promises, lots of noise upfront, once you’ve sunken your investment, once we’re running you don’t get much support"

The failure to recognise the importance of securing investments, and maintaining and attracting further investments hints at a poor appreciation and understanding of its value.

SA in many cases fail to achieve full cost competitiveness because of the inability to amortise investments and to substantiate some of our core investments. The result of this means that SA becomes dependent on international supply chains, meaning cost dependence. Even if the tariffs are removed, the local manufacturers still charge a premium for the product because they know what the landed cost is of the product - posing a major challenge to overhead costs as logistics push the price up. In terms of recovering the investments and seat the assets effectively, a manufacturer has to run a plant 24/7 to recover overhead costs, however doing so requires increased use of amenities which are ever-increasing in SA, pushing up overhead costs. This invariably compromises SA's level of competitiveness.

6.7 Internal

6.7.1 Localisation

Is localisation the answer to SA competitiveness challenge? Two respondents emphasised that localisation is not going to take place just because government wants localisation. They highlighted that for localisation to take place it must make business sense. Another respondent stated that localisation is not a casual factor, the lack of localisation is the output variable. He further eluded that the reason why SA have low levels of localisation because localisation is treated as an input variable, and there has to be a competitive compelling business case for an investment and then localisation will materialise.

The view of localisation is mention by another respondent:

> "The first factor to hamper localisation is the willingness of the OEM's. There must be motivation for the OEMs to buy locally"

Government has provided incentives for the OEMs to buy locally, however there is a risk that OEMs are getting to many rebates. Due to the import-export complementation scheme, OEMs are paying zero duty on imports, therefore the temptation of not localising is greater.

The effect of open markets is that South Africa has largely become an export orientated economy:

> "It becomes very difficult because you know when you get import penetration and you want tariffs to be protectionist it creates a problem. So a simple reason all our multinationals OEMs, South Africa is an export orientated economy"

This export orientation means that SA has been unable to grow its local content. This has resulted in an inability to compete with other markets:

> "From a South African perspective we got to understand the competitiveness on two levels.
> One is the nature of the market that South Africa provides for local manufacturers and I think one in constraining factors that impact on our ability to compete, small volumes run in domestic market and high levels import penetration. The market is not particularly active. What does this mean? It means we don't get the global scale of economics through the domestic market so to compare ourselves to a place like India or China".

South Africa lacks the large local market, as well as facing the ever-increasing burden of over-head and fixed costs. So essentially what is happening is that, reducing tariffs, and allowing market penetration, the need to be competitive has increased, and the ability to be competitive, has decreased.

> "The MIDP might have even made it worse because of the ability to import has led to model proliferation in the South African market which has reduced the opportunity for local supply and for local consumption. When you think of the foundations of the industry the first thing you think of is local supply, for local consumption, then it's local supply for regional consumption, then it's local supply for international consumption, that's the sort of strategic progression"

This means most of our local content forms part of imports. There has been no increase in local demand, local supply, and local consumption. The inability to compete at globally competitive prices means that most of the materials SA uses is imported, further reducing local demand. Importing goods may incur extra, unnecessary expenses as goods are subject to import parity pricing making materials expensive. As a result, the market becomes even more stagnant, and localisation impossible. Pitot (2011) stated that increasing local content in SA made vehicles is important as it improves SA trade balance and provide additional volumes to local component manufacturers.

6.7.2 Skill shortage

The immediate and most significant short term determent in stimulating the automotive component industry to reaching global competitiveness, is operator, supervisory and management skills development and retention. Labour costs are a challenge, but it can be overcome by skills development and capacity building.

Phillip and Kenneth (2012) highlighted that the reduced pool of skilled labour is a key challenge facing the automotive suppliers within the supply chain.

SA is currently facing a shortage of skills of automotive employees:

> "It was always debated that South Africa was a middle capability country, were costs were not as high as Europe but not as low as Asia. The capabilities were higher than Asia but lower than Europe, the reality is that SA has a cost structure of manufacturing that is the same as Europe without the capability and a capability that is no better than Asia's but at much higher cost".

Again, the respondent alludes to the lack and the loss of skills that the SA automotive industry is currently facing. However, despite the lack of skill, the industry is still paying labour as if they possess the skill equivalent to overseas counterparts. These high labour costs, and poor skills have an effect, especially on the components industry:

> "In comparison, a person working on a factory floor gets a same pay as a high school teacher. On the component sector it is a bigger proportion so obviously the wage increases, there's a bigger impact on the components but if it has a longer productivity improvement it could balance each other".

As mentioned above the loss of skill requires a higher number of employees. There is a higher number of employees, who are not only being paid more, but contribute to a higher overall number of employees requiring wage. The shortage of skills means that workers are not working to capacity, and hence, the required production to offset these high labour costs is not being reached. One respondent mentions the need to improve skill of labourers.

> "Labour costs is a challenge, but it can be overcome by skills development and capacity building".

Again, this quote intimates the need to train and up-skill the current labour force. It also highlights the negative consequences of a poorly skilled workforce.

> "The immediate and the most significant short term is skills, beyond technology is operator skilling, supervisory skilling, management skilling on lean manufacturing, on quality source on all those industrial engineering sort of processes and practises".

Skill shortages therefore impact negatively on process re-engineering, lean processes, efficient management and supervision, and ultimately on technological use. All of which hampers productivity, and mean that skill shortages contribute to the lack of full capacitation of both human, and other capital. This is seen in the example below:

> "We were surprised when we found almost all the bus manufacturing companies in the country were running at 50% capacity, and they had 50% idle capacity. Double the volumes with just a little bit of capitalisation or modernisation and the facilities will be able to operate at full capacity".

The respondent above not only mentions the problems with capacity, but also hints that there is a lack of capitalisation and modernisation occurring within manufacturing plants. It is clearly evident that the lack of skill hampers the use and training in new, updated technologies that assist in increasing productivity. This is confirmed by another respondent who stated:

> "If efficiency of the worker is of concern. If the worker becomes more efficient with more training, capability is improved, more investments are made to improve production capacity, resulting in operations which are manual to become mechanised".

Not only does this respondent state that skills are to blame for the poor efficiency, and lack of operating at full capacity, but also the adoption of more technologically savvy ways of doing things.

Mpoyi, (2012) highlighted that for multinationals to operate effectively in developing countries, local personnel have to be trained to master technological skills and abilities, which will result in an increased pool of highly qualified workforce.

He further outlines that the rise in economic powers in BRIC countries was coupled with both the transfer of managerial and technological capabilities. Therefore it is imperative for the SA component industry to develop technological skills and abilities and retain these skills to grow in the industry in order for the local industry to improve its competitiveness.

6.7.3 Technology advancements

The key factor in aligning the automotive component manufacturing industry, the component manufacturer must be able to strategically position themselves in relation to supply in particular markets that allows them to invest in no actually cutting edge technology but it's close to the cutting edge technology in order to ensure that they have the latest best technology that allows them to cost effectively produce products.

Adopting technologically advanced methods improves productivity, and often mitigate the cost of labour.

> "Say tomorrow there's an increase on labour cost, you back up your capital equipment and usually your capital equipment can change. You buy equipment from Europe and the machine is planned to produce so much more, when you bring it to South Africa, you only use half its capacity. So your more amortisation costs becomes very high per product because you are not using fully per capacity".

This highlights the effect that not operating at full capacity has add on amortisation costs. However, where there is an increase in automation of processes, there is an associated decrease in employment, and skill sets required to adapt accordingly.

> "That's the danger, the more you mechanise the less labour you use. You must have a trade-off sometimes, but the cost of labour is just like any other factor. The more labour becomes expensive the trade-off becomes mechanised. If we want higher wages, labour will get higher wages, but there will be a trade-off. There will be fewer workers because the operations become more mechanised".

Modernisation and innovation is key. They are however absent, and contribute to an inflexible labour force, and production environment.

> "If you don't have the ability to innovate, don't have the ability to industrialise products effectively and never yet build up a skill set that can really allow you to have production flexibility multiskilling in the production environment, for whatever the principle is on the technology, the component manufacturer is still in trouble".

Already skills are at a loss in SA, the workforce is not flexible - already this spells trouble. This lack of skill is highlighted by the respondent below:

> "So you say the greatest inefficiency in the labour market sitting is not the salary but it is the skill?"

> "Yes…If the salary cost increases, you will survive if the skills levels increases and the manufacturer becomes more productive and efficient. That's our challenge with the component sector, labour costs are increasing, OEM ask for price reduction, they want to decrease the pricing every year, they want productivity gains. Component manufacturers have to give the price reductions to the OEMs. The only way to give it to them is to become more efficient in every way. There are some examples of factories in South Africa which are very top efficient, so we can do it and labour cost is no issue. The more labour becomes expensive and the world becomes mechanised, the more training is required for the labour to become more efficient".

This means that the more we modernise plants, the more training is required to ensure labourers have the necessary skills to effectively operate machinery and increase productivity, and overall improve capacity. However, with automation, comes decreased employment? The benefits of globalization have allowed local companies to close the gaps in technology, capital and talent with the rivals of the developed world. South African-owned automotive component suppliers could well adopt the approach described above to play a bigger role in the automotive supply chain and improve their global competitiveness. AIEC (2013:21) outlined that the major global trends in devising of new technology and innovations have a significant impact on the development and future of the global automotive value chain role-players as well as on the developed and developing automotive producing countries.

6.8 Addressing inefficiencies to improve global competitiveness

Czinkota and Ronkainen (2007: 190), outlines that inefficiencies is one of the most powerful globalisation drivers, as it impacts on the entire value chain bringing about a lack of competitiveness. When grappling with the factors impacting on competitiveness, the full picture needs to be taken into account when addressing inefficiencies.

> "Inefficiencies needs to be further unpacked. At plant level inefficiencies, it is product related then it's about looking at the processes by the people within the company. If it is about inefficiencies that brings about a lack of cost competitiveness then you need to look at the entire value chain. You can be 100% efficient within your company, the moment your containers are stuck at the port, you rate infrastructures as inefficient. You can spend billions of rands within your plant it serves no purpose. It complicates your assessment more, look at the macro and micro contributing factors".

Internal inefficiencies exist within the company, and contribute to poor cost competitiveness. However they do not exist in isolation, as they are impacted by other inefficiencies throughout the entire value chain. There are factors outside the industry itself that impact on the plant, and contribute to inefficiencies. These include culture, socio-economic issues, BEE and so forth:

> "I know we have been evocating for a long time, "collaborate of process, and compete of products". It's not that easy to say let's build all our access in one plant, that's what we are facing as well so it's a standing problem, it's not one, it has got cultural issues, it's got social economic issues, there's the BEE bit that comes in that creates the tension, there's access to finance, there's a whole basket of events that actually contributes to it. And because there are so many contributing elements it means that there's a very comprehensive plan to respond to it and in my opinion it's a 10-15 year plan that we need to put into place".

As mentioned above, when addressing inefficiencies, it seems of little use spending money on plant related processes when those factors outside of the plant undermine your efficiency. There are certain inefficiencies that simply cannot be overcome:

> “There’s not a lot you can do. There are lots of logistics in terms of geographic location or the currency, that’s why it is important for companies to start with the basics, making sure that the basics are right because there’s cost credit and that’s never going to change… Electricity and things out of the component manufactures control. There is not much you can do”.

However, there are some inefficiencies that can be addressed. One of which are operational efficiencies. It is necessary that the plant exercises control over these efficiencies, and reduce costs where possible. In this case, if the manufacturer has better handling of logistics, and control process inefficiencies, this can serve as a competitive advantage, as it is within the control of the component manufacturers.

> “Component manufacturer can use competitive logistics as a competitive advantage. If you are better than other companies making the same products in your logistics, the controllable factors in terms of your working environment, your process development, your operational efficiencies, your operational issues… Automotive component manufacturers must manage what they can control, and that is their internal processes. Controlling their internal processes allows the company to move in the right direction in controlling what is within their ambit to improve their competitiveness”.

Some suggest that there should be more focus on job creation. Here, it’s not just jobs, but high value jobs. This suggests a shift to more value-add

> “Rob Davis talks about the fact it looks like capital is on strike in South Africa. Of course it’s on strike, capital doesn’t invest. The worlds moved on its beyond that people need to take responsibility for their own value added if they cannot justify the value then they must move on and somebody else must take the position so that they can create value add”.

As mentioned previously staff is not skilled and motivated enough to operate at full capacity, nor is there a demand to do so.
However, one respondent mentions the need for existing labour to become more productive, such that they warrant the high salaries being paid to them.

> "Labour have to be more productive so I have huge sympathy for the increases. I would love to see 15% wage increase given every year in South Africa, but I would like to see 30% productivity improvement year after year. The two don't happen".

Perhaps if productivity increases per worker capita, then an associated increase in production as factories produce more, contribute a higher value-add, more efficient use of machinery, and invariably reduce amortisation. Mutsiya, et al. (2006: 1265), highlights that labour productivity and flexibility and capital efficiency are key efficiency factors that contribute to competitiveness. Therefore the lower the operational efficiencies the higher the transactional costs.

6.9 The impact of tariff reduction on the domestic market

South Africa's inward focused automotive industry can be traced back to the 20th century were high tariffs were imposed on completely built up vehicles resulting in OEMs establishing assembly plant in the domestic market, as the rapid domestic market acted as a magnet to attract foreign OEMs.

One of government's responses to help stimulate the automotive industry and reduce inefficiencies was to reduce tariffs. Damoense and Simon (2004) outlined that with the revision of the MIDP in 2002, tariffs on imports of vehicles and components were substantially reduced, minimum local content provisions were scrapped and an import-export complementation scheme was introduced to offset import duties against exports. The aim was to empower the local auto industry to become more competitive and to encourage global auto companies to export from South Africa in order to gain duty-free access to the domestic market.

Although this has offered abundant benefits, especially for those countries who most responsively exploited the tariff reduction.

One respondent outlined that:

> "The German companies had 100% presence in SA, hence the Germans were first to invest, first to start exporting, first to rebate their duties. As a result they put pressure on the other multinationals to do the same otherwise the prices and import duty would price them out of the market".

Even though this tariff reduction benefitted certain countries, the market exposure and increased competition for South African markets came as a blow to the protection of the South African economy. AIEC (2012:24) highlighted that as automotive tariffs into South Africa are reduced, imports are gaining a larger share of the domestic market.

A respondent highlighted that relying on tariffs as a protection is fallacy. Reasons for this include:

- " SA is an export orientated economy;
- Tariffs are already low - no effect on imported content, and you would be seeing SA converting more to importing models ;
- If you access other markets, the same rings true for your market. Tariff reduction simply means that you are exposed to greater competition every year, but this is a global industry, global sourcing principles, nobody is just going to localise just for the sake of it".

The above reasons were supported by another respondent who asserted that the MIDP lead to vehicle model proliferation in the South African market which has reduced the opportunity for local supply and for local consumption. He further commented by stating that when compared to a country like Thailand, they have created a local supply for local consumption model by introducing excise taxes and differential tariffs effectively. This has locked the domestic market to local supply and has concentrated all the local demand into a narrow range of products that align with the local supply capabilities, hence exploiting global opportunities.

South Africa has never created that local solid base that has given them the opportunity to then penetrate the global export markets on the basis of cost and technological capabilities. However SA has accessed these global markets on the basis of incredible lucrative export benefits under the MIDP, combined with GOA and the European Union trade agreements.

The respondents highlighted that tariff reduction means that the industry is exposed to greater competition. The automotive industry is a global industry, with global sourcing principles, therefore localisation will not merely happen.

> "Localisation is not going to take place just because you want localisation. It must make business sense".

Tariff reductions help to avoid additional logistic costs, albeit at the expense of continued exposure and increased competition. As a country, the global competitiveness is largely falling behind due to the stagnant and complacent approach taken to address the ever-widening gap caused by lack of addressing one gap when another gap is filled. This resonates with the previous discussion regarding the myopic view that government takes.

> "Competitiveness is a never ending process, the moment you improve one element, a weakness shows in another element. The other factor is that countries like China, Japan, Russia, India, are not sitting still, they are putting programs to improve their market competitiveness, hence they are far more advanced than SA. Whilst SA scratches on the surface, the competitiveness gap is widening year on year".

This quote clearly highlights SA's complacency when it comes to addressing the ever-widening gap in competitiveness, which is ever-increasing as a result of tariff reductions, and market permeation.

This ever-increasing need is merely being met by ever-decreasing capability to effectively up-scale local content, demand, and supply, especially where basic amenities, and logistics mitigate any potential profit.

This is evident in the below quote:

> "The company's say that South Africa needs to compete with global world best prices which is not easy because of low volumes and logistics we cannot compete with other countries. You see the gaps compared to India and China, there are specific reasons for that. There are the labour costs, the volumes and economies of scale"

It is the poor local content, high overheads, poor economies of scale, and under-performing, overpaid and unskilled labour force being implicated as reasons for this increasing gap. The South African manufacturing industry gaps are especially relevant to the leather, tyre and catalytic convertor sectors.

Although SA's market has reached and maintained maturity far longer than other markets, other markets have caught up, and exceeded, and still do not have as many restrictions as we do. Government has been fingered as being a major contributor to lessening this gap.

6.10 Space for South African owned component suppliers in future of the South African supply chain

According to Sirikrai and Tang (2006:75) saturated markets and overcapacity are strong influencing factors for the ongoing competitive environment in the automotive industry. The respondents allude to the fact that the nature of the automotive industry is global sourcing within multinationals.

> "As South African companies, the nature of the industry is that you must be a part of link of a multinational to be able to be part of the supply chain".

The integration of the South African component manufacturers into the supply chain is dependent on the relationship with the multinational companies based in the local market. Schwartz (2008) indicates that the key trends in the evolution of the global value chain has been the formulation of large global suppliers that support several assemblers through global production networks.

According to Becker, (2006), first tier suppliers have assumed a large degree of power within the supply chain, by taking an increasing role in innovation and production; however the control largely remains in the hands of the assemblers. South Africans have attempted to find their place in the supply chain through focussing specifically on the lower tiers:

> “The low tier suppliers in the South African industry are grasping onto incentives like the APDP, which is focusing on lower tier development to improve lower tiers competitiveness”

Lower tier suppliers are increasing their benefits to the first tier suppliers by capitalising on the incentives offered to improve their competiveness.

Another manner in which South Africa is trying to find its place, is through specifically, and proudly South African products

> "If you are going to be a South African company you must make sure that you have South African technology, so there will always be a space on the aesthetic side or on the trim side or on the aftermarket accessories. Those are the type of things you can have with a South African element"

However South African technology becomes a problem when you try to licence it, especially if you are using imported parts, as is the case for the South African market

> “Invariably, when you’re a multi-national company - with high specialisation of components comes a high price, you will never get into the price of the OEM. The thing about a multinational is that a big organisation typically takes margin at the end of the supply chain but if you’ve got different firms at each point of the supply chain everyone is going to take margin at each point of the supply chain.

> That's a big problem with firms that are using multinational technology and they often claim that they cannot make money because their inputs are too expensive"

So these costs, coupled with the overheads, together with the low demand market, use of imported resources, mean SA will battle to secure itself within global business chains,

> "Adding the 10% margin that you trying to make on the product at the end with the high factor costs and low volumes results in 50%, 60%, or 70% out of price immediately. Strategically it is difficult to reposition your cost structures and find ways of locating production and particular locations that best sweat your assets that you got invested already in the supply chain. It is difficult to see how regular South African firm will fit in the complicated global value chains and how they position themselves strategically to take cost out effectively".

This inability to secure itself within the supply chain has been further exacerbated by the fact that we have not embraced government incentives to build centres of excellence, and build upon existing strengths to obtain further competitiveness.

> "This failure caused the industry to not build the foundations needed to obtain the levels of competitiveness within the global automotive industry value chain. Suppliers got this platform that is being created how can we make sure that we create this multiplier out of the national policy and work to that advantage on the ground at a localised level"

This quote again hints at the inability to localise. This failure to create a firm foundation for localisation, has led to the inability for government to create the necessary platform for business. This poor grounding is evident again in the below quote:

> "I don't think we've got enough to fully exploit the potential. There's a lot of stuff missing on the ground".

There has been a definite need for this groundwork in order to establish a firm, and definite presence. Industry must ensure that every bit of local content can be explored.

> "I don't think we have given the required level of support on the ground to the captains of industry and to the big firms that who already have established presence"

Failure to provide the level of support to the captains of industry will compromise the competitiveness of local manufacturers, as competitiveness is attempted to be achieved, independent of policy.

> "This failure caused the industry to not build the foundations needed to obtain the levels of competitiveness within the global automotive industry value chain…It cannot happen in isolation from the industrial policy, all the little things has to happen on the ground consistently to ensure that there's a competitive advantage is secure for the local manufacturers".

This tendency for competitiveness independent of policy, and vice versa shows the need for a collaborative environment to secure competitiveness. Competitiveness cannot happen merely through the APDP.

> "The APDP on its own would not achieve the objective".

This means that policies, as guiding documents that are not performing the task of creating political opportunities and platforms to leverage business, but are rather taking the shape of subsidies, funding an already failing market.

> "MIDP was never meant to be a subsidy. It was meant to be a national policy incentive structure that optimized the capability and secured the total growth and development of a sector".

In addition to these blurred roles, there is a failure to amortise investments preventing a space in the global supply chain:

> "Say tomorrow there's an increase on labour cost, you back up your capital equipment and usually your capital equipment can change. You buy equipment from Europe and the machine is planned to produce so much more, when you

> bring it to South Africa, you only use half its capacity. So your more amortisation cost becomes very high per product because you are not using fully per capacity”.

This highlights several barriers. First, amortisation costs will not be reduced until local content increases. There is no space for a local component industry as mentioned previously – cheap imports, mechanisation of previously manual jobs, and declining local demand. Further, there is no space for the full utilisation of equipment. OEM’s will not create further employment, there are only 30 000 employees in the OEM plants. The only objective of the OEM is to cut costs, and this is done by reducing employment.

Employment will only be created in the component industry. Employment is limited in the tier 1 suppliers because they are usually multinationals, and are carefully mechanised. Multinationals equipment is specifically manufactured for their factories, it’s the same equipment, standardising and minimising labour costs and number of units per employee per production run. In tier 2 and tier 3, the operations are less mechanised and will have an increased production level and this is where you see growth of employment. In South Africa, employment will come from these tiers. To ensure and secure the SA economy, we need to employ people, therefore, if employment is not coming from OEMs and tier 1 suppliers, then tier 2 and tier 3 suppliers are key to increasing employment in the automotive sector. There is, however, a problem with developing tier 2 and 3 suppliers in SA:

> “If we want to grow in tier 2 and tier 3 that’s the biggest challenge because we got no research and development capability at that level of the supply chain… The only way we can grow is to make tier 2 and 3 manufacturers more productive, by becoming lean, implement a management philosophy and employee philosophy. Whatever we do we must do it with the best of our ability and be the best in the world and look out for opportunities locally or other export markets. South Africa show cases its industry that we are the best in the world and the gateway to Africa manufacturers will invest in SA and export to overseas markets”.

According to Black (2003:32) the component manufacturing segment of the automotive industry has different tiers of suppliers. The first tier suppliers are assumed to be supplying components directly to the OEMs. Second tier firms generally supply either the OEM directly or supply critical components to first tier firms. They are either producers of scale or involve specialist higher value activities that are needed in automotive production. The majority of second tier suppliers to the automotive industry are South African owned operations, which produce a full range of components for the domestic and international markets.

Third tier firms often supply second or first tier suppliers rather than OEM’s directly. It is common for them to be producing lower volume products using technology and processes that are not necessarily unique. In addition to that SA still has the idle capacity largely due to operating at a lower level due to market shrinkage.

There is also a decreased opportunity for localisation - as new cars are developed - they are more modular, which invariably means fewer loose parts:

> “The very important thing you can consider is every year there will be a trend where new models come out whilst there’s a tension between government and local manufacturers desire to buy local content. But the way cars are designed of your decision and based on technology etc., cars are being developed modular. There is less parts, loose parts coming in, which equal less opportunity for localisation in its broad sense”.

Again, the loss of local content means diminishing opportunity for localisation. In summary, despite government support, there is no singular or unified initiative to improve industry growth. Current programmes only tend to assist the poor performers as they struggle to find their place within the global supply chain. What will ensue is a synopsis of what is required to start increasing competitiveness.

6.11 Key determinants in stimulating the component industry competitiveness

The key reason for promoting the automotive industry in developing countries was to encourage the development of the domestic automotive components industries.

Ndamase and Steyn (2011), emphasized that fact that the growth of the component industry will stimulate domestic technological capability through spill over effects, reducing the balance of payments of imported components and stimulating job creation.

6.11.1 Need to improve local volumes

Automotive component manufacturers must control their internal processes, which allow the company to move in the right direction in controlling what is within their ambit to improve their competitiveness, then the company can focus on improving its competitiveness through increasing volumes:

> "Automotive component manufacturers must manage what they can control, and that is their internal processes. The increased volumes will obviously be a contributing factor to improve their competitiveness. Projects will come economically viable because of higher volumes…obviously be a key factor in terms of the financial impact…and assist the component manufacturers in becoming world viable".

When projects are done at higher volumes, and at fuller capacities, then they become more economically viable. When turnover is greater, and local demand increases, local content will increase, and the economies of scale are more achievable. What assists in cutting down overhead expenditure is lean manufacturing approach.

6.11.2 Need to be lean

According to Morris, Donnelly and Donnelly (2004:129), the introduction of lean manufacturing practices is as a result of the major changes experienced in the global automotive industry. For the component manufacturers, the management of the cost factor is important, as the operations must be lean so that the company has a comparative pricing structure at the overhead level, materials level and labour level. One respondent outlined that there is an increased need to be lean:

> "The most important factor to which we have to tackle is that every company must become lean, must produce top quality products, and must develop top management. If this happens, automatically, you become leaner, more productive and become very efficient and it can beat anyone else in the world".

This quote highlights the need to manage factor costs, and invariably offer competitive products at a competitive price.

> "From a components point of view what are the challenges, they got to be lean, manage their factor costs so that they have a comparative pricing structure. They got to be able to strategically position themselves in relation to supply in particular markets that allows them to invest in not actually cutting edge technology but it's close to the cutting edge technology in order to ensure that they have the latest best technology that allows them to cost effectively produce product".

This need is not only for lean production, but also lean supply chains. To facilitate leaner supply chains, there is an overall need to gain understanding into factors, especially, demand, cost and effectiveness parameter.

> "The first dimension is demand side variables that need to be understood, the second are the side cost factors need to be understood and then the third are the effectiveness parameter within the four walls of a factory and within a supply chain itself".

This involves the overall reduction of waste:

> "If you got the demand characteristics in place to be competitive plus you've got cheap cost, and if you don't know how to manufacture effectively, you will have very wasteful production processes".

If all three of these dimensions are not effectively understood, and dealt with, there will be negative consequences such as high levels of absenteeism, low levels of value-add per employee and high levels of labour turnover. The need to become more lean, sometimes require manual labour be replaced with more automation, whilst at the same time, trying to maintain a demanding skilled workforce.

6.11.3 Need to stimulate the industry

One respondent highlighted that the four building blocks in stimulating growth in the automotive industry are:

(i) the growth in the domestic market;
(ii) growth in exports;
(iii) addressing the increasing logistics costs and;
(iv) raw material beneficiation strategies of SA companies to benefit from.

The respondent further highlighted that these are also the key challenges that the industry experiences. The OEMs need to increase the local content. Local content will only increase if it makes business sense in South Africa. It will only make business sense if all the other building blocks are in place and there are initiatives taking place from the OEMs side.

Another respondent outlined that the immediate and most significant short term solution for stimulating the industry will be skills development and training. If the labour is not used effectively, this will result in low levels of value add, high levels of absenteeism and high labour turnover.

When focussing on external factors, key to stimulating the industry is cutting down on logistics costs:

> "Then it is looking at the external factors, because technology and stuff would not give you that immediate impact because of investment and the value. External factors for me, the big thing is if you are looking at the total value chain it is the logistics costs, which are sitting at about 30% of our vehicle costs at the moment. So if you talking competitiveness and you say Assemblers competitiveness, excluding the tier suppliers, there is a systematic change in the total value chain".

In as much as the above quote highlights the need to reduce the cost of logistics, there is a need to stop focussing on the product.

A product can be built perfectly with the best quality, however, if the product gets damaged in transit or get delivered late, then that's not global competiveness. The focus must not be on the product itself, but rather on the processes and all the role players to deliver the product efficiently.

A respondent highlighted that the 3 key factors that have to be aligned to the automotive component manufacturers in order to create a point of difference are:

- Have a comparative pricing structure;
- Strategically position themselves in relation to supply in particular markets;
- Effectiveness parameter within the production process and supply chain.

The challenge faced in the industry is that these variables are never the same, they vary for each company. Therefore it is vitally important that these factors are in alignment to create a point of difference.

Fishwick (2005:260) emphasises that due to SA location disadvantages in terms of global markets the local industry has to find ways to compensate for the distance disadvantage. Therefore SA success in competing the global market is dependent on first class logistics.

6.11.4 Need for OEM's

The SA automotive industry is strongly influenced by the OEMs, like everywhere else in the world; hence the industry structure is closely aligned with OEM strategies in both domestic and global markets.

The level of complexity has expanded exponentially in the global automotive industry resulting in serve pressure on OEMs, which lead to the change in relationship between the OEMs and the component manufacturers Barnes and Morris (2008:32).

The key role of OEM’s in ensuring that building blocks for increasing volumes are put into place:

> “The OEMs are the key drivers. Initiatives are actually coming from the OEMs side in terms of making it more viable for the component manufacturers, in terms of volumes”.

According to AIEC (2012:76) the OEM’s perceive increasing local sourcing levels in South African manufactured vehicles as a prerequisite for establishing a more sustainable productive base. They do this by generating business for the component sector.

> “If you talking from a business side then 80% of the components exports go via the OEMs. OEMs generate the business simply for the component sector that’s why all the benefits are up to the OEMs, because without the OEM there’s no link for the component manufacturer to the multinational to export from South Africa”.

OEMs require greater design and development support from component manufacturers, which requires global sourcing capabilities at each global location. The component suppliers need design and innovation capabilities in order to provide solutions created by the suppliers using their own technology to meet the performance and interface requirements set by OEMs (Humphrey, 2003:23).

One respondent mentioned that the component manufacturers don't see government policy as value adding to the component industry, but rather directly beneficial to the OEM. He further stated that component manufacturers strongly believe that they are not getting much benefits from the policies as compared to the OEMs.

> “The OEM is a huge investor to the automotive sector investing billions, hence the OEMs are based on policy certainty and framework, therefore the policies can be improved, with the support of the OEMs, therefore sudden changes to the policy is not possible”.

Government acknowledges the importance of OEM's, and therefore see the need to support them. Without OEM's, the component sector will not exist. Therefore, OEM's are also important for ensuring sustainability.

> "Without the 8 OEMs there is no component sector. The 400 component companies supplying the OEMs are only because of the existence of the OEMs, that is why government believes they have to look after the OEMs to sustain the component industry. The component sector is obviously difficult as they don't receive much support in terms of the programs outlined in government policies".

This means that even though Government recognises the importance of OEM's and will support them, their different roles mean that policies are not always directly beneficial to them. The fact remains, OEM's are imperative for component manufacturer survival, sustainability and growth.

6.12 Factors influencing sustainability and growth

Tay (2003:24), outlined those only sustainable economic models for future sustainability is that of mutual co-operation with the value chain, in which benefits and rewards are balanced. A respondent outlined that when sustainability and growth are addressed, it must be separated, as they cannot be looked at in the same pace, because they outline different fundamentals of the industry.

> "If we are talking sustainability in fact that component manufacturers don't have the normal negotiation per value discussions that you would find in any other business sector. The OEM will be prescriptive on a price, the supplier needs to adjust his processes to give that product at the dictated cost"

Sustainability and growth are tricky in that currently, OEMs dictate the pricing and suppliers need to adjust accordingly. The only way to become more economically sustainable, and grow, is if demand grows. It was recommended that in order to ensure sustainability, there is a need to incentivise.

> “The sustainability issue, firstly we need to focus on incentives. Incentives is a well-known factor, when we look at a component manufacturer supplier in Ford, the pressure that Ford faces against Thailand and other plants is the pressure that the supplier would face indirectly because Ford needs to compete and secure orders against a cost that was benchmarked against one of those foreign countries”.

Humphrey (2003:130) outlined that the roots of growth in the trade and volume in the automotive industry has been transformed by global trade and investment liberalization. Due to the dynamics of the motor industry, the MIDP and APDP has provided support to the local industry. As much as localisation seems attractive in maintaining competitiveness, unless all the other internal and external issues are not addressed it will not be effective. One respondent highlighted that all the arguments of localisation and growth come back to the lack of investments.

> “We got to have a competitive compelling business case for an investment and then we will have localisation”.

This comes back to the issue of ROCE. If firms are expecting a certain ROCE percentage and we are not reaching or advocating for this percentage. Why would people invest? This means the opportunity for localisation is non-existent,

> “If firms want 30% of the ROCE before they make an investment how many localisation opportunities are actually manifesting, none. If you trying to realise an opportunity you must go back to the returns, if you give somebody to much of a return there’s something wrong there because how are they securing that return”

Vicious domestic competition forces firms to innovate constantly and improve productivity hence increasing national competitiveness in the industry. Therefore, sturdy local and global competition sharpens advantages at home base and also obliges local market to trade abroad as a growth strategy. Tay (2003:24) highlighted that the main challenges for future growth and competitiveness in the automotive sector, are tougher competition, saturated markets, growing excess capacity and the radical change in the demand structure.

As such, the following recommendations are made to ensure sustainability and growth in the automotive component industry:

i. Identify the national requirements to increase competitiveness;
ii. Re-address regulations, labour etc. (external environment);
iii. Focus on internal environment - new product design, improved tooling;
iv. Improve research and development.

6.13 Role of government policies and strategies in creating a competitive advantage

"To what extent do global companies still rely upon their home markets for their production and marketing systems being replaced by regional systems rather than truly global ones?" (Humphrey and Memedovic, 2003:9). This question is pertinent in understanding the environment of globalization in the automotive industry, and the consideration of policy preferences for developing countries within the global automotive markets.

Government policies are extremely important, especially in the South African context and require a constructive collaboration amongst role players.

There is a need for long term policies, and the transparency thereof. Government is playing a key role in the automotive industry as the automotive industry is regarded by the government as a strategic asset and a key sector and prioritised for fast growth and development for this sector. As such, Government has said to have played a very supportive role in the automotive industry:

> "Government has supported the industry in many initiatives, like the MIDP and APDP. Government, together with labour, NAACAM, NAAMSA and industry have formed a new body, managed by BandM Analysts".

The objective of developing such an entity, is to get government findings through this body, so the money spent can be controlled through one entity. All stakeholders have a role to play, ensuring that this money will flow to all component manufacturers in a controlled manner. The managing body will monitor the results obtained from the money spent on the component manufacturer.

Government has thus assisted in involving all stakeholders to ensure unified expenditure, and to ensure that all component manufacturers receive the necessary funding in a controlled manner. Contrary to the controlled funding, and equal distribution of required resources, the MIDP channelled all its benefits through the assemblers, failing to recognise that you can have component manufacturers without an assembly.

Despite achieving the objectives of the MIDP, government involvement, and attempts to support the automotive industry have largely been seen as successful:

> "The South African government is huge help to the automotive industry and the MIDP, notwithstanding its faults, as a balancer was a good program".

One respondent expressed his confidence in the APDP programme:

> "In terms of the APDP, this program will elevate the industry to the next level of global competitiveness. The APDP is seen as the key to improving international competitiveness in the automotive component industry. Projects will come economically viable because of higher volumes. That's the reason why countries have embedded their operations in South Africa".

In addition, another respondent mentioned the need for the government policies to ensure survival of the automotive industry:

> "Without the automotive policies the industry will struggle to remain globally competitive. This is mainly due to the increasing operational costs like logistics. The industry believes that the automotive policies are good for sustaining the industry and it is properly designed to improve global competitiveness".

Government policies and strategies are important, not only for sustaining the industry, but also improve competitiveness. The automotive policy compliments other policies, which addresses the areas outside of control of the automotive policies like logistics costs and global development, which impacts significantly on the automotive component industry.

Another respondent attests to the success of government policies and highlight that government policy is key to the automotive industry:

> "The MIDP is being a success, the APDP is a success, and government had succeeded in attracting the OEM's. Government have forced the OEMs to reach a minimum of 50 000 units per annum. The OEM's have invested into new equipment; they have trained new people on new technology. The OEM's have done things that could be done by the APDP. Well done."

OEM attraction is key to competitive success, especially for securing investment. OEM's have assisted with training for modernisation, a key to increasing production, and invariably contributing to competitiveness. OEMs have helped to provide an opportunity to compete at a global level using the duty rebate. It helped to consolidate and rationalise, grow and import complementary models to South Africa. Initiatives like the South African Automotive Benchmark Club, and the Durban Automotive Cluster (DAC) supported by EThekwini municipality have been highly effective:

> "DAC has been put in place to try and support the competitiveness of the industry. They have had a positive impact related to the cost, they've had a huge impact relative to what needs to be done".

However, despite these perceived successes, employment has not increased, and as previously mentioned, training is insufficient, there is a need to up-skill, and modernise. The gap is ever-increasing, and South Africa is not keeping up. The thrust behind government involvement was to increase employment, and therefore boost the industry competitiveness, but the total increase in employment has been minimal.

> "So from a ratio point of view, the number of people employed versus the level of investment, on this particular point, of employment, nothing has been achieved even though we have invested billions in the automotive industry. And what is the final objective of government? To create employment".

This shows that a lot of money has been invested in the industry, with very little in terms of goal achievement.

> "Government can throw unlimited money to this if that can make us competitive, it means we spent a lot of money".

Some factors were suggested to have contributed to this limited success, and ultimately undermine policy efficacy:

- Poor implementation:
  "Government policies, strategies etc. are very good and I think we know for a fact that in South Africa we are very good at policy determination and development strategies; we are weak on the implementation";
- No buy-in and support from MIDP;
- Tendency to focus on sustaining barely surviving companies. This suggests that there needs to be more emphasis on growth;
- It failed at a local and municipal level - which invariably impacted on its efficacy on a national level;
- MIDP failed in that it never secured economies of scale.

> "Were the MIDP fails and it is a major failure it that it never secured economies of scale. It has singularly never created a proper foundation on a larger scale production in South Africa because it never realised the opportunity the market constraints".

This quote emphasises the poor economies of scale, and its link with small local content, and alludes to the overall failure of government policies and entities to upscale production, and recognise the extent of constraints operating on the market. This means that there is no basis from which to spring balance production from, leading to poorly leveraged local markets, and content. Government will not support an industry without first witnessing its success, so to say that government will support an industry, it requires that they see worth in that industry first. One respondent even claimed that government is not involved at all. Most respondents, however, say that government does play a pivotal role, but this role is limited. It was stated that the government really only creates a platform for investments, but before these will be effective, they require inputs from both industry and labour, public and private sectors.

In other words, government should create the political platform for enabling business, but business should be left to business.

> "It's not sufficient to survive and I would go as far as saying, it's a fundamental floor if government puts in policies and strategies to ensure survival of any sector. Government must create the enabling environment, business imperatives must still come through".

An example of this required role between government and business to achieve competitiveness is that the MIDP and the APDP set the political requirements within which trade can take place, it is the OEM that actually brings business into fruition as this facilitates the buying of components:

> "The OEM follows strategy by the component suppliers. Multinational Component manufacturers are also like the OEMs, they are dictated by their head offices. Government sector creates a conducive business environment. Businesses do business. The component manufacturing is dependent on international competitiveness".

Government impact is, due to the political allowance and platform provided, to facilitate the business.

> "In terms of the free trade agreement in Europe that was the main instigator for the Toyota investment, because of the duty free export to Europe. Agreements with India, those are political type of agreements, they must still be buying from industry for this to happen".

The above quote highlights the manner in which overseas government, private sector and the government provides the necessary political platform, upon which the industry plays out its role of business. This limited role of government then, is not to ensure survival, but rather to create an enabling environment for business.

A respondent outlined that even though the government should not be purely responsible for sustaining the industry, they are merely supposed to be creating an enabling environment, but it seems that government is taking the role of sustaining the industry.

> "In terms of this limited support, there is a perception, however, that without government involvement, (MIDP and APDP), the industry will be non-existent. But this support is limited when looking at the business aspect, where OEM's play a pivotal role. We must not put too much reliance on government, remember government in a sense, creates the enabling environment but the enabling environment needs to be determined by private sector in terms of the pace".

This quote illustrates government's role as ensuring sustainability, and without it, the automotive industry would collapse. There needs to be a shift in power to the private sector to control the pace and direction sustainability should take.

But this cannot happen because there are too many factors preventing this shift, and the private sector does not have the resources, nor the required collaboration with government, to ensure this shift happens.

Despite these downfalls, there is a firm belief that the governmental policies are improving manufacturing competitiveness, both directly and indirectly. The direct and indirect impacts are as follows:

> **"Directly:** DTI has supported the Terasana programme which has improved the component industry's competitiveness to compete in the global markets.
> **Indirectly:** Every new model that the OEMs secure as a result of MIDP comes with higher quality standards new technology and new skills development".

However, despite the reprieve that the MIDP/APDP provides both directly and indirectly, there are, however, certain factors that extend beyond their ability to placate the effects of the global economy, and South Africa's place in it.

The traditional role where government provides the political platform guided by policy, and the role of private institutions on conducting business has been challenged by factors such as overhead costs, the poor economies of scale, and the small local content and investment, invariably preventing competitive South African market entry. These displaced roles manifest in visibly heavy reliance on government support to ensure survival, a role it should not be playing.

One respondent says that the tariff reduction has seen the dissolution of multiple industries (leather and textile for example), and suggests that we should in fact up the tariffs to increase SA market protection:

> “We are a developing country we could use tariffs to protect our industry. The industry in SA needs to be protected and stay efficient, therefore tariffs should be increased a lot to protect ourselves. Other countries are using tariffs to protect themselves and to protect the industry. The South African government is not doing so”.

The SA government, by reducing the tariffs, has hampered, rather than improved and protected the SA market. And this protection is vital when you venture above the current 15% local content, a necessary requirement.

There is a need for government to merge South African owned component manufacturers with multinationals. This need for South Africa to be part of a multinational means that SA will then be part of a supply chain.

6.14 Government interventions - 1.2 million incentive

The key motivation behind government intervention in implementing the APDP, was to build local manufacturing capacity and double vehicle production in South Africa to 1.2 million vehicle units by 2020, growing the South African market share to over 1%. Government’s intention in introducing this program is to improve international competitiveness through re-orientation of incentives towards local manufacturing capacity building.

One respondent highlighted that the 1.2 million target is a vision which was supposed to lead to the alignment of all associated activities in realisation of that vision.

> “The problem is that we put the target out there, but the mechanism that enables us to achieve the target is not in place”.

Another respondent outlined government’s intervention in stimulating the industry by creating a supplier competiveness council, which will focus on supply chain development. Other respondents stated that government intervention is definitely a step forward, as this has created collaboration between government, industry, unions and industry associations. This institutions supports the development of the industry.

A respondent emphasised the need for the growth of the industry. He pointed out that if the 1.2 million mark is achieved, then the automotive industry will grow. And a growth in industry means a growth in demand, which in turn improves the growth of the industry.

> “If we reach 1.2million vehicles, then the industry will grow. If we have 15% local content and produce 600 000 cars today, when we reach the 1.2 million target, the industry must have grown”

Developing local stability in the industry will impact positively in achieving the 1.2million target. In addition to the 1.2million vehicles, it is localisation from 35% moving up to the 70% mark that means exponential growth in the local industry. Employment is directly linked to production and in term of the component manufacturers, that is where majority of the employment is generated. Higher volumes will make production be more economically sustainable.

The respondents recommended that, in order to meet the goal of 1.2million vehicles by 2020, it is imperative that:

- Incentives be offered;
- Utilise resources that we own and control to start the process of changing strategy;
- Stay abreast of technology and demand.

Another respondent outlined that having initiatives implemented in industry must have control measures in place, were deliverables can be measured and weighted against the objectives. Therefore it is imperative that government incentives implemented in the industry must be clearly visible by the improvements made by the industry.

6.15 Summary

This chapter covered the presentation of the responses, analysis and interpretation of the findings. The identified themes were discussed with relevance to both existing literature and data provided by the respondents. The responses were carefully analysed and valuable data was extracted to focus on the objectives of the study.

This concluded the analysis of the qualitative research findings. Chapter seven aims to present the research conclusions and recommendations on establishing SA global competitiveness in the automotive component industry and the impact global competitiveness will have on the growth and sustainability of the automotive component sector.

CHAPTER SEVEN
Research conclusions, recommendations and suggestions for future research

7.1 Introduction

This chapter focuses on the conclusions and recommendations on the analysis of South Africa's global competitiveness in the light motor vehicle component manufacturing industry. The chapter will summarize and conclude the key research findings outlined in chapter five and chapter six on the factors that influence SA global competitiveness and the impact global competitiveness will have on the growth and sustainability of the automotive component industry.

The objectives of the study was to:

- Identify factors that influence the global competitiveness of South Africa's automotive component industry
- Investigate South Africa's global competitiveness in the automotive component industry.
- Determine the impact global competitiveness will have on the economic sustainability and growth of the automotive component industry in South Africa.
- Analyse the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market.
- Establish government's interventions in stimulating industry competitiveness by changes in policy and the impact of such changes on the competitiveness of the automotive industry

The study objectives were achieved through a combination of secondary data collections as presented in the literature review as well as primary data collection, through both qualitative and quantitative methods using questionnaires and interviews. The vast knowledge of the industry experts interviewed helped in gaining in-depth understanding of the factor that influence global competitiveness of the automotive component industry and the government policies and intervention in supporting the growth of competitiveness of the industry.

The study will be concluded in section 7.2. Based on the results of the study, recommendations will be made in section 7.3. Limitations to the study and recommendations for future research will be discussed in section 7.4 and 7.5.

7.2 Conclusions

The central aim of this study was to evaluate the influence of global competitiveness on the automotive component manufacturing industry in South Africa and its impact on the economic growth and sustainability of the industry.

Competitiveness is undoubtedly a very important topic for any industry that is both considered a key industry in a country and that is required to change from an inwardly focussed industry to one that competes on the global stage. The South African automotive industry is such a key industry in South Africa and it has been integrated into the global automotive industry.

The automotive industry has extensive and deep linkages to the wider economy; therefore the industry is under constant pressure to continuously increase productivity. The ongoing introduction of new products must be a focus of firms to ensure a healthy product profile and substantial growth. Research and development expenditure provides an indication of whether firms are focusing on product development in an attempt to positively influence their growth trajectory. This provides insight as to whether firms are able to meet customer's future product development and thereby retain and grow sales.

The key OEM requirements that drive sourcing decisions are design, cost and quality. The ability of component manufacturers to fulfill these customer requirements depend on their design and engineering skills, manufacturing skills and manpower costs. Design and engineering capabilities depend on product design, engineering/development and validation capabilities. Manufacturing skills refer to the capability of producing high quality and low cost components using modern production processes and manufacturing technologies. Manpower costs mainly depend on workmen wages and productivity levels. These factors that affect a company's competitiveness need to be understood to determine a country's competitiveness.

The following conclusions can be drawn from the results of the quantitative findings:

i. South Africa's automotive component industry in the medium to long term is dependent on government regulations and initiatives, as the quest for economies of scale and increased global competiveness must be supported by national governments structures and regulations. The results also indicate that there is a moderate, positive, significant correlation between governments policy frame work focusing on stimulating growth of the local industry by imposing tariffs to discourage component imports and governments policy framework seeking to improve international competiveness of component manufacturers through the re-orientation of incentives towards local manufacturing and capacity building.

ii. Government intervention is vitally important to ensure the competitiveness of the South African industry improves globally. The findings clearly indicate that improved global competitiveness of the South African industry will have positive impact on the growth and economic sustainability of the automotive component manufacturing industry. Changes in policies will further encourage integration of South African operations into the global supply chain, resulting in adequate demand to attain economies of scale hence competitiveness of the industry will improve.

iii. The economic sustainability of the automotive component suppliers in South Africa is not only governed (and therefore influenced) by market forces and corporate performance, but it is also affected by regulations and activities on the government level and factors that are controlled on the industry level. The industry is in total disagreement that local content programmes initiated by government create hindrances to the component manufacturers. Localisation is certainly a key factor behind successful integration of the South African automotive component industry into the global market. Therefore optimising local content in the SA automotive component industry will positively impact on economic growth and sustainability of the automotive component manufacturers and ultimately grow the component's industry's global competitiveness.

iv. The component manufacturers zealously anticipate further changes to government’s policy in order to increase competitiveness of the component manufacturers in the global supply chain. The component industry is in total agreement that government's policy framework must focus on stimulating growth of the local industry by imposing high tariffs to discourage imports. Tariff reduction has increased imports into SA resulting in negative impact on the profit margin of the local industry. Business requires a policy framework which enhances certainty and predictability, thus strengthening investor confidence.

v. Global integration in the automotive component industry has to a large extent developed at a design level, therefore for the component industry to improve its competitiveness it has to rationalise the components it manufactures to achieve economies of scale. Saturation of the domestic market forces industries to compete in the global markets, hence the growth rate of the domestic market has direct relation on the ability to compete in the global market. Therefore domestic competition forces firms to innovate and improve productivity, hence increasing competitiveness. Therefore sturdy local and global competition sharpen advantages at home base and obliges local market to trade abroad as a growth strategy.

vi. The key factors contributing to the increase in competitiveness of the SA automotive component manufacturers are economies of scale, raw material availability, flexibility, short production runs, government incentives, technology advancements, wage rates, exchange rates and cost of capital.

The qualitative analysis identified themes from the interviews undertaken, which was linked to the objectives of the study. The conclusion of the analysis is listed below.

i. Having initiatives implemented in automotive component industry must have control measures in place, where deliverables can be measured and weighted against the objectives. Government incentives implemented in the industry must be clearly visible by the improvements made by the industry, with regard to improved quality, improved labour, lean manufacturing, and visual management systems

ii. The production incentive intended to encourage local component production, has resulted in exporters earning significantly lower incentives than the MIDP, and this is expected to have a negative impact on future exports, particularly those with high raw material content, such as catalytic converters. Respondents highlighted that one thing the local industry needs to fight for is beneficiation. The industry must make a proposal to government regarding beneficiation specially the platinum group metals. Government must impose taxes on exports of un-beneficiated raw materials that leaves South Africa. If local beneficiation of raw materials takes place, this will give a boost, especially in the catalytic converter industry, which is a vital factor. One respondent outlined that this is why the authorities agreed to the industry's request that special consideration be given to additional support for these high material content vulnerable products to avoid a sudden and significant loss of export business.

iii. It will also be important in terms of localisation of components for the vehicle assembler to properly recognise the production incentive in evaluating a local part against an imported one, instead of simply comparing local costs against the ex-works or landed costs of imported components. South African producers will have to improve their global competitiveness in order to be able to secure new export markets for future models.

iv. Respondents believe that component manufacturers should receive a more direct benefit and are concerned that the structure of the new APDP program may not result in the higher levels of local content required offsetting the probable reductions in exports, resulting in lower overall component volumes. Without higher localisation, it may become increasingly difficult to justify producing certain vehicles in South Africa, and thus the target of continually increasing local production may be unachievable.

v. There is a need to improve local content in South African manufactured vehicles, as localisation will increase local production, contributing higher value add and invariably reduce amortisation. Localisation is not a casual factor and should not be treated as an input variable but as an output variable. Increased localisation means increased employment opportunities and improved competitiveness resulting in growth of the industry.

vi. Government policies and strategies are vitally important not only for sustaining the industry, but also to improve the industries competitiveness. The automotive policies compliment other policies like global development and infrastructure development, which impacts significantly on the automotive component industry.

vii. The traditional role of government is to provide the political platform guided by policy and the role of the private sector is to conduct business. Government by reducing tariffs has hampered, rather than improved and protected the local market. Tariff protect has been the dissolution of multiple industries tariffs must be increased to protect SA market. There is a need for government to merge SA owned component manufacturers with multinationals enabling them to be part of the global supply chain.

7.3 Recommendations

The recommendations put forward are based on the findings of the objectives of the research, the review of relevant literature and the discussions of the findings.

7.3.1 Policy recommendations

The findings of this research give rise to several policy implications that will be value adding for trade policy analyst, policy makers and manufacturers of automotive products.

It is well known that from trade theories that production subsidies are less distorting when compared to export subsidies. The APDP has introduced production incentives to support local manufacturing and reduced the focus on export incentives. The change in policy from the MIDP to the APDP indicates that government policy is geared to a more appropriate direction. Another concern highlighted both in the qualitative and quantitative analysis is that government's automotive policy in support of the industry is largely biased against component manufacturers, while largely benefiting OEMs. It is strongly recommended by industry that government considers redesigning the incentives as more neutral by reducing support to OEMs and include incentives to support component manufacturers in improving their manufacturing capacity and competiveness.

The AIS as part of the APDP largely favours the OEMs in positively contributing to increasing capacity, technology innovations and processes. However it is also expected to contribute to reducing welfare costs. This argument is supported by the findings of the study conducted by the Productivity Commission (2008), in Australia, presented at the South African Automotive Week 2014 (SAAW), which indicated that the automotive assistance contributes positively to large scale capital investments while distorting prices and displacing resources away from efficient productive uses, thereby reducing the international competitiveness of the domestic industry.

Current trade policy development does not have enough focus on the automotive sector. To establish SA position as a global vehicle manufacturing hub, specific focus is recommended to enhance the overall competitiveness and export potential. Trade policies need to have a long term and stable outlook as the industry lead times for product development are over 2-3 years. A stable trade environment would enable auto component suppliers to confidently invest in export development. In addition to existing Free Trade Agreements (FTA) negotiations, the South African government should also consider having FTAs with major automotive producing countries which needs similar products and are poised for growth. This will assist the SA companies to supply their products at competitive process in these large markets. The existing inverted duty structure makes value addition less competitive in that component that requires imported raw materials. The government needs to rectify this anomaly such that the South African component manufacturers remain competitive in the domestic and export markets.

In order to make the South African automotive component sector to be competitive to other countries, government should review its policies in a holistic manner and take necessary steps to improve the industries competitiveness. To manage the challenges of second and third tier suppliers, associated with small scale production, a consortium of SME automotive component companies should be formed. Government should encourage and support the creation of a consortium of auto component manufacturers, alternatively the existing industry associations should be encouraged to take this role. Government must explore the relevance of various schemes that can be structure to benefit the second and third tier suppliers to improve their competitiveness and sustain their business.

Finally, the government should create a new office within the Department of Trade and Industry that would be in charge of supplier certification program. This program would aim to reduce symmetrical risks faced by suppliers and OEMs. This will also be a key development strategy for developing the competitiveness of the industry. OEMs will be assured of the quality and reliability of products that they are procuring from the suppliers and hence OEMs will be confident to invest in developing the suppliers according to the standards required in the global industry. The certification program will allow the confidence level of the industry to improve, which will have positive impact on the growth and sustainability of the industry.

7.3.2 Product development capabilities

R&D by both OEMs and component manufacturers is regarded as being inadequate compared to international competitors. The research recommends that OEMs reduce capital expenditure on support mechanism (local content and export incentives) and increase the share of capital expenditure on R&D to at least 5%. Although the industry has experienced export success in the recent years, this expansion is observed as having occurred at the cost of industry employment and has contributed to reduced domestic production, especially in component manufacturing (Flatters, 2005:23). Greater investment in engineering technology and education and training will improve the competitiveness of the component industry.
The findings in the study outlined that South Africa has a major location disadvantage when compared to the global markets.

Therefore greater investments must be directed to ICT and physical infrastructure (roads, rail, shipping and freight) developments, in order to improve trade costs associated with geographical distance.

Improved infrastructure will definitely impact positively on the component industries competitiveness. This recommendation is clearly evident in the Indian automotive industry, which is highlighted by IDC India (2008) that the most critical intervention of the Indian government for the automotive industry is the development of a world class automotive testing and R&D infrastructure to deepen manufacturing, encourage localised R&D and boost export, securing India’s competitiveness in the global automotive market.

There is also a need to create an environment for R&D through stable and long term incentives to individual companies and fostering linkages between industry and academia for pre-competitive research. Such linkages would help component manufacturers develop and extend frugal engineering concepts and address current issues around design, engineering, testing and validation. These incentives need to be stable and for the long term since the desirable benefits of these investments would accrue after a gestation period due to the long term product development and R&D cycles in the industry.

7.3.3 Improve internal competitiveness

To successfully take the automotive component industry into the decade of global competitiveness, it is crucial that in addition to government support, firms also have a role to play in upgrading their own capabilities. The ability for a firm to upgrade its competitiveness is dependent on its absorptive capacity. It is up to the leaders of the component industry to promote development of knowledge conversion mechanisms, so that knowledge obtained from participation in the global arena can be effectively internalised, resulting in improved skills capabilities within the component industry.

There is a need for significant infusion and absorption of technology to build domestic capability and to support faster product development plans of OEMs. The government should consider establishing a technology development fund for the component industry. This would provide much needed access to technology, particularly to the second and third tier suppliers that make up the bulk of the industry.

7.3.4 Improved infrastructure

Poor infrastructure leads to higher manufacturing costs apart from erosion of confidence amongst customers. The costs of logistics amounts to a significant portion of the overall transportation cost, which increases the cost of the end product. Logistics costs are a major factor affecting the exports and the competitiveness of the SA automotive component industry. The prominent ports in SA are congested resulting in delayed shipments. These delays impacts on the competitiveness of the industry.

Government must focus on reducing the logistics costs of export, to improve the global competitiveness of the automotive component industry. Government has invested in developing dedicated corridors to enhance the efficiency of transportation. Government may enhance its focus on removing bottlenecks coming up in timely development of dedicated corridors. Government has invested in upgrading of existing port infrastructure in Durban and Port Elizabeth. Timely upgrade will address the concerns of manufacturers in the turnaround time of products, which will positively impact on component manufacturer's competitiveness.

Creation of auto supplier parks that provide high quality infrastructure would enable the large number of second and third tier suppliers to address a host of common infrastructure issues. Such supplier parks can be established in the regional auto hubs in close proximity to the OEMs, and provide basic facilities to component suppliers like competitive pricing for utilities, park to port road links, tooling centres and technical training centres. The cost of electricity has a direct bearing on the cost, quality and delivery performance of the automotive component industry, and this needs to be addressed as priority.

7.3.5 Revised labour laws

The current labour laws disincentivize manufactures to hire large number of permanent workforce. This results in manufacturers under investing in skills development and productivity improvements. One of the key criteria to achieve productivity improvements is the existence of a stable workforce that can be trained and motivated to achieve continuous improvements. The exiting labour laws also drive manufactures to set up multiple sub optimal plants with a distributed workforce with varying standards. Improving labour policies will have a significant impact on enhancing productivity levels and the overall competitiveness of the SA automotive component industry.

Revised labour policies would allow manufacturers to maintain a flexible workforce. The government should ensure that the supply of manpower from the various training institutions matches the industries skills requirements. Increasing interaction levels between such institutes and the industry would also help in minimising the gap between skills requirements versus availability.

It is recommended that automotive manufactures and government should negotiate with the National Unions through the institutionalised Motor Industry Bargaining Council to fund higher education and technical training for technicians and engineers in exchange for a decrease in contributions to unemployment benefits and flexile hiring. Such measures will reduce harmful market rigidity while increasing the pool of skilled workers.

7.3.6 Rationalisation to gain economies of scale

With an increasing competitive world market, characterised by excessive production capacity; local manufacturers need to pursue further substantial improvements in operational efficiencies and world class manufacturing standards. The automotive industry and the component industry must continue to pursue options of re-structuring and rationalisation. The study by Tain-Jy and De-piao (1990: 577) on the Korean automotive manufacturing industries indicated that economies of scale are a key contributing factor to the productivity growth of the industry.

It is therefore recommended that further rationalisation of vehicle platforms is vitally important, as this will create economies of scale and at the same time put less strain on the capital investment requirements. It is further recommended that OEM's develop the local component manufacturing base, as this sector of the industry is not privileged to all incentives offered to OEMs. The goal of continuously developing a competitive local supplier base will ensure steady growth resulting in an increase in global competitiveness.

7.4 Limitations to this study

The main limitation of the research derives from the limited data and literature available for the South African automotive component industry competiveness. The writings by academic and researchers in this sector are limited and the institutes that carry out research are focused on providing a service to their customers, being mainly government. Active institutions that manage the automotive component industry in the different provinces restrictively support initiatives of research within the sector. In order to overcome this limitation, primary research was undertaken.

The component industry feels threatened to share information with academic students, as they believe that there is an established automotive clusters and supplier parks in KZN, PE and Gauteng that has the required data available, which should be shared with academic students, but this is not so. Automotive component suppliers that are South African owned businesses, feel threatened to share information on their production processes and capabilities with regard to the use of local and imported content because they are fearful that their companies will be side lined by multinationals who represent the majority stake of the market in South Africa.

The response rate of the questionnaires was another challenge. It was found that when contacting various respondents prior to emailing the questionnaire; many of them were working under pressure due to the design launch of the new model vehicles. A number of respondents declined to participate and stated that this information has been gathered by the automotive cluster, while others indicated that they would try but could not make any promises. Despite these challenges, an acceptable response rate of 73.1% was achieved from the questionnaire administered for the quantitative study undertaken.

7.5 Suggestions for future research

The results of this study hold possibilities of other future research that can be carried out to increase the insights into the drivers of global competitiveness in the automotive component manufacturing industry.

It would be value adding to the component industry to investigate in more detail the global relationships and sources of information, technology and learning that are enabling local firms to improve their global footprint in the supply chain.

Government objectives of producing 1.2million vehicles by 2020 are unfolding by industry to be unattainable. Government need to either adjust their goal or consider improvements and revisions to incentive policies to ensure this goal is achieved. It would be of great importance to critically analyse the fundamental issues present in the industry which prevent the industry from achieving this objective.

Considering South Africa’s high unemployment rates, increasing the usage of labour absorbing production processes while balancing the need to produce world class manufacturing processes and automation in the domestic manufacturing operations is an area that requires further investigation. Particular interest will be on how employment will be achieved while still maintaining a cost competitive business case for the automotive companies.

The continual increase in imported vehicles share of the market, there are many who have called for an increase in duties, particular as SA tariffs are lower than those in most developing countries. It will be of great interest to analyse the impact this will have on the industry if government does not consider real protection for both vehicle and component manufactures.

Without localisation, it may become increasingly difficult to justify producing some vehicles in South Africa, and thus the target of continual increasing local production maybe unachievable. What will be the impact of optimising local content for the future sustainability and economic growth of the automotive industry?

A further recommendation for future research would be to investigate the impact the APDP, production incentive strategy will have on the growth of the automotive component manufacturers in South Africa. As part of this research one could also analyse the impact that the ADPD will have on the component pricing comparison to the global industry.

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APPENDIX 1

Results of Normality Testing

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
A1	.282	129	.000	.781	129	.000
A2	.235	129	.000	.792	129	.000
A3	.160	129	.000	.779	129	.000
A4	.161	129	.000	.866	129	.000
A5.1	.237	129	.000	.852	129	.000
A5.2	.324	129	.000	.715	129	.000
A5.3	.424	129	.000	.489	129	.000
A5.4	.503	129	.000	.371	129	.000
A5.5	.283	129	.000	.770	129	.000
A6	.358	129	.000	.635	129	.000
A7	.326	129	.000	.756	129	.000
A8	.314	129	.000	.774	129	.000
A9.1	.286	129	.000	.777	129	.000
A9.2	.291	129	.000	.773	129	.000
A10	.479	129	.000	.530	129	.000
B1	.451	129	.000	.555	129	.000
B2	.422	129	.000	.674	129	.000
B3.1	.199	129	.000	.810	129	.000
B3.2	.178	129	.000	.812	129	.000
B3.3	.233	129	.000	.792	129	.000
B3.4	.159	129	.000	.866	129	.000
B4.1	.469	129	.000	.502	129	.000
B4.2	.483	129	.000	.482	129	.000
B4.3	.417	129	.000	.645	129	.000
B4.4	.284	129	.000	.795	129	.000
B4.5	.344	129	.000	.747	129	.000
B4.6	.356	129	.000	.722	129	.000
B4.7	.194	129	.000	.872	129	.000
B4.8	.328	129	.000	.725	129	.000
B4.9	.324	129	.000	.773	129	.000
B4.10	.385	129	.000	.684	129	.000
B5.1	.336	129	.000	.737	129	.000
B5.2	.386	129	.000	.681	129	.000
B5.3	.287	129	.000	.820	129	.000
B5.4	.372	129	.000	.672	129	.000
B5.5	.234	129	.000	.824	129	.000
B6.1	.526	129	.000	.350	129	.000
B6.2	.483	129	.000	.516	129	.000
B6.3	.380	129	.000	.686	129	.000
B6.4	.365	129	.000	.683	129	.000
B6.5	.264	129	.000	.777	129	.000
B7.1	.284	129	.000	.794	129	.000

B7.2	.320	129	.000	.723	129	.000
B7.3	.309	129	.000	.718	129	.000
B7.4	.419	129	.000	.627	129	.000
C1	.311	129	.000	.773	129	.000
C2	.434	129	.000	.586	129	.000
C3.1	.282	129	.000	.773	129	.000
C3.2	.236	129	.000	.812	129	.000
C3.3	.185	129	.000	.902	129	.000
C4.1	.296	129	.000	.770	129	.000
C4.2	.281	129	.000	.738	129	.000
C4.3	.251	129	.000	.782	129	.000
C4.4	.281	129	.000	.759	129	.000
C4.5	.247	129	.000	.816	129	.000
C5.1	.382	129	.000	.655	129	.000
C5.2	.280	129	.000	.843	129	.000
C5.3	.263	129	.000	.783	129	.000
C5.4	.369	129	.000	.692	129	.000
C5.5	.471	129	.000	.533	129	.000
C6.1	.446	129	.000	.572	129	.000
C6.2	.530	129	.000	.344	129	.000
C6.3	.509	129	.000	.434	129	.000
C6.4	.417	129	.000	.636	129	.000
C6.5	.493	129	.000	.488	129	.000
C6.6	.462	129	.000	.542	129	.000
C6.7	.333	129	.000	.733	129	.000
C6.8	.485	129	.000	.503	129	.000
C6.9	.360	129	.000	.632	129	.000
C6.10	.458	129	.000	.568	129	.000
C7.1	.280	129	.000	.759	129	.000
C7.2	.388	129	.000	.660	129	.000
C7.3	.299	129	.000	.761	129	.000
D1.1	.454	129	.000	.577	129	.000
D1.2	.352	129	.000	.659	129	.000
D1.3	.328	129	.000	.715	129	.000
D1.4	.423	129	.000	.630	129	.000
D2.1	.402	129	.000	.651	129	.000
D2.2	.291	129	.000	.757	129	.000
D2.3	.303	129	.000	.756	129	.000
D2.4	.297	129	.000	.747	129	.000
D2.5	.364	129	.000	.675	129	.000
D2.6	.373	129	.000	.697	129	.000
D3	.439	129	.000	.603	129	.000
D4	.413	129	.000	.641	129	.000
D5	.419	129	.000	.610	129	.000
D6	.275	129	.000	.760	129	.000
D7.1	.305	129	.000	.722	129	.000
D7.2	.335	129	.000	.699	129	.000
D7.3	.303	129	.000	.773	129	.000
D7.4	.291	129	.000	.743	129	.000
D7.5	.416	129	.000	.634	129	.000

D8	.354	129	.000	.717	129	.000
D9.1	.336	129	.000	.726	129	.000
D9.2	.279	129	.000	.802	129	.000
D9.3	.398	129	.000	.671	129	.000
D9.4	.375	129	.000	.687	129	.000
E1.1	.310	129	.000	.816	129	.000
E2.1	.334	129	.000	.796	129	.000
E2.2	.296	129	.000	.844	129	.000
E2.3	.345	129	.000	.751	129	.000
E2.4	.317	129	.000	.797	129	.000
E2.5	.366	129	.000	.745	129	.000
E2.6	.354	129	.000	.769	129	.000
E2.7	.384	129	.000	.718	129	.000
E2.8	.248	129	.000	.871	129	.000
E2.9	.290	129	.000	.845	129	.000
E3.1	.402	129	.000	.660	129	.000
E3.2	.360	129	.000	.719	129	.000
E3.3	.296	129	.000	.789	129	.000
E3.4	.301	129	.000	.792	129	.000
E4.1	.371	129	.000	.690	129	.000
E4.2	.342	129	.000	.705	129	.000
E4.3	.384	129	.000	.682	129	.000
E4.4	.394	129	.000	.641	129	.000
E4.5	.349	129	.000	.713	129	.000
E5	.248	129	.000	.796	129	.000
E6	.250	129	.000	.802	129	.000
E7	.255	129	.000	.810	129	.000
E8	.243	129	.000	.805	129	.000
F1.1	.346	129	.000	.738	129	.000
F1.2	.338	129	.000	.748	129	.000
F1.3	.306	129	.000	.798	129	.000
F1.4	.242	129	.000	.798	129	.000
F1.5	.357	129	.000	.739	129	.000
F1.6	.344	129	.000	.749	129	.000
F1.7	.307	129	.000	.781	129	.000
F1.8	.315	129	.000	.782	129	.000
F1.9	.325	129	.000	.774	129	.000
F2	.371	129	.000	.696	129	.000
F3.1	.309	129	.000	.769	129	.000
F3.2	.307	129	.000	.770	129	.000
F3.3	.260	129	.000	.786	129	.000
F3.4	.394	129	.000	.687	129	.000
F3.5	.388	129	.000	.660	129	.000
F4.1	.381	129	.000	.672	129	.000
F4.2	.335	129	.000	.753	129	.000
F4.3	.419	129	.000	.628	129	.000
F4.4	.380	129	.000	.666	129	.000
F4.5	.403	129	.000	.637	129	.000
F4.6	.418	129	.000	.602	129	.000

APPENDIX 2

RELIABILITY MEASURES FOR EACH SECTION

1. Reliability for Section B

Case Processing Summary

		N	%
Cases	Valid	135	99.3
	Excluded[a]	1	.7
	Total	136	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.759	26

Item Statistics

	Mean	Std. Deviation	N
B1	1.90	.421	135
B2	2.80	.570	135
B4.1	1.49	1.092	135
B4.2	1.54	1.238	135
B4.3	1.66	1.087	135
B4.4	2.04	1.196	135
B4.5	1.87	1.091	135
B4.6	1.78	1.104	135
B4.8	1.76	1.040	135
B4.9	1.95	1.128	135
B4.10	1.79	1.181	135
B5.1	3.43	.718	135
B5.2	3.50	.721	135
B5.3	3.01	.702	135
B5.4	3.56	.631	135
B5.5	3.02	.876	135
B6.1	3.89	.338	135
B6.2	3.78	.435	135
B6.3	3.56	.594	135
B6.4	3.54	.543	135
B6.5	3.29	.668	135
B7.1	3.24	.796	135
B7.2	3.42	.617	135
B7.3	3.44	.594	135
B7.4	3.64	.594	135
B4.7	2.37	1.183	135

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B1	69.35	70.841	.012	.762
B2	68.45	70.697	.008	.763
B4.1	69.76	59.182	.639	.725
B4.2	69.71	59.192	.544	.731
B4.3	69.59	58.825	.665	.722
B4.4	69.21	59.121	.573	.728
B4.5	69.39	61.403	.497	.736
B4.6	69.47	58.296	.687	.720
B4.8	69.50	61.222	.541	.733
B4.9	69.30	62.795	.393	.744
B4.10	69.47	61.967	.416	.742
B5.1	67.82	70.013	.048	.764
B5.2	67.76	69.828	.062	.763
B5.3	68.24	68.660	.168	.758
B5.4	67.70	70.929	-.021	.765
B5.5	68.23	69.029	.089	.763
B6.1	67.36	70.367	.109	.759
B6.2	67.47	72.102	-.161	.767
B6.3	67.70	70.332	.042	.762
B6.4	67.71	71.043	-.026	.764
B6.5	67.96	71.006	-.031	.766
B7.1	68.01	70.201	.020	.766
B7.2	67.83	69.366	.132	.759
B7.3	67.81	68.227	.257	.754
B7.4	67.61	68.895	.188	.757
B4.7	68.88	62.075	.409	.743

2. Reliability for Section C

Case Processing Summary

		N	%
Cases	Valid	132	97.1
	Excluded[a]	4	2.9
	Total	136	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.705	29

Item Statistics

	Mean	Std. Deviation	N
C1	2.20	.627	132
C2	1.33	.470	132
If_so	1.02	.928	132
C3.1	1.80	1.000	132
C3.2	1.99	1.037	132
C3.3	2.95	1.244	132
C4.1	3.30	.845	132
C4.2	3.36	.713	132
C4.3	3.23	.834	132
C4.4	3.23	.697	132
C4.5	3.19	.821	132
C5.1	3.53	.725	132
C5.2	2.89	.902	132
C5.3	3.28	.765	132
C5.4	3.55	.570	132
C5.5	3.74	.533	132
C6.1	3.71	.454	132
C6.2	3.90	.299	132
C6.3	3.85	.381	132
C6.4	3.65	.524	132
C6.5	3.81	.412	132
C6.6	3.71	.586	132
C6.7	3.45	.634	132
C6.8	3.78	.467	132
C6.9	3.54	.692	132
C6.10	3.72	.514	132
C7.1	3.36	.711	132
C7.2	3.60	.522	132
C7.3	3.31	.619	132

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C1	89.80	47.309	-.282	.729
C2	90.67	48.191	-.481	.730
If_so	90.98	41.656	.229	.698
C3.1	90.20	47.335	-.223	.742
C3.2	90.01	48.985	-.330	.754
C3.3	89.05	49.501	-.330	.766
C4.1	88.70	39.080	.518	.672
C4.2	88.64	39.149	.629	.667
C4.3	88.77	39.994	.434	.680
C4.4	88.77	39.952	.548	.674
C4.5	88.81	38.842	.562	.669
C5.1	88.47	40.220	.492	.678

C5.2	89.11	38.874	.496	.673
C5.3	88.72	40.157	.467	.679
C5.4	88.45	41.226	.507	.681
C5.5	88.26	42.864	.303	.694
C6.1	88.29	43.978	.180	.701
C6.2	88.10	44.105	.270	.699
C6.3	88.15	43.030	.419	.692
C6.4	88.35	42.626	.346	.692
C6.5	88.19	42.582	.467	.689
C6.6	88.29	41.687	.427	.686
C6.7	88.55	41.441	.419	.685
C6.8	88.22	42.249	.461	.687
C6.9	88.46	40.922	.436	.683
C6.10	88.28	42.173	.424	.688
C7.1	88.64	43.055	.183	.701
C7.2	88.40	43.693	.189	.700
C7.3	88.69	41.804	.385	.688

3. Reliability for Section D

Case Processing Summary

		N	%
Cases	Valid	134	98.5
	Excluded[a]	2	1.5
	Total	136	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.881	24

Item Statistics

	Mean	Std. Deviation	N
D1.1	3.72	.481	134
D1.2	3.54	.633	134
D1.3	3.46	.571	134
D1.4	3.66	.536	134
D2.1	3.25	.516	134
D2.2	3.37	.633	134
D2.3	3.34	.612	134
D2.4	3.40	.613	134
D2.5	3.55	.528	134
D2.6	3.34	.536	134
D3	3.70	.491	134
D4	3.65	.524	134

D5	3.62	.691	134
D6	3.28	.871	134
D7.1	3.30	.638	134
D7.2	3.26	.612	134
D7.3	3.14	.662	134
D7.4	3.28	.656	134
D7.5	3.63	.514	134
D8	3.51	.657	134
D9.1	3.47	.609	134
D9.2	3.13	.709	134
D9.3	3.31	.509	134
D9.4	3.35	.524	134

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
D1.1	78.54	52.491	.502	.876
D1.2	78.72	51.269	.502	.876
D1.3	78.80	52.222	.446	.877
D1.4	78.60	52.391	.457	.877
D2.1	79.01	55.647	.041	.886
D2.2	78.89	52.912	.316	.881
D2.3	78.93	53.273	.288	.881
D2.4	78.87	53.531	.258	.882
D2.5	78.71	52.479	.453	.877
D2.6	78.92	52.166	.487	.876
D3	78.56	53.421	.357	.879
D4	78.61	52.299	.482	.876
D5	78.64	49.329	.661	.870
D6	78.99	48.316	.591	.873
D7.1	78.96	50.172	.625	.872
D7.2	79.00	50.361	.632	.872
D7.3	79.12	50.301	.584	.873
D7.4	78.98	50.172	.605	.872
D7.5	78.63	53.664	.305	.880
D8	78.75	50.578	.558	.874
D9.1	78.79	51.430	.506	.875
D9.2	79.13	52.523	.311	.882
D9.3	78.96	52.359	.490	.876
D9.4	78.91	52.368	.472	.877

4. Reliability for Section E

Case Processing Summary

		N	%
Cases	Valid	136	100.0
	Excluded[a]	0	.0
	Total	136	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.913	23

Item Statistics

	Mean	Std. Deviation	N
E1.1	3.68	1.173	136
E2.1	2.94	.697	136
E2.2	2.82	.806	136
E2.3	3.04	.654	136
E2.4	3.01	.715	136
E2.5	2.94	.630	136
E2.6	2.94	.675	136
E2.7	2.93	.586	136
E2.8	2.46	.851	136
E2.9	2.86	.800	136
E3.1	3.07	.490	136
E3.2	3.02	.551	136
E3.3	3.07	.658	136
E3.4	3.12	.656	136
E4.1	3.53	.677	136
E4.2	3.48	.677	136
E4.3	3.51	.720	136
E4.4	3.60	.612	136
E4.5	3.47	.709	136
E5	3.20	.778	136
E6	3.13	.946	136
E7	3.14	.896	136
E8	3.20	.796	136

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
E1.1	68.48	92.162	.289	.919
E2.1	69.21	91.813	.581	.909
E2.2	69.33	89.097	.677	.906
E2.3	69.11	91.847	.621	.908
E2.4	69.15	90.630	.655	.907
E2.5	69.21	92.776	.568	.909
E2.6	69.21	89.976	.752	.905
E2.7	69.22	91.818	.703	.907
E2.8	69.70	90.849	.523	.910
E2.9	69.29	91.809	.496	.910
E3.1	69.09	94.422	.567	.910
E3.2	69.13	93.656	.572	.909
E3.3	69.09	91.444	.650	.907
E3.4	69.04	91.117	.679	.907
E4.1	68.63	94.532	.385	.912
E4.2	68.68	95.746	.291	.914
E4.3	68.64	94.410	.367	.913
E4.4	68.55	96.901	.231	.915
E4.5	68.68	92.618	.508	.910
E5	68.96	92.354	.475	.911
E6	69.03	85.525	.779	.903
E7	69.01	86.237	.782	.903
E8	68.96	92.131	.477	.911

5. Reliability for Section F

Case Processing Summary

		N	%
Cases	Valid	136	100.0
	Excluded[a]	0	.0
	Total	136	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.854	21

Item Statistics

	Mean	Std. Deviation	N
F1.1	3.05	.648	136
F1.2	3.01	.584	136

F1.3	3.05	.681	136
F1.4	3.15	.719	136
F1.5	3.16	.561	136
F1.6	3.08	.572	136
F1.7	3.02	.638	136
F1.8	3.05	.648	136
F1.9	3.05	.703	136
F2	3.47	.719	136
F3.1	1.68	.823	136
F3.2	1.71	.877	136
F3.3	3.26	.699	136
F3.4	3.25	.513	136
F3.5	3.57	.553	136
F4.1	3.35	.510	136
F4.2	3.24	.590	136
F4.3	3.32	.482	136
F4.4	3.58	.524	136
F4.5	3.63	.501	136
F4.6	3.66	.475	136

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
F1.1	62.32	39.373	.572	.842
F1.2	62.35	38.926	.711	.837
F1.3	62.32	38.470	.652	.838
F1.4	62.21	38.510	.607	.839
F1.5	62.21	38.965	.738	.836
F1.6	62.29	39.258	.678	.838
F1.7	62.35	38.613	.684	.837
F1.8	62.32	38.603	.673	.837
F1.9	62.32	38.366	.641	.838
F2	61.90	40.019	.429	.848
F3.1	63.68	43.981	-.020	.870
F3.2	63.65	44.702	-.088	.875
F3.3	62.11	40.025	.444	.847
F3.4	62.12	41.645	.383	.849
F3.5	61.79	41.602	.355	.850
F4.1	62.01	43.259	.138	.857
F4.2	62.12	41.695	.315	.852
F4.3	62.05	41.620	.416	.848
F4.4	61.79	41.369	.415	.848
F4.5	61.74	41.541	.410	.848
F4.6	61.71	42.165	.333	.851

APPENDIX 3

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

ANALYSIS OF GLOBAL COMPETITIVENESS IN THE LIGHT MOTOR VEHICLE COMPONENT INDUSTRY OF SOUTH AFRICA

Researcher: Dhanesh Rampersad (0788013411)
Supervisor: Dr A. Kader (0829010225)
Research Office: Ms P Ximba (031-2603587)

Dear Respondent

Mr Dhanesh Rampersad, a DBA student at the Graduate School of Business and Leadership at the University of KwaZulu Natal is currently conducting research on the automotive industry, with special reference to the global competitiveness in the light motor vehicle component industry of South Africa.

The South African automotive industry has become globally competitive. In this highly demanding industry, your inputs will be value adding to establish the impact local content will have on the growth and sustainability of the automotive component industry. Your views on will therefore provide valuable insight for this research. The results of this survey will be analysed and the findings will be a basis of discussion in my dissertation.

You are assured that all the information in the attached questionnaire will be handled with strictest confidence and in no way be connected with your name and will only be published in aggregate format.

Your completion of this questionnaire will be considered to be your voluntary agreement to participate and an indication of your consent that I may use the data that you provided for research purpose. Your participation, valued input and time in completing the questionnaire is greatly appreciated.

Thank you for your participation.

Dhanesh Rampersad
Tel: 0788013411
E-mail- Dhanesh@tikzn.co.za

This page is to be retained by the participant.

APPENDIX 4

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

DBA Research Project
Researcher: Dhanesh Rampersad (0788013411)
Supervisor: Dr A. Kader (0829010225)
Research Office: Ms P Ximba 031-2603587

CONSENT

I……………………………………………………………………………(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.
I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT: ________________________DATE:____________

This page is to be retained by the Researcher

APPENDIX 5

Questionnaire

Firm/Company Background Information

1. Please indicate your current position in the company?

Managing Director	
CEO	
Senior Manager	
Other (Specify)	

2. In which province is the company situated?

KwaZulu Natal	
Eastern Cape/Port Elizabeth	
Gauteng	

3. In which year was the company established in SA? ________

4. Please indicate the number of employees in the company?

0-50	
51-100	
101-250	
251-500	
More than 500	

5. Please indicate the percentage of the following categories of the employees in 2013?

Permanent employees	%
Contract workers	%
Interns/Trainees	%
Graduates	%
Professionals	%

6. Is your company:

A single plant firm	
Subsidiary of a multinational company/group	

7. As a supplier in the automotive value chain, how would you classify your company as a component supplier?

First Tier Supplier	
Second Tier Supplier	
Third Tier Supplier	
Other (Specify)	

8. Please indicate the type of ownership of your company?

Locally owned South African company	
Locally owned South African company operating under international licences	
Joint venture between South African company and International Supplier	
International owned company (No SA shareholding)	

9. What percentage of the ownership is:

Domestic	%
Foreign	%

10. Please indicate your membership in a production cluster?

Not a member of a cluster	
Member of a regional cluster	
Member of a supplier park	

Objective one

Identify factors that influence the global competitiveness of South Africa’s automotive component industry

Research Question one

What are the factors that influence South Africa’s global competitiveness in the light vehicle component manufacturing industry?

1. As a component supplier, how would you rate the supplier development support received from the OEM?

Not supportive at all	
Supportive	
Very supportive	

2. Cluster development programs in the auto component industry have supported component manufacturers to improve their competitiveness. To what extent to you agree with this statement?

Strongly disagree	
Disagree	
Agree	
Strongly agree	

3. As a component manufacturer where do you source your main inputs from?

Source of input	**%**
Immediate vicinity /surrounding area (within 100km radius)	
Within the province of location	
Nationally	
Internationally	

4. On a scale of 1to 5 (1 being a major factor and 5 being a minor factor), what would you consider to be key factors impacting on competitiveness?

Skills	1	2	3	4	5
Technology	1	2	3	4	5
Profitability	1	2	3	4	5
Turnover	1	2	3	4	5
Employment	1	2	3	4	5
Market size	1	2	3	4	5
Research and Development spend	1	2	3	4	5
Value chain flexibility	1	2	3	4	5
Tariffs	1	2	3	4	5
Government incentives	1	2	3	4	5

5. How influential are the following aspects in determining competitiveness of the automotive component sector?

1=Low influence 2=Average influence 3=Above average influence 4=High influence

Efficient development process	1	2	3	4
Cost efficient design cycles	1	2	3	4
Supplier developmental programs	1	2	3	4
Efficient delivery times	1	2	3	4
Collaborative inter-organisational relationships	1	2	3	4

6. What impact has the following factors on the manufacturing competitiveness of the component industry?

Factors	No impact	Low impact	Medium impact	High impact
Labour productivity costs	1	2	3	4
Lower labour productivity and higher cost of capital				
Sub optimal levels of operations	1	2	3	4
Lower operational efficiencies and higher transactional costs	1	2	3	4
Inadequate infrastructure	1	2	3	4

7. To what extent do you agree with the following statements on the factors influencing SA's global competitiveness?

1= Strongly disagree 2= Disagree 3=Agree 4= Strongly agree

The automotive component industry can be further enhanced if there is an increase in local ownership between local companies and transnational companies.	1	2	3	4
It is clearly evident that there is a decline in local content in domestically assembled vehicles due to high percentage of imported components being used	1	2	3	4
Due to the size of SA component industry in relation to the global market, currency fluctuations impacts on the sector in terms of higher import prices and lower export prices.	1	2	3	4
Due to the acceptance of competition in the national markets, local component manufacturers are forced to increase their international competitiveness	1	2	3	4

Objective two

Establish South Africa's global competitiveness in the automotive component industry.

Research Question two

What is South Africa's global competitiveness in the automotive component industry?

1. To what extent is your company involved in the design and development of components with the OEMs

Very Involved	
Limited Involvement	
Not involved at all	

2. Does your firm export its products?

Yes	
No	

If yes, what percentages of the products are exported?

0-25%	
26-50%	
51-75%	
76-100%	

3. In terms of competitiveness, how would you describe your firm? (Using a scale of 1-5 where 1 is very competitive and 5 not competitive at all)

Locally competitive	1	2	3	4	5
Nationally competitive	1	2	3	4	5
Internationally competitive	1	2	3	4	5

4. With regard to the global competitive market place, evaluate your company in terms of the following?

1= Strongly disagree   2= Disagree   3=Agree   4= Strongly agree

Our company identifies opportunities in the global market place	1	2	3	4
We do analyse technology advancements and product development of international competitors and improve our standards to compete globally	1	2	3	4
Our company is strongly dependant on investment and financial stability through stakeholders' relationship to react to foreign competitors	1	2	3	4
Our company maintains and develop good stake holder engagements , as forecasting future trends is a challenge due to more competitors entering the market place	1	2	3	4
We have developed skilled labour in accordance to international standards, to compete internationally	1	2	3	4

5. Please indicate how you rate the importance of the following factors that determine growth in competitiveness, resulting in economic growth of the component sector?

Factors	No Importance	Low Importance	Medium Importance	High Importance
Tariffs barriers	1	2	3	4
Non-tariff barriers	1	2	3	4
Foreign government regulations/ policies	1	2	3	4
International Standards	1	2	3	4
Currency movements	1	2	3	4

6. Please indicate the importance of the following factors in contributing to the increase in competitiveness of SA auto component manufacturers?

Factors	No Importance	Low Importance	Medium Importance	High Importance
Cost of capital	1	2	3	4
Wage rates	1	2	3	4
Exchange rates	1	2	3	4
Productivity improvements	1	2	3	4
Technology advancements	1	2	3	4
Government incentives	1	2	3	4
Sourcing decisions	1	2	3	4
SA comparative advantage(raw material availability, emerging markets)	1	2	3	4
SA's competitive advantage (Flexibility, short production runs)	1	2	3	4
Economies of scale	1	2	3	4

7. To what extent do you agree with the following on SA's competitiveness?

1=No impact 2=low impact 3= Medium impact 4=High impact

Globalisation is all about price sharing, therefore currency deviations with trading partners impact on domestic operations.	1	2	3	4
Competitive performance of the SA automotive industry is strongly linked to the trade performance of the industry and its ability to compete in the global supply chain.				
Automotive component exports have remained the most significant development for the automotive industry and its trade balance.				

Objective three

Determine the impact global competitiveness will have on the economic sustainability and growth of the automotive component industry in SA.

Research Question three

What impact will global competitiveness have on the economical sustainability of automotive component manufacturers in South Africa?

1. What impact will the following challenges have on the future growth and competitiveness of the automotive component industry?

1=No impact 2=low impact 3= Medium impact 4=High impact

Tougher competition	1	2	3	4
Saturated markets	1	2	3	4
Growing access capacity	1	2	3	4

Radical change in the demand structure	1	2	3	4

2. To what extent do you agree with the following statements on competitiveness impacting on economical sustainability?

1= Strongly disagree 2= Disagree 3=Agree 4= Strongly agree

Domestic competition forces firms to innovate and improve productivity, hence increasing competitiveness	1	2	3	4
Sturdy local and global competition sharpens advantages domestically, obliging local markets to trade abroad as a growth strategy	1	2	3	4
The growth rate of the domestic market has a direct relation on the ability to compete in the global markets	1	2	3	4
Saturation of the domestic market forces companies to compete in the global markets	1	2	3	4
The growth rate and size of the domestic market demand is imperative for the competitiveness the automotive component industry	1	2	3	4
Supporting industries that are internationally competitive present benefits like innovation and shared technology creating advantages in both downstream and upstream industries	1	2	3	4

3. What level of influence will localisation have on the economic growth of the component industry?

No influence		Low influence		Medium influence		High influence	
0% growth		1-30% growth		31-60% growth		61-100% growth	

4. What impact will localisation have on improving growth potential in the export market?

Minimum impact		Low impact		Medium impact		High impact	
0-10%		11-30%		31-50%		51-100%	

5. What level of influence will localisation have on the component manufacturer's turnover?

Low influence		Average influence		Above average influence		High influence	
1-5 % growth		6-15 % growth		16-25% growth		> 25% growth	

6. What level of influence will localisation have on the growth of research and development in the component manufacturing industry?

Low influence		Average influence		Above average influence		High influence	
1-10 % growth		11-25 % growth		26-50% growth		> 51% growth	

7. To what extent do you agree with the following on the current global marketing trends?

1= Strongly disagree 2= Disagree 3=Agree 4= Strongly agree

Global overcapacity of vehicle production has direct impact on component manufacturer's production volumes	1	2	3	4
Overcapacity affects component manufacturer's competitive position in the global market place	1	2	3	4
Due to overcapacity of production, automotive component manufacturers participation in global markets have declined	1	2	3	4
Mergers and acquisitions among global automotive component manufacturers create new competition for SA component manufacturers	1	2	3	4
Cheaper labour in developing countries has negatively impacted on the pricing strategy to remain globally competitive	1	2	3	4

8. Producing components for the global market requires new quality standards and updated technology. How has the introduction of new standards and technology influenced the competitiveness of the component manufacturer?

Low influence		Average influence		Above average influence		High influence	
1-10 % growth		11-25 % growth		26-50% growth		> 51% growth	

9. To what extent do you agree with global competitiveness impacting on auto component manufactures economic sustainability?

1= Strongly disagree 2= Disagree 3=Agree 4= Strongly agree

Global integration in the automotive component industry has to a large extent developed at the design level	1	2	3	4
OEMs perceive increasing local sourcing levels in SA manufactured vehicles as a pre-requisite for establishing a more sustainable production line	1	2	3	4
Restructuring of production networks has important implications in the component industry as trends toward global sourcing impacted on emerging markets as the trend is towards fewer tier suppliers and more foreign owned companies.	1	2	3	4
For automotive component industry to improve its competitiveness, it has to rationalise the vehicles and components it manufacturers to achieve higher volumes from much smaller range of products	1	2	3	4

Objective four

Establish the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market.

Research Question four

What is the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market?

1. On a scale of 1-5 how would you rate your companies knowledge of government incentives like MIDP/APDP and automotive incentive policy in South Africa?

Never heard of it	1	
Aware of the MIDP	2	
Worked with MIDP	3	
Basic understanding of MIDP and APDP	4	
Intimate working knowledge	5	

2. To what extent do you agree with SA policies and strategies in creating a competitive environment for automotive component manufacturing?

1= Strongly disagree 2= Disagree 3=Agree 4= Strongly agree

With government incentives, auto component manufacturing in SA is competitive and profitable.	1	2	3	4
SA is a cost competitive location for auto component manufacturing, even without government incentives	1	2	3	4
SA is a competitive location to produce and export auto components	1	2	3	4
The MIDP has positively impacted on the economic growth and profitability of the auto component manufacturers	1	2	3	4
The MIDP has created a strong business case for SA component manufacturers to be integrated into global component development and production.	1	2	3	4
Governments policy led reforms in rationalisation of the automotive industry, through the MIDP, have improved the SA automotive component industry's global competitive position	1	2	3	4
The MIDP resulted in an increase of skilled jobs in the component sector, as automation enters plants around SA	1	2	3	4
When compared to global operations, SA component manufacturers are more profitable than the rest of the world	1	2	3	4
The global competitiveness of SA as an auto component production location has improved as a result of government interventions.	1	2	3	4

3. The intention of the MIDP was to develop an internationally competitive automotive industry meeting the national objective outline by government policies. To what has the MIDP impacted on the competitiveness of the automotive industry.

1=No impact 2=low impact 3= Medium impact 4=High impact

The MIDP was implemented to shift the auto industry towards an increasing integration into the global value chains.	1	2	3	4
The key objective of the MIDP was to empower the local auto manufacturer to become more competitive in the global markets	1	2	3	4
The MIDP was specifically designed to encourage the incorporation of SA assembly and component production into the global value chain	1	2	3	4
The MIDP made a great contribution to the economic growth of the country by increasing competitiveness at a global level and increasing productivity output.	1	2	3	4

4. How do you evaluate your company in terms of trade liberalisation policies?

1= Strongly disagree 2= Disagree 3=Agree 4= Strongly agree

Tariff reduction has increased the importation of products in the local market	1	2	3	4
Importation has negatively impacted on the profit margin of our business	1	2	3	4
As a result of imports, our domestic sales have declined in the past years	1	2	3	4
Reduced tariffs has resulted in an influx of imported products in the local market	1	2	3	4
Free trade policy impacts negatively on our competitive advantage in the local and global markets	1	2	3	4

5. How would you rate the value of policies (MIDP /APDP) in the global automotive environment with regard to improving competitiveness of auto component manufacturers?

No value	Low Value	Medium value	High value
1	2	3	4

6. Duty free access via the SA-EU free trade agreement into the European Union generated export opportunities for the auto component industry. How has this impacted on SA component industry’s competitiveness?

No impact	Low impact	Medium impact	High impact
1	2	3	4

7. What level of influence did the SA government have on determining new export destinations for automotive component manufacturers to penetrate the global market and improve SA component industry competitiveness?

No influence	Low influence	Medium influence	High influence
1	2	3	4

8. Tariffs for original equipment components gradually declined under the MIDP, imports gained a larger share of the domestic market. What impact did the reduction in tariffs have on the competitiveness of the domestic market?

No impact	Low impact	Medium impact	High impact
1	2	3	4

Objective five
Establish government's interventions in stimulating industry competitiveness by changes in policy and the impact of such changes on the competitiveness of the automotive industry

Research Question five
What should be the specific role of South African government's policy framework and interventions?

1. To what extent to you agree with government interventions to stimulate industry competitiveness through changes in policies and strategies?

1= Strongly disagree 2= Disagree 3=Agree 4= Strongly agree

The global competitiveness of SA as an automotive component production location will improve as a direct result of the APDP.	1	2	3	4
The auto component industry will grow at a faster pace in the next 15 years as a result of the APDP.	1	2	3	4
The APDP will improve inter industry linkages and more synergy between non automotive industries will result in robust growth for SA.	1	2	3	4
Volume assembly allowance (VAA) is applicable to OEMs producing more than 50 000 units per year. If all OEMs qualify, and local content is used, component manufacturers will have sufficient demand to achieve economies of scale resulting in cost competitiveness.	1	2	3	4
The APDP will augment economies of scale, advance production methods and enhance technology advancements of auto component manufacturers.	1	2	3	4
The MIDP offered import duty rebates in exchange for exported local content. The APDP offers import duties rebates for vehicle assemblers who produce more than 50 000 units per annum. This change will encourage further integration of SA operations into global operations of OEMs and component manufacturers.	1	2	3	4
The Automotive Investment Scheme (AIS) under the APDP will stimulate localisation of components, hence expanding the local component supplier base.	1	2	3	4
Government has published a goal of producing 1.2 million vehicles by 2020. Through the APDP and its developmental focus, this is a reasonable and achievable goal	1	2	3	4
From 2013 to 2020 employment will increase at a greater pace under the APDP, as that of the years of the MIDP.	1	2	3	4

2. How would you rate the automotive components industry dependence on future government support in form of the APDP or new revised support programmes?

No dependence	Low dependence	Medium dependence	High dependence
1	2	3	4

3. To what extent do you agree with the following statements?

1= Strongly disagree 2= Disagree 3=Agree 4= Strongly agree

Local content programmes of the government creates a hindrance to component manufacturers developing their own strategic marketing according to global market competition	1	2	3	4
Governments incentives on import and export compensation mechanisms do not help the growth and sustainability of the component manufacturers in the long term	1	2	3	4
Government interventions in stimulating the automotive component industry competitiveness assisted component manufacturers to increase their competitive position globally.	1	2	3	4
Component manufacturers anticipate further changes to government's policy to increase competitiveness in the global market place.	1	2	3	4
Government's policy framework should focus on stimulating growth of the local industry by imposing tariff to discourage component imports	1	2	3	4

4. Government's intervention and policy framework is imperative to improving competitiveness of the automotive component industry. To what extent to you agree with the following?

1= Strongly disagree 2= Disagree 3=Agree 4= Strongly agree

Effective and efficient policy must ensure that the domestic automotive industry is competitive and can attract foreign direct investment.	1	2	3	4
Policy requirements must prepare the industry for a more open trading environment.	1	2	3	4
It is essential to identify a regional and national automotive space, which is protected by policy requirements	1	2	3	4
Governments policy frameworks must seek to improve international competitiveness of component manufacturers through re-orientation of incentives towards local manufacturing and capacity building	1	2	3	4
Government interventions should seek to create an enabling environment for the domestic industry to significantly grow production volumes and enhance local value addition.	1	2	3	4
Government intervention must result in greater impact on the economy by increasing local manufacturing capabilities	1	2	3	4

APPENDIX 6

Qualitative Interview Guide

Research objective one	**Research question one**
Identify factors that influence the global competitiveness of South Africa's automotive component industry	What are the factors that influence South Africa's global competitiveness in the light vehicle component manufacturing industry?

1. What would you consider as a major contributing factors impacting on competitiveness of the component sector in SA.

2. What inefficiencies can be addressed in SA automotive component industry to improve their global competitiveness in the value chain?

3. Tariffs for original equipment components gradually declined under the MIDP and imports gained a larger share of the domestic market. What impact did the reduction in tariffs have on the competitiveness of the domestic market?

Research objective two	**Research question two**
Establish South Africa's global competitiveness in the automotive component industry.	What is South Africa's global competitiveness in the automotive component industry?

1. Overcapacity in the automotive sector has placed severe financial pressure on multinationals hence this has transformed the way the industry is organised.
   1.1. Is there viable space for SA owned component suppliers in the future of SA automotive value chain?
   1.2. Does this differ for internationally owned suppliers who distribute locally in SA?
   1.3. What strategic approach should be considered for SA automotive component manufacturers to increase their competitiveness?

2. Global trends in the automotive industry have direct impact on competeveness, which affects South Africa as an international competitor. Explain the automotive component industries strategy to improve its competitiveness in order to remain compete with global suppliers.

3. What do you regard as the main determinants in stimulating the automotive component industry competitiveness in South Africa?

Research objective three	Research question three
Determine the impact global competitiveness will have on the economic sustainability and growth of the automotive component industry in SA.	What impact will global competitiveness have on the economical sustainability of automotive component manufacturers in South Africa?

1. Profitability and turnover are key contributors to economic sustainability of SA automotive component manufactures. How are these contributing factors influenced to ensure sustainability and growth in the automotive component industry?

2. An increase in local content in SA assembled vehicles will impact on the economic growth of the component industry and improve growth potential in the export market. Is localisation the answer to SA competitiveness challenge?

3. What level of influence did the SA government have on determining new export destinations for automotive component manufacturers to penetrate the global market and improve SA component industry economic sustainability?

Research objective four	Research question four
Establish the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market.	What is the role of strategies and policies in creating a competitive advantage for the South African automotive component industry in the global market?

1. Please indicate your views on the impact of government policies and strategies on improving the competitiveness of SA automotive component manufacturers?

2. Due to the acceptance of competition in the national markets, local components manufacturers are forced to increase their international competitiveness. Are government policies and strategies sufficient for the component manufacturer to survive?

3. The intention of the MIDP was to develop an internationally competitive automotive industry meeting the national objective outline by government policies. To what extent do you believe that the MIDP has positively impacted on the competitiveness of the automotive component industry?

4. The MIDP offered import duty rebates in exchange for exported local content. The APDP offers import duties rebates for vehicle assemblers who produce more than 50 000 units per annum. This change will encourage further integration of SA operations into global operations of OEMs and component manufacturers. To what extent has policies and strategies created a competitive advantage for SA component manufacturers.

Research objective five	Research question five
Establish government's interventions in stimulating industry competitiveness by changes in policy and the impact of such changes on the competitiveness of the automotive industry	What should be the specific role of South African government's policy framework and interventions?

1. South African government's intention is to grow vehicle production in South Africa to 1.2million units by 2020.

    1.1. What is government's strategic approach in developing local component suppliers to improve their competitiveness so the SA market local content can be increased accordingly?
    1.2. Is it possible to manufacture 1.2 million vehicles by 2020 and how will this target impact on localisation and competitiveness of the local component industry.

2. Government policies like the MIDP and APDP was introduced to protect the local industry by insuring the local industry remains competitive. In your view, has component supplier's competitiveness improved as a result of these policies?

3. Governments policy frameworks must seek to improve international competitiveness of component manufacturers through re-orientation of incentives towards local manufacturing and capacity building. To what extent are government's interventions stimulating the component industry competitiveness?

APPENDIX 7

UNIVERSITY OF KWAZULU-NATAL™
INYUVESI YAKWAZULU-NATALI

6 September 2013

Mr Dhanesh Rampersad 210526159
Graduate School of Business & Leadership
Westville Campus

Protocol reference number: HSS/0970/013D
Project title: Analysis of Global Competitiveness in the light motor vehicle component industry of South Africa

Dear Ms Rampersad

Expedited Approval

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

Any alteration/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.

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

Yours faithfully

....
Dr Shenuka Singh (Acting Chair)

/px

cc Supervisor: Dr Abdulla Kader
cc Academic Leader Research: Dr E Munapo
cc School Administrator: Ms Wendy Clarke

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