

UNIVERSITY OF KWAZULU-NATAL

The Effect of China Imports on Smiths Manufacturing's Aftermarket Division, Dunair.

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ABSTRACT

South Africa's automotive industry has been growing with 37 new brands introduced from 1997 to 2013. The industry has nine local manufacturing automotive plants that produce for both local and export markets while also importing vehicles from their international manufacturing facilities. Local automakers utilize local tier component manufacturers for the parts localization programme. This phenomenon has created an opportunity for international parts suppliers to provide genuine and alternative replacement parts to the South African market for in-warranty and out of warranty repairs. This study investigates the effect of the cheap China copy replacement products on local tier component manufacturers. The objective of this study is to identify the factors that influence the buying decisions of customers and their impact on local suppliers. It will also assist local tier component manufacturers and automakers to formulate strategies that will assist to provide value proposition to customers and industry stakeholders. The study utilized a mixed research design method that acquired secondary data from the independent aftermarket intermediaries and primary data from the researcher's market analysis. The secondary data was collected from fifty-five intermediaries using questionnaires. Collected data is analysed in the last chapter with detailed recommendations. The findings suggest that the market requires cheaper alternative products that are reasonably priced and available when required.

DECLARATION

I, Bongani Duncan Khumalo, student number 212553193, declare that this Master's Dissertation titled: The effect of China Imports on Smiths Manufacturing's Aftermarket Division, Dunair:

- (i) Is my original and independent research work, except where otherwise indicated?
- (ii) This dissertation has not been submitted for any degree or examination at any other university.
- (iii) This dissertation does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
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Signed

BONGANI DUNCAN KHUMALO

DEDICATION

To

My wife Sindi and my son Elihle Khumalo

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I wish to express my sincere appreciation and gratitude to the following individuals, without whose assistance, this study would not have been possible:

- To God, Jesus for giving me the grace to dream again.
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- To the Graduate School of Business and Leadership for their support.

ACRONYMS

ABR	Automotive Business Review
APDP	Automotive Production and Development Plan
ASCCI	Automotive Supply Chain Competitive Initiative
BBBEE	Broad Based Black Economic Empowerment
BEE	Black Economic Empowerment
CBU	Complete Build-up Units
CKD	Completely Knocked Down
CIACM	Competitiveness Improvement of Automotive Component Manufactures
COSATU	Congress of South African Trade Union
DAC	Durban Automotive Cluster
DTI	Department of Trade and Industry
DoL	Department of Labour
DoE	Department of Energy
DPLG	Department of Provincial and Local Government
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GDS	Growth and Development Summit
IAM	Independent Aftermarket
IDC	Industrial Development Corporation
IDP	Integrated Development Plan
ITAC	International Trade Admission Commission
JIT	Just In Time
KZN	KwaZulu-Natal
MIDP	Motor Industry Development Programme

MIWA	Motor Industry Workshop Association
MerSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority
NAAMSA	National Association of Automotive Manufacturers of South Africa
NAACAM	National Association of Automotive Component Manufacturers
NALEDI	National Labour and Economic Development Institute
OEM	Original Equipment Manufacturer
OES	Original Equipment Supply
R & D	Research and Development
SA	South Africa (n)
SABS	South African Bureau of Standards
SAFMA	South African Fasteners Manufacturers Association
SABR	South African Reserve Bank
SARS	South African Revenue Service
SEDA	Small Enterprise Development Agency
StatsSA	Statistics South Africa
VAT	Value Added Tax
WTO	World Trade Organisation
ZAR	South African Rand

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CHAPTER ONE: INTRODUCTION TO THE RESEARCH

1.1 Background

South Africa's automotive industry has been growing rapidly in the past twenty years with a significant 30% increase between 1995 and 2010 after the trade liberalization programme in 1990 (Pitot, 2011). The industry employs about 9 million people and contributes about R2.9 billion to South Africa's gross domestic product (GDP) (Ambe I. , 2014b). The rise of globalization has enabled global automakers to increase the product range they offer to the South African market. With this, automakers with production facilities in South Africa were assembling the Completely Knocked Down (CKD) vehicles utilizing components produced from their original equipment manufacturers' (OEM) home (Lang, Loeser, & Nettesheim, 2008).

The growth in the automotive sector has provided a platform for government and automakers to work hand in hand to create competitive advantages to reintegrate the sector to the global market. According to Barnes & Meadows (2008), collaboration led to the introduction of Motor Industry Development (MIDP) in 1995 which was aimed at achieving the following:

- Improve SA's automotive industry's international competitiveness.
- Improve vehicle affordability in the domestic market.
- Encourage growth in vehicle and component manufacturing, particularly through exports.
- Stabilise employment levels in the industry.
- Create a better industry foreign exchange balance.

These incentives encouraged automakers to engage in the localization programme of their components, thereby sourcing of parts with the local tier suppliers in the country's maker (Ezell, Atkinson, & Wein, 2013). The programme was facilitated through the use of licence agreements from the licensors, through strategic sourcing that helped to develop and manage local enterprises to optimize the requirements of the OEM's. According to Lightstone Auto Reports (2015), there is still a decent percentage of vehicles older than five years that still require affordable and reliable replacement products. Technological advancement has enabled the global markets to conduct business with each other through e-commerce, making it possible for customers and direct importers to source alternative replacement parts from international suppliers.

1.2. Research focus

Increased sales of both new and used vehicles have increased the demand of aftermarket replacement parts. This then created an opportunity for direct importers to import cheap alternative replacement parts from China as a low cost exporting country to satisfy the market demand (Yang, 2014). He further stated that these cheap Chinese replacement products created a downshift in automotive manufacturing. Edwards and Jenkins (2013) pointed out the negative impact the bilateral free trade agreement between China and SA has had in South Africa's manufacturing sector with China's export increasing by 12% from \$1.1 billion in 2001 to \$14.2 billion in 2011. They further highlighted the 8.5% increase in car parts and accessories from 0.1% in 1995 to 8.6% in 2010. The South African manufacturing sector has continued to experience a major decline with a 46% drop in parts and accessories between 2012 and 2013 (StatsSA). Edwards and Jenkins (2013) also highlighted a 34.6% drop in employment in the same sector between 2001 and 2010.

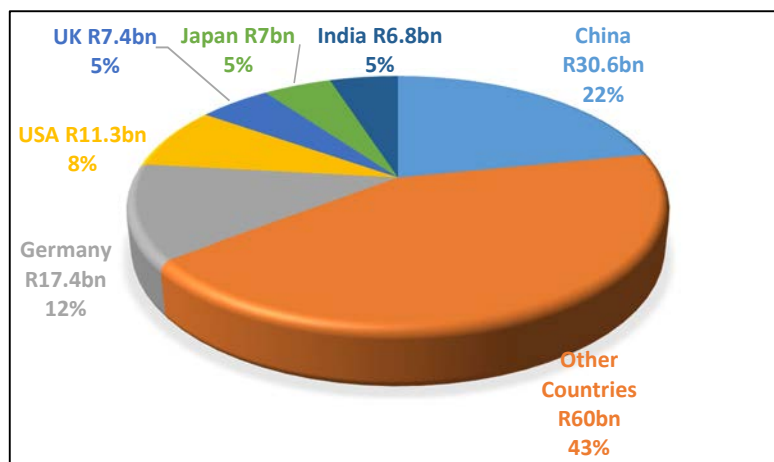


Figure 1: Import VAT, Custom duties and Ad Valorem import duties (Duty 1-2B) by country of origin 2012/2013 (2013 Tax Statistics)

Within the context provided above, it is important to note that the significant increase of Chinese exports to South Africa has negatively affected the automotive industry. This study focuses on the impact cheap China products have had on Tier 1 manufacturer and suppliers to OES.

1.3. Research Objectives

This study is an empirical research that seeks to address the global challenge developing countries are faced with. The first world countries have a well-developed saturated market with defined customers and suppliers. These suppliers have therefore looked at alternative markets to increase their product range and maximise their profits. Most third world countries that have been under colonial governments and some subjected to sanctions have been embracing economic changes. New markets have introduced new products and opportunities for potential businesses. The study seeks to identify the challenges that emerge due to globalization and an increase of suppliers that are bringing their products to the South African market. The study further shows the impact of trade liberalization to current local producers and its economic impact. The literature review exercise will highlight the qualitative and research methodology, will provide details of the sample, research and data analysis methods (ACAPS, 2012).

1.4. Value of Research

Local textile industries have endured major decline due to cheap China imports that are far cheaper than the products they develop. According to Edwards and Jenkins (2015), South Africa was China's second largest export market in 2009 followed by the United States. This has resulted in major decline in various manufacturing sectors and textile industries as they have lost about 45% of their labour force between years 2000 to 2010. The poultry industry nearly went through the same changes with the influx of cheap products from Brazil. With the collaboration of various stakeholders in the poultry industry, the South African government intervened which resulted in enforcing anti-dumping policies to protect local producers. In the same way, the automotive industry doesn't have to be subjected to these similar mistakes. The objectives of this research therefore, is to assist in the following:

- Identify factors that hinder the growth of aftermarket automotive suppliers in South Africa.
- Through the literature review exercise, provide cases to substantiate the aforementioned statement.

1.5. Overview of the study

The structure of the study is outlined in the following six chapters:

Chapter 1: Introduction to the background of the manufacturing sector and automotive industry, the research focus and objectives. The chapter will also highlight limitations experienced while conducting the study.

Chapter 2: Provide the literature to support the hypothesis underpinning this study.

Chapter 3: Discuss the research design, methods used for data collection and analysis and the merit of the research study.

Chapter 4: Present research data and data analysis methods.

Chapter 5: Examine the results and formulate findings and conclusion.

Chapter 6: Provide recommendations and conclusion to the study.

1.6. Objectives

The study aims to achieve the following objectives:

- Identify the factors that influence the buying decisions of the customers.
- Establish the source or country of origin of the products the intermediaries buy from.
- Assess the impact of the intermediaries' buying decisions to the independent aftermarket supplier- Dunair.

1.7. Limitations of the study

The aftermarket air conditioner repairing business is seasonal and most intermediaries are busy during the warmer seasons of the year. The poor response was due to most customers being busy. The researcher followed up with telephone calls on all non-respondents but the response was average overall. In addition, QuestionPro portal was sometimes unable to e-mail surveys due to the sample size. This had to be diverted to the researcher's private e-mail address to send to respondents. QuestionPro portal could only trace private e-mail addresses as respondents.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

Changes in automotive market trends have greatly impacted customer choices in purchasing replacement parts for their vehicles. The price variation between OES and Independent Aftermarket (IAM) parts after warranty and service plans have expired and the changes in supply chain management have created an opportunity for the second market to emerge. The literature highlights the factors influencing the buying decisions of the customers and its impact on the automotive manufacturing sector.

2.2. Factors influencing Customer's Buying Decisions

Technological advancement has made automakers compare and benchmark the supply of products and services which have influenced the buying decision of customers. This has motivated most international suppliers to find innovative ways of improving their production efficiencies and supply chain management thus becoming highly competitive. The change to mobility solutions in most countries, especially with under-developed public transportation systems, has also increased competitiveness with automakers which enables them to secure better market share (Simonji-Elias, et al., 2014).

South Africa's automotive industry is one of the major contributors to its manufacturing sector with its local production contributing at least 7.5% and its exports at almost 10% of the country's GDP (StatsSA, 2014). The lifting of economic sanctions post-1994 opened markets for automakers especially American, Korean and other Japanese brands to import different car brands to South Africa. Post-1994, there were 17 car brands in the South African market which has since increased to 54 brands in 2013 (Lightstone, 2014). The competitive advantage of these automakers was created by including service plans and longer warranty periods to purchase prices as incentives to attract customers. The supply of variety of spare parts and replacement products is done through their parts departments to service their customer's vehicles during the 'in-warranty' period.

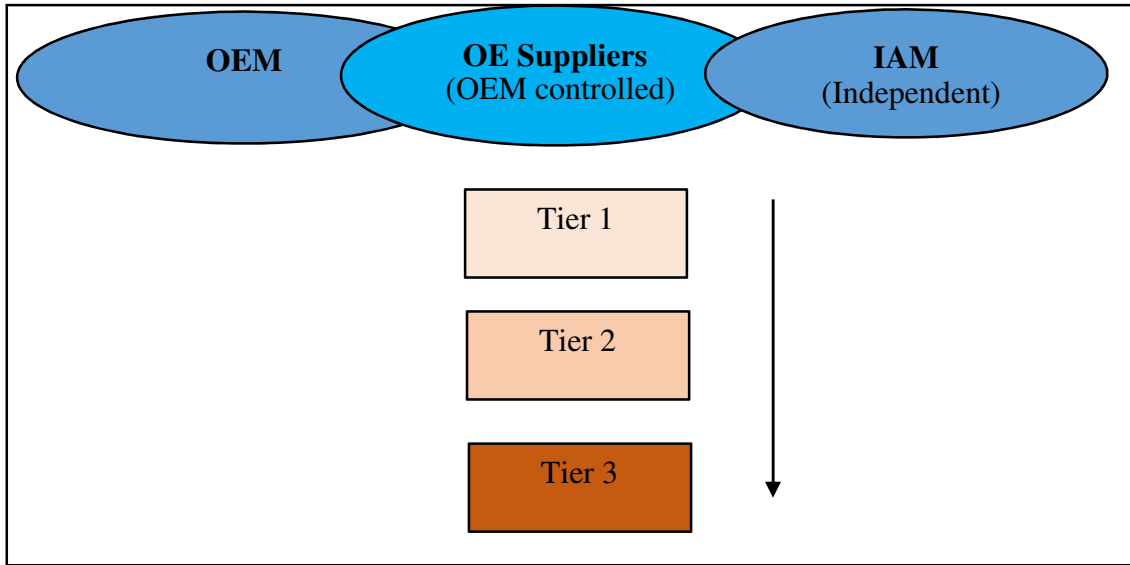


Figure 2: Value chain of South African Automotive Industry (Barnes 2000:15)

The South African automotive industry is faced with a lot of challenges that reduce its competitiveness in the global market. Poee (2012) explains that the industry's volumes are still very low compared to global standards which makes component manufacturers fail to meet OEM's targeted costs of products. This has created an opportunity for direct importers to source replacement parts in the global market. Pitot (2011), the former Chairman of the National Association of Automotive Component Manufacturers (NAACAM), elaborated on the shrinking nature of the local market while pointing out the advantages of MIDP (soon to be changed to the Automotive Production and Development Plan (APDP)). He elaborated that APDP will give a boost to the South African component manufacturers when exporting to their international customers, which would increase its competitiveness among their rivals. He further emphasized the benefits of APDP to approximately 400 hundred automotive component suppliers that support local automakers and export markets which can be seen as an economic drive with an anticipated boost of production of up to 1.2 million vehicles per annum in 2020.

This is in line with Berger's (2014) argument when he identified the following key market drivers that influence sales and production in the global automotive industry:

- GDP development.
- Strong disposable income.

- Tax rates and import duties.
- Government incentives.

2.2.1. Market changes

The shift in the global economy has created a new dimension in the international trade with the emerging countries playing a lead role. The crumbling economies of the First World countries have caused a global economic meltdown with the giant world leading automotive manufacturers like Ford and General Motors suffering the most. Hill (2003) agreed with J.D Power in his Vehicle Dependability Study (2009) that there will be a huge shift of product demand from the first world to the developing countries. This was evident with General Motors partnering with Shanghai Automotive which increased its China plant production compared to that of its US plant.

In early 2000, vehicle sales in the Triad was saturated and they started looking for global growth opportunities (Lang, Loeser, & Nettesheim, 2008). China was the preferred market which bore fruits with soaring sales of 25% and 15% in 2001 and 2007 respectively. The cross border transfer of competences and skills from Triad OEM's resulted in the formation of research and development (R&D) hubs, off shore units that participated in joint projects to assist in innovative designs that enabled them to reduce their cost of production. Skills transfer from OEM's is the crucial contributing factor that gives suppliers a competitive edge to utilize their resources effectively. Adewale (2012) highlights the importance of absorptive capacity which assist in gauging if the suppliers from emerging countries can absorb technology and skill transfer from their new partners.

Vehicle models have increased in the South African automotive market from 17 to 54 models (Lightstone, 2014). This has been attributed to a 54% decline of households under living standard measure (LSM) 1-4 to 22% from 1994 to 2015 and the increase of LSM 8-10 from 17% to 25% respectively (Steyn, 2015). The increase in consumer spending has made South Africa a growing market. Although spending patterns of customers have increased, customers still use value add as a deciding factor when purchasing. This has been evident

with the increased car sales of Korean and Indian origin (NAAMSA, 2015). On the contrary, the 2014 total house hold debt was 14% compared to 9% of debt-service cost (SARB, 2015). This could explain the increased use of cheap Chinese replacement parts.

2.2.2 Competitive forces in South African industry

2.2.2.1 Suppliers (intermediaries)

South African automotive markets consist of OEM, OES and IAM suppliers (intermediaries i.e. retailers or direct importers). The rise of global networks has enabled the automotive sector to create a platform for intermediaries to meet with the suppliers to showcase their products through trade shows (Automechanika, 2015). Intermediaries or direct importers bridge the gap between the manufacturer and customer by supplying products from the tier suppliers to the required market (Cronje, Du Toit, & Motlala, 2000). The competitiveness of these tier one or two suppliers depend on the ability to supply a cost effective product within a reasonable time. Since most of the China tier one suppliers produce components for the OEM's, they have developed second line products for IAM to protect their licence agreements and intellectual properties of licensors (Yang, 2014). The products are imported by intermediaries as replacement parts to IAM.

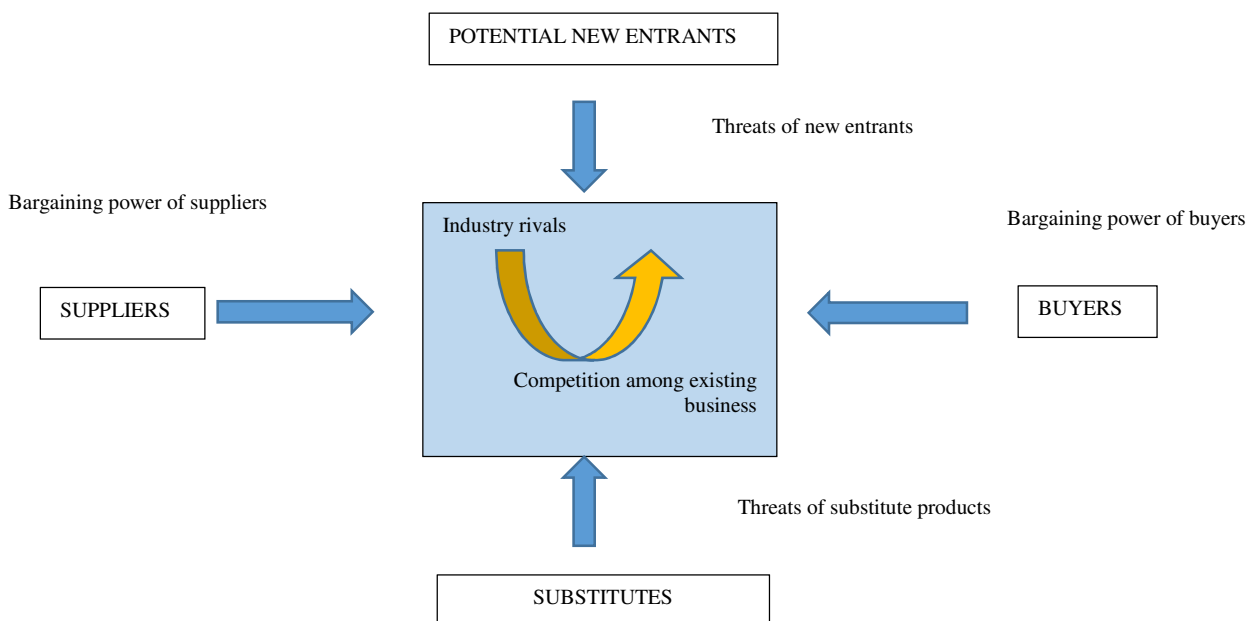


Figure 3: Competitive forces in South African Automotive Industry (Porter 2008:80)

2.2.2.2 Buyers

Consumers buy products to fulfil a certain need (Winer & Dhar, 2011). There are various factors that influence the decision making of a customer when buying a product such as the product cost, availability, quality and evaluation of alternatives suppliers (Lamb *et al.* 2008). Cheap China products have been the preferred products in the market which has reduced the productivity of local manufacturers (Edwards & Jenkins 2013). Similarly, the cheap clothing and electronic products imported from China have become popular in South Africa (Yang, 2014). Low income earning customers prefer purchasing products that will give them value for money than branded expensive products. Like these other consumers of products, automotive replacements customers look for alternative replacement products that can save them money.

2.2.2.3. Potential new entrants

China is one of the leading technologically advanced countries producing 1.8 million engineers in 2008 (Lang, Loeser, & Nettesheim, 2008). This has made automakers partner with Chinese universities and suppliers to develop R&D centres to develop innovative products. Lang, Loeser & Nettesheim (2008) further elaborate that these centres have created opportunities for centralised training for local OEM and supplier in their headquarters, and hubs for joint projects where local and global staff members share their expertise in global R&D projects. Most of the suppliers utilize skills learnt from these engineers to adopt a bottom-up approach to redesign their products using low-cost designs and manufacturing processes while utilising cheaper materials to gain a share in the low cost markets (Lang, Loeser, & Nettesheim, 2008). Contrary to the above, South Africa produced about 2500 engineers in 2008 which is far less than that of China with the ratio per population of 0.005% SA: 0.14% China. Bizuneh, et al., (2012) also support this notion when stating that the shortage of engineers and scientists is a major constrain in South Africa's R&D efforts. International players like China utilize their competitive advantage to capture emerging markets like South Africa (Yang, 2014).

2.2.2.4 Substitutes

The South African market is getting more and more saturated with alternative products from China, Brazil and India due to the rise of globalization (Biyase, 2011). This has created an emergence of the pirate part market which has made it difficult for local suppliers to be competitive (SEDA 2012). These countries have employed agents in South Africa that will assist them in establishing business partners to grow their business to the emerging Southern African market. This has been evident with the Johannesburg Automechanika trade show in 2015 where South Africa had 157 exhibitors compared to 333 from China and 112 exhibitors in 2013 compared to 352 from China (Automechanika 2015, 2013).

The exhibitors provide a lot of substitute products which compete with locally manufactured products. According to De Villiers *et al.* (2008), customers compare cost differentials from the market and the value advantage of a product when making purchasing decisions.

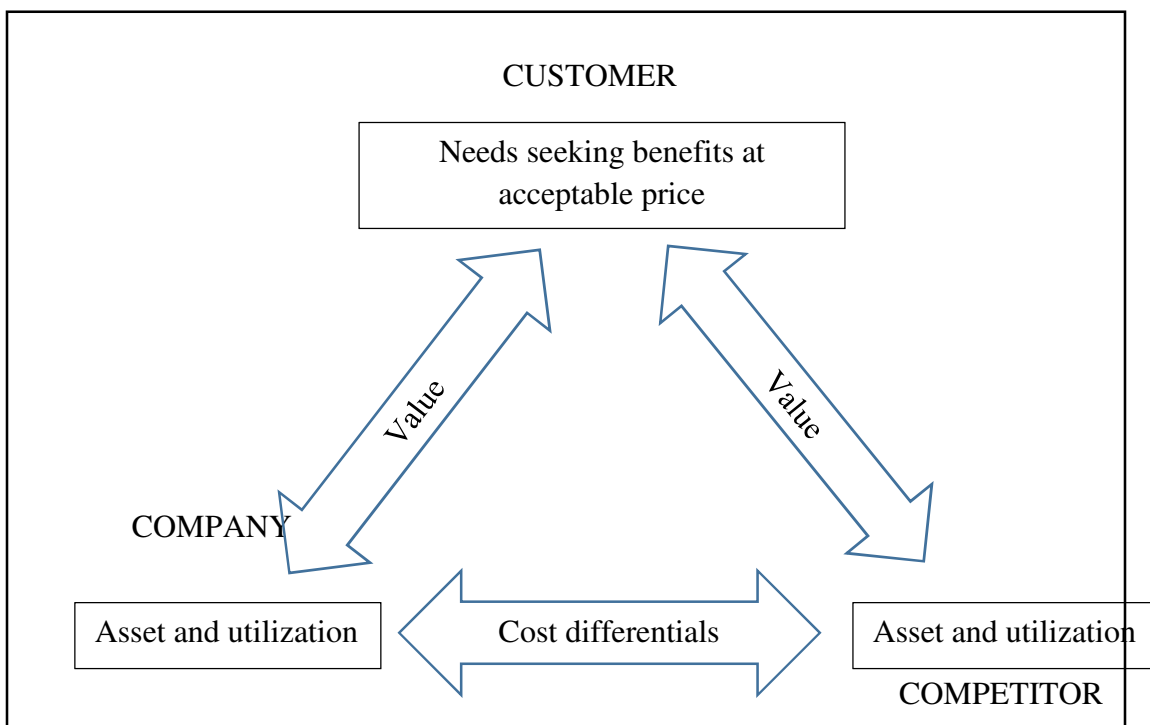


Figure 4: The three C's of competitiveness (Ohmae as cited in Christopher (1998:5)

2.2.3 International trade

Countries with comparative and absolute advantage explore the global markets with their products and services. They need trade partners to exchange goods and services with (Schiller, 2011). A similar explanation has been given by Hill (2011) using the theories of Smith, Ricardo and Heckscher-Ohlin with the pattern of international trade.

South Africa is one of various global players that export minerals like gold, platinum and coal (StatsSA, 2014). South Africa signed a Free Trade Agreement (FTA) with China in 2004 resulting in negative growth in its manufacturing sector (Edwards & Jenkins, 2013). This agreement was largely opposed by business associations and the then Minister of Trade and Industry Rob Davies. Governments had to take a closer look at this agreement which has made it advocate for the application of tariff barriers (Adewale, 2012). South Africa further deliberated on the impact the free trading policy will have on its political environment, economic growth, trade wars and domestic policies. The free trade policy will have a major impact on the following:

- Protection of local jobs.
- Protection of infant industries.
- Reduction of reliance on foreign suppliers.
- Attraction of local production and foreign investment.
- Antidumping remedies.

New trade theory has become popular with most industries looking at ways of reducing product cost utilizing economies of scale as a driver. Hill (2011) also supports this notion stating that 'economies of scale are a major source of cost reductions in many industries'. The South African economy has been negatively impacted by a wide range of imported products as a result of globalization. The aftermarket parts business is a volatile sector with inferior quality products entering the market and compromising local production.

There is need for a trade balance where exports are equal to or greater than imports for local producers or markets to thrive. South Africa is currently compromised with imports of automotive products greater than the locally produced parts. This is due to changes in the

manufacturing landscape, characterised by lots of complex designs and shorter product life cycles, which makes local suppliers focus on core competencies and rely on foreign suppliers with advanced engineering capabilities (Galvin & Gorasinove, 2014). This has made some countries enforce localization barriers to trade which forces foreign enterprises to transfer their intellectual properties through localizing production activities in the markets (Ezell, Atkinson, & Wein, 2013). China itself has enforced localization barriers to trade by offering tax breaks on locally produced electric cars to increase their price competitiveness. This is a way of forcing foreign electric car makers to transfer their intellectual property to their market. On the contrary, South Africa has joined forces with Brazil, Russia, India and China to form BRICS as free trade partners. From the above, it can be argued that South Africa is gaining very little considering that the low customs revenue was below 2% in the 2012/2013 financial year (StatsSA, 2013).

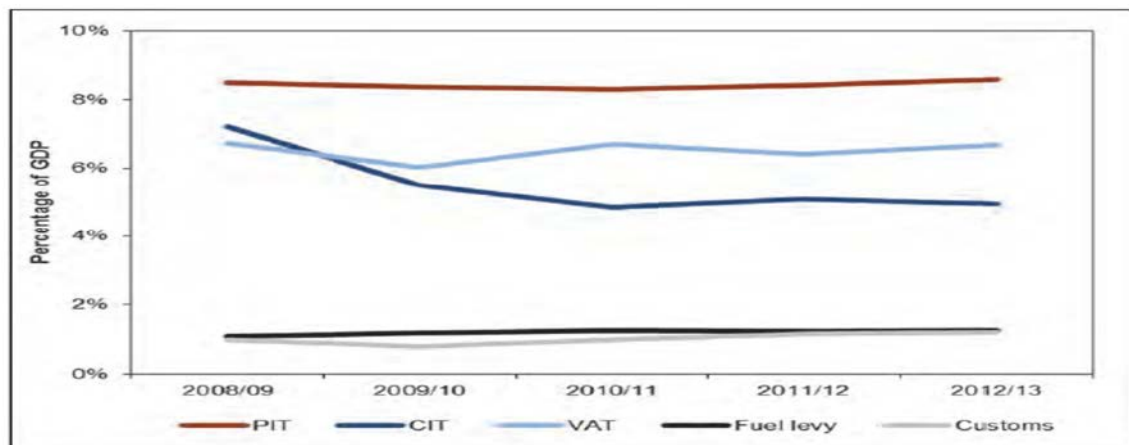


Figure 5: Main revenue source as a percentage of GDP, 2008/9-2012/3 (StatsSA, 2013)

Increasing liberalization has greatly impacted various industries in South Africa. South African Fasteners Manufacturers Association (SAFMA) has been affected by the China import, as the market imported more than 42% of their annual 13 000 production units in 2012 (Booyens, 2014). Booyen (2014) further emphasized the importance of the industry imposing anti-dumping duties and duty increases which might not be effective as the importers do not usually play by the rule. This has also been observed in the glass industry, as PFG Building Glass (Pty) Ltd lodged an application with the International Trade Administration Commission (ITAC) in 2008 to impose anti-dumping duties to the importers of clear drawn and float glass from China and India.

2.3. Establish the source or country of origin of the products bought by intermediaries

2.3.1 Parts localization

Automakers have been enjoying the benefits of lean operations with supply chain streamlined to reduce waste and save costs. With the increased demand for both local and export markets, OEM's need to increase their production turnaround time which improves their customer service. Chase and Jacobs (2010) have highlighted the importance of strategic sourcing in supply chain management as it develops and manages the supplier relationships to source goods and services to help the business achieve its immediate needs.

Automakers are working with reputable component suppliers using licence agreements from the global suppliers to localize the supply of parts. This has created job opportunities for suppliers and technology transfer that gives them a competitive edge over their competitors. The parts suppliers benefit by supplying both OEM and OES to supply car dealers to service vehicles under warranty and service plan.

The automotive industry has become very competitive with Chinese, Indian and Korean automakers, producing reasonably priced cars with lots of optional extras offered as features. Most automakers have started to utilize their supply chain strategies based on their manufacturing characteristics (Ambe, 2014b). This has made automakers engage in lean production using the Kanban system for tier suppliers, to make parts to specific order. Smiths Manufacturing as a tier one supplier makes four deliveries a day to the Toyota plant as part of the Kanban system. The tier suppliers have to hold all inventories used for sub-assemblies to be able to meet automakers production schedules.

South Africa introduced BEE which later transformed to BBBEE as part of correcting economic injustices of post-1994 through enterprise development. Enterprise development has provided small local suppliers with opportunities to supply automakers as part of fulfilling the BBBEE score card. According to DTI (2014), automakers are putting pressure on their suppliers to reduce cost and increase productivity. This puts strain on supply chain

which results in production delays from tier two suppliers which affect their performances (Ward, 2012).

Transportation of goods has been a major contributor to the competitiveness of global suppliers. Ambe (2014a) highlights that the choice of the mode of transport will provide the supplier with the responsiveness and efficiency the industry requires. The quicker mode of transport such as airfreight will ensure a high response rate but comes at a cost which adds on to the landed cost of the product. The material cost contributes 70% to the total manufacturing cost, of which 50% of it is imported (Comrie *et al*, 2013). They further explain that the logistical costs to transport imported material constitute 10% of the landed cost which increases the total product by 3.5%. Ward (2012) also concurs with this, by highlighting South Africa's excessive logistics cost which is 1% compared to that of China.

South African ports are expensive compared to some of the ports in the developed countries. According to Ambe (2014b) it costs about \$822 to move a 40-foot container in SA ports compared to \$80 in China. This makes goods imported to South Africa more expensive and freight costs increases the product's overall cost. The proximity of tiers suppliers to their customers also pose a major concern. The South African automotive industry still relies heavily on road freight which includes other opportunity costs that gets added to the product. For example, freight costs and frequency of shipments from Durban to Johannesburg or Port Elizabeth add strain to the supply chain management.

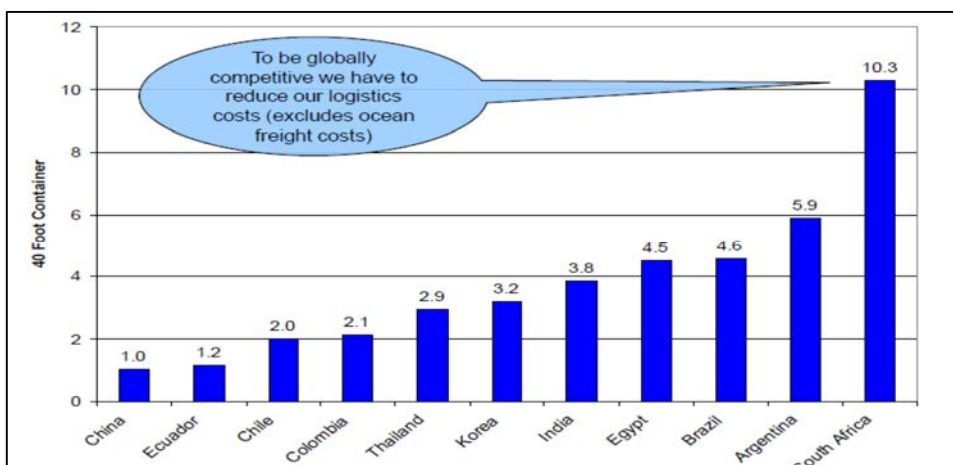


Figure 6: Logistics competitiveness per country Source: (Ward, 2012)

2.3.2 Durban Automotive Cluster (DAC)

KwaZulu-Natal's automotive industry employs approximately 30 000 employees and produces about 25% of South Africa's light motor vehicles (DAC, 2010). It was then through the partnership of eThekweni Municipality and the local automotive industry that the Durban Automotive Cluster was formed (Kirby, 2012). DAC have one automaker (Toyota) and nineteen tier suppliers.

Manufacturing and material management is an integral part of the manufacturing industry as it encompasses the making and the transmission of physical goods through the value chain (Hill, 2003). The South African automotive industry exports almost half of its annual vehicle production and it is important that its stays globally competitive (NAAMSA, 2013). According to Ambe and Badenhorst-Wess (2013) supply chain in the automotive industry survives through the collaboration of suppliers and manufacturing operations of OEMs. Most OEM's subscribe to lean operations which include just in time and better inventory management techniques to improve their value chain (Chase & Jacobs, 2010). Hill (2003) agrees with this notion and further explains its role of economizing on inventory holding cost by ensuring products arrive just in time for its usage and not before.

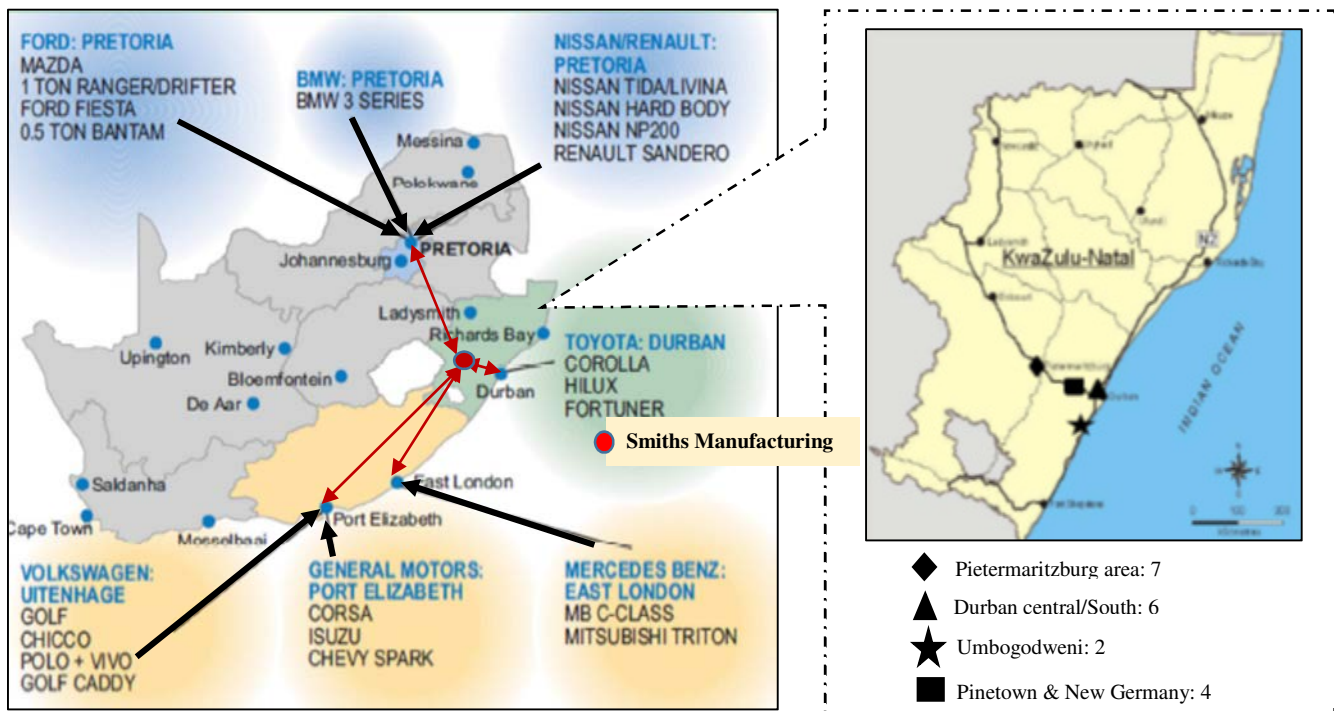


Figure 7: Locations of OEM's and DAC ties supplier (DAC, 2012)

This will eliminate warehousing time and cost, which will enable the production plant to spot defective parts and trace them to the supplier sooner. With the vast presence of OEM's and its suppliers, the supply chain experiences strain which compromises the whole value chain. Apart from DAC members, tier suppliers incur additional costs on freight charges when shipping goods to customers far from their production facilities (Galvin & Gorasinove, 2014). Supply of products depend on the price competitiveness and improved delivery times of tier suppliers (Ambe & Badenhorst-Wess, 2013). This means that OEM's are under extreme pressure to reduce their manufacturing costs so that they can be competitive. All of the OEM's have adopted the total quality management (TQM) which looks at reducing the cost of value proposition by reducing both manufacturing and service costs (Hill, 2003). He elaborates on the significant role both factors play in accommodating the demands for local responsiveness. This will enable the manufacturer to implement flexible processes that will suit the market demand.

The increased sales of imported cars especially Korean cars have made the local OEM's look for ways to improve their styling, include innovative features into their products in efforts to entice customers and increase market share (Ambe & Badenhorst-Wess, 2013). Due to low volumes and extreme pressures from OEMs for tier suppliers to reduce costs, it is extremely difficult to stay competitive. They have to look at partnering with international suppliers to produce complex sub components. According to Ward (2012), about 40% of locally supplied products are vendor to vendor parts supplied from overseas tier suppliers which reduce the overall local content. The supply of vendor to vendor parts reduce capabilities of local tier suppliers to produce, increase capital investments and also limits skills and training development of employees. This has been evident with the clothing and textile industry where some local producers are buying semi-finished China imported products to stay competitive. Ambe and Badenhorst-Wess (2012) agrees with Viljoen (2012) that this creates a severe skills shortage and reduces economies of scale.

According to Badillo et al., (2014), companies can either increase their technological capabilities through internal drive on R&D or through partnering with external sources. Sourcing components from international suppliers does not provide skills transfer but

alleviates short term cost and competitive issues. Ward (2012) stressed the importance of increasing local South Africa content from <40% to >70% to improve sustainability.

Table 1: Current local material content level in the automotive industry (Ward, 2012)

PART CATEGORY	Total Claimed Material Cost	True Local Material
Chassis & Drive train	33%	14%
Interior	23%	7%
Electrical/Electronics	19%	5%
Body	15%	6%
Exterior	10%	3%
TOTAL	100%	35%

To try and redress low local content, automotive stakeholders like OEM's, Department of Trade and Industry (DTI), NAACAM, NAAMSA, suppliers and labour force joined forces to form Automotive Supplier Chain Competitiveness Initiative (ASCCI). This organisation was formed to provide industry-wide competitive growth through developing supplier capabilities to increase local content, create transformation and new employment opportunities. Their objectives (ASCCI, 2014) focus on addressing the following:

- a. Developing supplier capabilities.
 - Develop base operating standards for tier 2.
 - Implementation of WCM intervention at 120 suppliers.
 - Develop shop floor skills.
 - Develop skills programme for engineers and artisans
- b. Localization
 - Raw material pricing and benefits to provide cost benefits to provide advantage of using local suppliers.
 - Identify gaps and opportunities for tier suppliers.
- c. Strategic insight.
 - Increase local content and create employment opportunities.

2.3.3 China Automotive Cluster

Foreign automakers have set up four manufacturing clusters with over 100 tier suppliers in China. The objective was to capitalize on the competitive cost position on both international and local markets which can contribute to an average landed cost saving of between 15 to 20 percent (Lang, Loeser, & Nettekheim, 2008). The local sourcing of components from China was going to benefit their automotive industry in the following ways:

- Purchase more parts that they already source from China.
- Upgrade items bought by sourcing more complex higher-value added parts.
- Shift sourcing volumes from higher cost to lower cost suppliers.

The Chinese engineers collaborate with TRIAD engineers to form working teams called 24-7 teams that work throughout the day. According to Lang, Loeser and Nettekheim (2008) these collaborations use the ‘follow the sun’ principle where each team do a bit of work in their time zone.

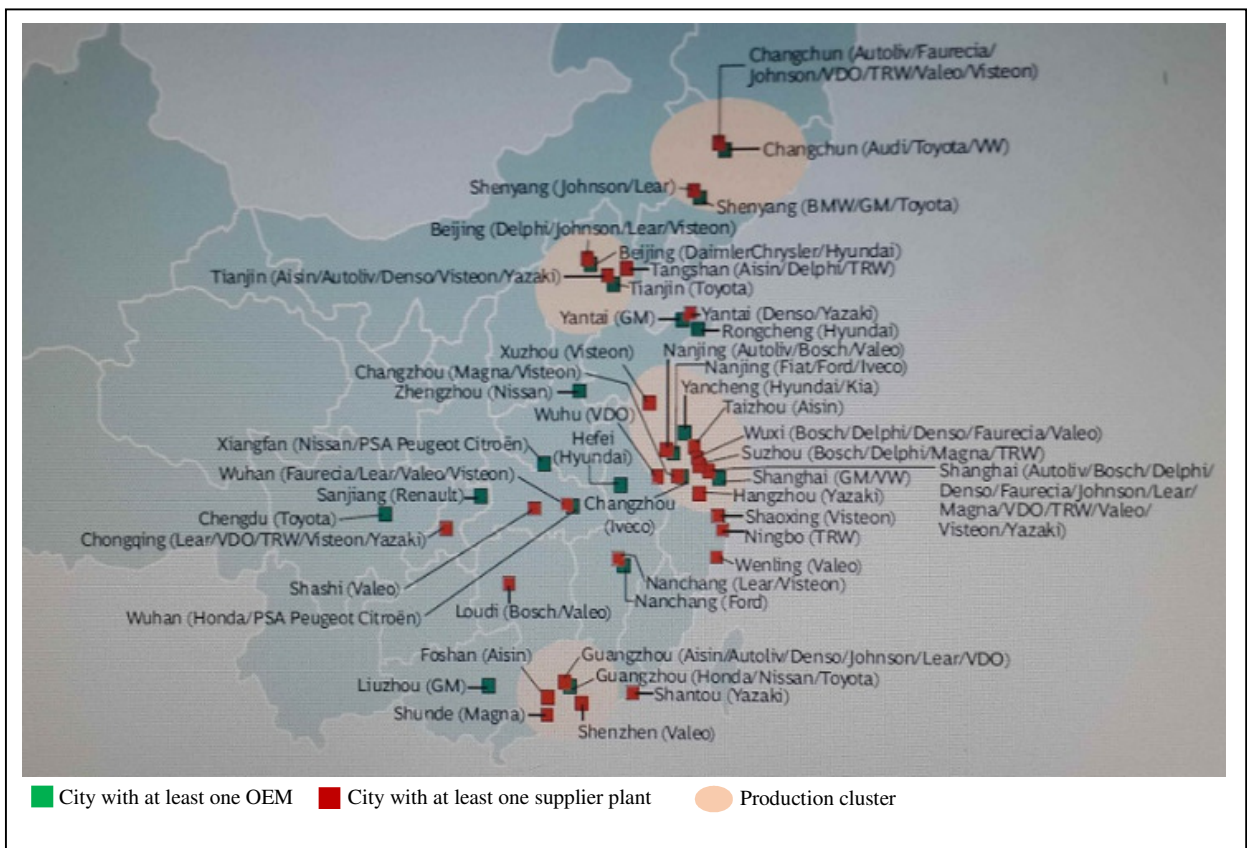


Figure 8: OEM's and suppliers with more than 100 plants in four clusters in China (BCG analysis)

The suppliers use manual labour in some processes and assemblies instead of automation which gives them flexibilities to change more line items in production. Lang, et al. (2008) further added that these suppliers utilize the ‘bottom-up’ approach which enables them to change product specification in accordance to the country’s vehicle specification based on vehicle weight, speed and other specifications. The bottom up approach enables the supplier to cost down products through simpler manufacturing processes, cheaper material specifications and lower product life cycle.

When compared to China, South Africa’s tier suppliers are not competitive, which makes it difficult for customers to purchase locally produced components when the vehicle is out of warranty and maintenance plan. According to Alfaro *et al.* (2012), South Africa’s cost of production is 30-40% higher than that of China, which can be attributed to the poor collaboration between suppliers, OEM’s, unions and government. Higher wage demands by trade unions which do not match the productive improvements is also a major contributor (Pooe, 2012). In defence of the Congress of South African Trade Union (COSATU), the adoption of minimum or living wage will balance the injustices of the past (Cosatu, 2011). Pooe (2012) further highlighted the rising cost of electricity and logistical costs as some of the reasons why South African suppliers are losing their competitive edge.

Table 2: Supplier cost index by country (South Africa, Automotive Cluster, 2012)

Country	Index
South Africa	>120
Russia	113
Brazil	104
Asia Pacific Region	103
Western Europe	100
Eastern Europe	89
Mexico	89
India	89
China	80

2.4. Impact of Intermediaries Buying Decisions

Customers buy products and services to fulfil a need (Winer & Dhar, 2011). There are various factors that influence a customer's decision to buy a product (Sharma, 2014). Firms have used these factors to create competing philosophies to develop marketing activities (Lamb et al., 2008). Among marketing philosophies, the automotive industry focuses more on products, consumers and relationship marketing orientation. Winer and Dhar (2011) suggest that firms operating under product orientation believe that they'll be successful if they produce superior quality products versus the customer orientation that focuses on satisfying the customer's needs. With the relationship marketing orientation, the firm builds business relationships with its customers by providing value proposition and customer satisfaction on a regular basis (Winer & Dhar, 2011). According to Hough, et al. (2010) there are five competitive strategies companies use to position themselves in the market place, namely: low cost provider, broad differentiation, best cost provider, niche market strategy based on low cost and niche market strategy based on differentiation.

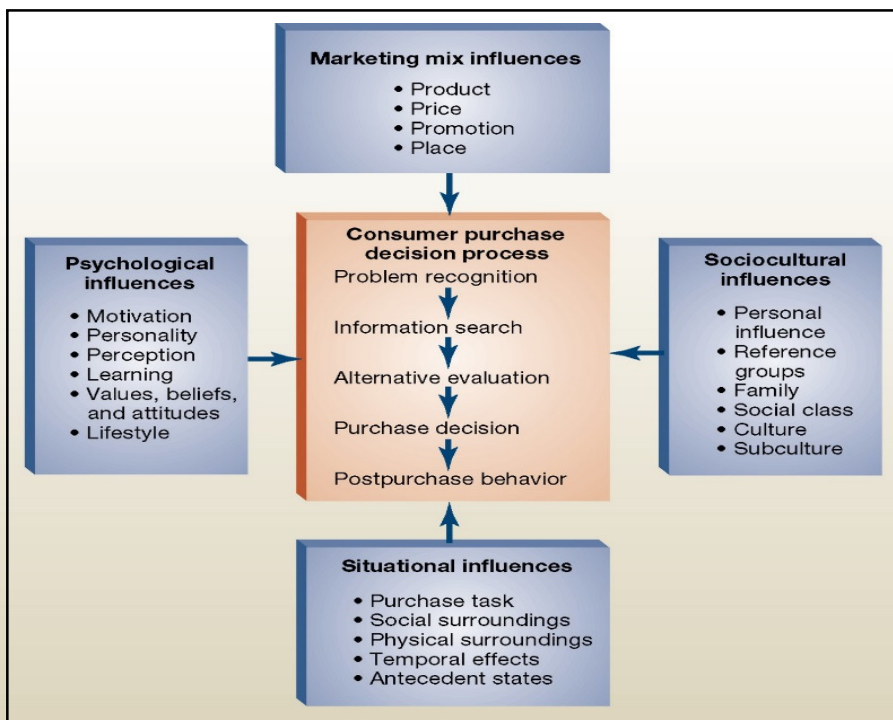


Figure 9: Influences on the consumer purchase decision process (McGraw-Hill Companies 2003)

Global markets have allowed international customers to trade. Manufacturers and suppliers that can produce and supply cheaper products use their absolute advantages to produce efficiently and effectively (Schiller, 2011). Producers that specialise in manufacturing certain products can offer it to the international market which will increase their output utilizing their economies of scale. Bilateral trade between South Africa and China has grown significantly. This has made China, South Africa's number one exporter ahead of Germany in 2009 (Edwards & Jenkins, 2013). There has been an increased import of Chinese manufactured products entering the South African market, an occurrence which has been associated with reduced prices compared to local producers (Edwards & Jenkins, 2015). With the current decline in economic activities in South Africa, consumers look for alternative cheaper products to satisfy their needs. According to the South African Reserve Bank (SARB, 2015), total house hold debt ratio increased from 8.8% in 2013 to 9% in 2014 and the growth of total salaries and wages decreased from 9.3% in 2013 to 7.6% in 2014. Consumer spending has thus declined which makes customers look for value add when purchasing products.

Sales of Volkswagen and Hyundai have increased thus closing the gap to the Toyota units in operations. According to Lightstone Auto (2015), Toyota is still a leading brand with 23% of market share compared to Volkswagen (VW) with 14% of the 8.9 million vehicles in the South African market. There has been an increase in smaller passenger segments two years ago due to automakers targeting low cost providers or best cost providers. The majority of the Toyota, VW and Hyundai sales have been attributed to the smaller passenger segment. Although the automotive market has not expanded as desired, car makers have increased their incentives on new vehicles. These include additional features, extended warranties and service plans.

There has been a huge cost down drive on OES replacement parts from some of the automakers. Audi and VW have started advertising their genuine OES products in the aftermarket magazines like Automotive Business Review (ABR) to attract lost customers to Goldwagen. These are parts used mostly in vehicles that are out of warranty and motor plan. This indicates that they have come to the realisation that lost sales can be attributed to the high cost of OES products during the four year period. The independent aftermarket retail

parts suppliers like Midas will provide alternative solutions on vehicles over four years old. There is a significant price gap between the OES parts and the IAM replacement parts. Below is the market prices of the Hilux IMV evaporator comparing OES to IAM replacement parts. Most intermediaries opt for a low cost provider strategy that will enable them to provide goods that will satisfy the needs of the customers.

Table 3: SA market prices of replacement parts (OES and IAM) (Dunair Market Research, 2015).

Hilux Evaporator	IMV	Purchase price (ZAR)		
		Pats Distributor	Repair Shop	End user
Toyota Dealership		R3481(10-15% discount of repair shop price)	R4003	R4642
Air Auto (Direct Importer)			R650	R850

2.4.1. Socio-Economic Factors – Human Capital

Companies' sourcing strategies rely purely on the capabilities of the suppliers to utilize the factor of production to manufacture desired products. Absorption capabilities on the other hand, address the abilities of the human capital to learn new skills and technology advancements to increase their competitiveness. Skills developments of employees have been the major contributor in the sustainable growth of organizations (Lang, Loeser, & Nettesheim, 2008). The South African government has also emphasized the importance of investing in human capital by adding to the BBE scorecard. With good corporate governance, it is imperative that organizations take care of their environment and their stakeholders especially their employees. The manufacturing industry has partnered with the Manufacturing, Engineering and Related Service Sector Education and Training Authority

(MerSETA) to drive the skills development initiative within its five chambers (Comrie et al., 2013), namely:

- Metal and engineering
- Auto manufacturing
- Motor retail and component manufacturing
- Tyre manufacturing
- Plastics industries

Unemployment and the low skills level of the youth is the biggest problem facing the South African economy. South Africa has an unemployment rate of 26.4 % with 65% of this being the youth between 15 and 36 years of age (StatsSA, 2014). Over 25% of production workers in the automotive industry have a high school education and under 3% are artisans and professionals combined (Barnes & Meadows, 2008). Comrie *et al.* (2013) concur with this stating that the qualifications of many employees, which are equivalent to grade 12, and are at the operator's level, are no longer sufficient to sustain the industry. Comrie *et al.*(2013) further state that the modern production, supply chain methods and advanced manufacturing processes require employees to be numerate and literate. COSATU (2011) also emphasised the high level of skills shortage in South Africa as an absolute and relative. The shortage of skilled engineers, electricians, and specialist managers among others create a skills gap which countries like China have a competitive advantage in, particularly in R&D. Ambe (2014) also addresses the skills shortage, particularly the shortage of qualified engineers, as the major problem on R&D in South Africa.

Firms utilize marginal physical product and marginal revenue product when assessing their labour efficiencies (Schiller, 2011). These factors measure the change in total production when an additional employee is hired and the total revenue generated by that employee respectively. Therefore, the derived demand of labour will depend on the market wage rate and the amount of production output. Living wage has been the topic of discussions between employers and labour unions. The wage negotiations between labour and the sector are becoming more and more complex which makes them lengthy and result in industrial actions. Comrie *et al.* (2013) stress that the effect of these strikes filter down the supply chain

and affect tier suppliers drastically. In addition, the impact of strikes in the government's economy has been largely negative with the reduction of tax revenues from both employees and firms in the drop of the country's GDP. Loss of production and revenues by the OEM's might affect them in obtaining future business.

In a South African Radio station SA FM interview with Thapelo Molapo, the Human Resources Vice President of Toyota South Africa Motors (TSAM) on Monday the 26th 2013, he stated that OEM's were losing up to R600 million on revenue per day. Komo, et al., (2014) also stressed the effect of strikes in the industry with a 75% drop in vehicle production in the last quarter of 2013. This has decreased the level of business confidence in South African companies, which has equally demotivated global investors from injecting capital in its market. The output and sales of the firm depends on the resources required to produce (Schiller, 2011). The decline of capital investment reduces expenditure on factors of production, meaning labour which results in job losses. Schiller (2011) further explains that the increased wages in unionized labour markets can have a negative impact on the increased market supply of labour versus demand. Most localization programmes benefit host countries in terms of capital and technology, while the low business confidence level reduces Foreign Direct Investments (FDI) causing automotive manufacturers to look for alternative suppliers in the global market.

Remuneration of employees in South Africa's manufacturing sector is extremely high as compared to other developing countries. According to Comrie *et al.* (2013), SA employees earn between 173% and 222% more compared to their Indian counterparts and approximately 70% more than counterparts in Thailand, Vietnam and Cambodia. These wage cost disparities and increased freight charges contribute to a high cost of products that make it difficult for South African manufacturers to compete in the global market.

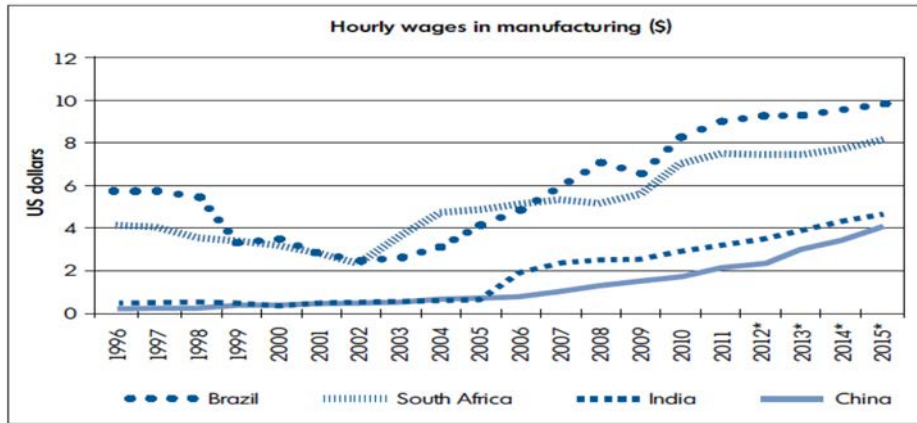


Figure 10: Comparison of hourly wages in the manufacturing industry, including forecast to 2015 (South African Trade Policy and the Future Global Trading Environment, (2012)

2.5. Chapter Summary

The automotive manufacturing sector plays an important role in the economy of South Africa, both for OEM and IAM. Tier suppliers assist in the parts localization programme which increases the incentives of APDP. The reduction of production units has a catastrophic impact on job creation, economic boost and manufacturing industry growth. The automotive industry relies heavily on R & D which will provide innovative ideas of producing cost competitive products to meet the demand. At the moment, the automotive industry is a competitive market that has got no barriers to entry due to its growth. The direct import of goods provides the market with cost competitive products to meet customer's needs. Market supply of these goods has been a major contributor to dual supply from both local and international suppliers which provides intermediaries with an opportunity to offer alternative products at an alternative price. According to Schiller (2011), market supply of the competitive market is determined by the following:

- The price of the factor inputs.
- Technology
- Expectations
- Number of firms in the industry

It is rather difficult for OEM and tier suppliers to curb the direct import of alternative products due to new laws that have been introduced in South Africa like the Right to Repair and Consumer Protection Act (CPA). The Right to Repair campaign forces the OEM to share their technical information with costumers and CPA has provided customers with the right to use alternative products provided they are similar or of a better quality than genuine products. This has been evident with BMW losing a case (Case no:722/12) to Grandmark International (PTY) LTD on the 18th of September 2013 for supplying alternative parts that were in contravention with BMW's trade mark.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This study focuses on the challenges that the local aftermarket replacement parts supplier Dunair faces due to globalization in the automotive industry. This chapter highlights and describes the research methodology used, the data collection strategies and data analysis process. Sekaran and Bougie (2013) describe research as the process of finding solutions through gathering and analysing information. The research conducted must have objectives, have purpose and be generalizable to formulate conclusions. The sampling technique and survey questionnaire was developed to be able to obtain legitimate data from both tier one and tier two customers.

3.2. Aim and objectives of the study

The purpose of the study is to analyse the challenges faced by the local independent aftermarket replacement parts supplier Dunair due to the increased import of the China products. The study aims at addressing the following objectives:

- To identify the factors that influence the buying decisions of the customers (intermediaries).
- To establish the source or country of origin of the products the intermediaries buy from.
- To assess the impact of the intermediaries' buying decisions to the independent aftermarket supplier-Dunair.

3.3. Participants and location of the study

The research focuses on the Dunair distributors and service dealers based in South Africa. The questionnaire is directed to the individuals that make decisions when purchasing replacement parts such as business owners and purchasing agents. The respondents should have a good understanding of the aftermarket replacement parts business and have an understanding of the market changes.

3.4. Research Design

Qualitative methods were utilized in the form of literature review, reports of the researcher and relevant customs reports. The secondary data is however not fully conclusive and primary data was obtained from the affected population, in seeking confirmation of the hypothesis (ACAPS, 2012).

The research design is an applied research that uses the mixed methods of quantitative and qualitative methods. The research method seeks to draw from both quantitative and qualitative data which examines the statistical results by increasing corroboration and the methodological rigor of the study (Hesse-Biber & Leavy, 2008). According to Polit and Hungler (2013), quantitative research methods are a way of validating and testing objective theories by comparing the relationships among variables. ACAPS (2012) also agrees with this by describing quantitative research as the means of testing pre-determined hypothesis to achieve general results.

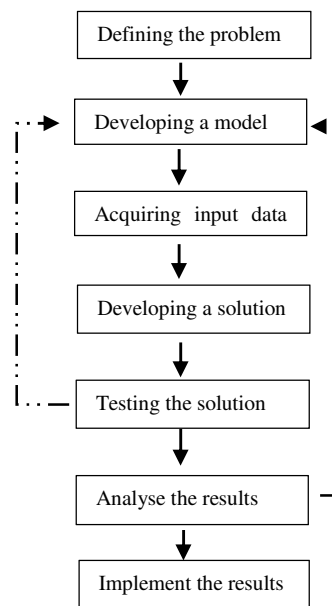


Figure 11: The quantitative analysis approach (Adapted from Render et. al, 2009)

One of the reasons behind the use of this type of research is because it provides uncomplicated and verifiable data that is comparable to the specified sample size in various locations. (ACAPS, 2012). It is sub divided into four categories namely, descriptive, correlational, experimental and quasi-experimental (Borbasi & Jackson, 2012). This

research is descriptive in nature which is aimed to depict the characteristics of individuals, situations and the frequency of occurrences using statistics to analyse and summarize data to full reports (Polit & Hungler, 2013).

On the other hand, qualitative research methods use critical approaches to study and interpret documents and reports with statistical information (Neuman, 2011). The use of mixed research will provide complementary strengths by using these different methods of collecting data to reduce limitations when using one method (Hesse-Biber & Leavy, 2008). The study will use the embedded mixed design method which will use the qualitative data to provide supporting results to enhance quantitative data.

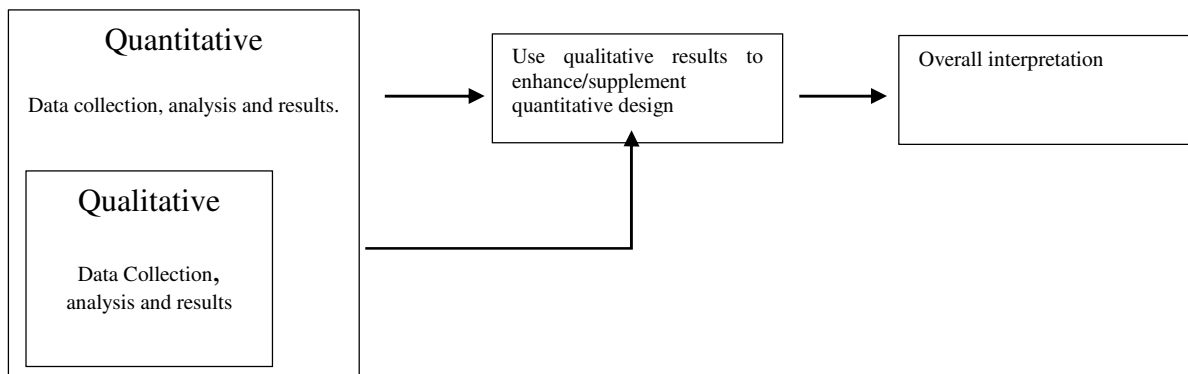


Figure 12: Mixed research method- Embedded design type (Adapted from Hesse-Biber, & Leavy, 2008).

3.5. Instruments

The research instrument used in the study seeks to evaluate the effect of China imports on Smiths Manufacturing's aftermarket division, Duanir.

3.5.1. Questionnaires

The development of questionnaires is based on the nature of the research problem, research hypothesis and variables (Siniscalco & Auriat, 2005). A research problem addresses key issues or concerns that the researcher wishes to investigate (Sekaran & Bougie, 2009).

Siniscalco & Auriat (2005) describe research hypothesis as an interim answer to the research problem that highlights the relationship between the dependent variable (effect) and the independent variable (cause). The dependent variable is the sample size that is affected by the independent variable.

According to Sekaran & Bougie (2009) questionnaire design is aimed at focusing on the following:

- The wording of the questions.
- The planning of issues on how the variables will be categorized, scaled and coded after receiving response.
- The general appearance of the questionnaire.

The design of corresponding questionnaires can commence after the variables and indicators have been identified. There are two vital aspects of the questionnaire design: the question structure and the type of response format for each question. Due to the nature of the sample used, the research utilizes contingency questions and closed questions. According to Siniscalco & Auriat (2005) the contingency question approach is applied to the subgroup of respondents which will assist in the research by categorizing the two different tier groups (service dealers and distributors). The closed questions will provide the respondent with the best possible answer that most closely represents their viewpoint.

3.5.2 Questionnaire Construction

The twenty three questions are set out to obtain the effect of the independent variables to the automotive aftermarket replacement parts supplier. Structured closed question construction is aimed to answer the research problems highlighted in the research objectives.

The first questions categorize the respondents by identifying if the business is managed by the owner or if the purchasing decisions are made by the employees (buyers). The second question provides the geographic location of the respondent. This question plays a significant role in the decision making of the product being purchased since it determines product availability. Respondents in bigger cities and in coastal areas have better access to products. The third question will identify the tier level of respondents which will determine their

buying power. Distributors have a larger purchasing power and can stock products to sell to other intermediaries. A majority of service dealers purchase products to service the walk in customers that need their air conditioners to be repaired.

Objective 1: To identify the factors that influence the buying decisions of the customers (intermediaries): Questions 4 to 9 determines the independent variables that influence respondent's buying decisions.

Objective 2: To establish the source or country of origin of the products the intermediaries buy from: Questions 10 to 14 determines the product's country of origin. The country of origin provides an indication of the quality and availability of products.

Objective 3: To assess the impact of the intermediaries' buying decisions to the independent aftermarket supplier (Dunair): Questions 15 to 23 seek to answer objective three which determines the impact of intermediaries' decisions to the independent aftermarket supplier.

Questionnaire arrangement, design and quantity was carefully chosen to enable distributors and service dealers to provide meaningful contribution in less than fifteen minutes to reduce delays. November to March are the busy times of the year in the air conditioning business, so less interruptions will increase their productivity.

3.6. Data Collection

Primary data collection is an integral part of the research (Harrell & Bradley, 2009). Peersman (2014) also supports this notion by emphasising the importance of well-chosen and implemented data collection and analysis methods in all types of research evaluation. According to Harrell and Bradley (2009), data is more likely to be generalizable if the correct sample size is used.

This study uses mixed research methods which will require that data collection uses both quantitative and qualitative data collection methods. Numerical data will be collected through quantitative methods and qualitative data through field research in the form of words or pictures (Neuman, 2011). Peersman (2014) suggests that good data management systems,

which include data collection, recording and storing, will ensure good quality data is utilized for the research. To achieve the above, a good sampling technique needs to be utilized which will define the population of interest. According to Neuman (2011) a sample is described as a few set of cases that a researcher selects from a bigger pool to generalise a population. The quantitative method will use a purposive sampling method called the non-proportional quota sampling technique which focuses on achieving the number of the population in each group, specifically eight distributors and forty seven service dealers. This method will provide a wider understanding of the problem at hand, ensure completeness, precision and reduce selection bias which will affect the data quality (Peersman, 2014).

Quantitative data will be collected using the web based tool QuestionPro through the open ended mail and self-administered questionnaires. Mail and self-administered questionnaires are the cheapest form of survey and can cover a bigger geographic area. They also assure anonymity and eliminate researcher bias (Neuman, 2011). Web-based questionnaires will give a respondent a user-friendly interface that will provide them with questions, input their answers and submit the form after completion (Hesse-Biber & Leavy, 2008). Qualitative data will be collected through the researcher's account of experiences with the product, market information and the company's internal sales reports.

3.7. Data analysis

Peersman (2014) suggests that analysing data for the purpose of summarizing them in order to look for patterns is a vital part of research evaluations. The research will use appropriate data analysis techniques in line with the research methods used (mixed research method). Peersman (2014) agrees with this by confirming that descriptive questions need the data analysis method that utilizes both quantitative and qualitative data. Abeyasekera (2000) suggests that the use of quantitative analysis approach will enable the reporting of summary results obtained to be interpreted in numerical terms to validate the hypothesis. ACAPS (2012) suggest that a qualitative method uses a descriptive analysis that develops a generalization from the limited number of specific observations and experiences. Below are the advantages of using the mixed research methods. To ensure the correctness of the study,

raw data is systematically reorganized to the format that will be easily analysed (Neuman, 2011).

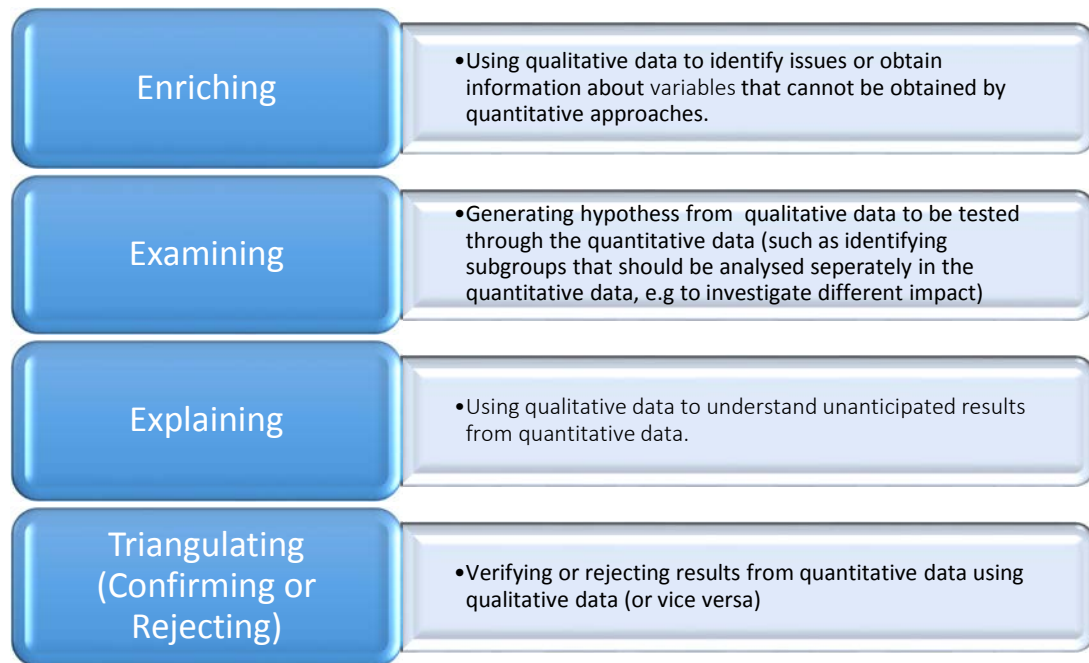


Figure 13: The value of mixing research methods: key purposes of combining data sources (Adapted from Peersman, 2014).

3.8. Merit of the research

Leedy & Ormrod (2005) describe research as the systematic process of accumulating, analysing and interpreting data so that we can increase our understanding of the problem area we want to resolve. Morrison & Smit (2003) suggests that the aim of the research is to make meaningful contributions to scientific knowledge. He further quoted Reynolds (1971, p.3) describing scientific knowledge as “a scientific body of knowledge that consists of those concepts and statements that scientists consider useful for achieving the purpose of science.”

The researcher seeks to analyse the nature and behaviour of the aftermarket customers and the business dynamics, to understand the effect of alternative products to formulate short term and long term strategies. The data will determine whether the business will formulate a blue ocean strategy which will create an uncontested market and make competition

irrelevant or utilize the red ocean strategy that will suggest going head on and beating the competition in the existing space (Kim & Mauborgne, 2005). Data collected will be analysed to understand what influences the decisions customers make when purchasing replacement parts.

The South African automotive industry has adopted the Right to Repair campaigns from Europe which is driven by the Motor Industry Workshop Association (MIWA) (Houghton, 2015). This new law forces automakers to share technical information on replacement parts, diagnostic tools and test equipment. The customers will now have a right to purchase replacement parts from the alternative independent distributors provided they are within the acceptable quality standards.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1. Introduction

This chapter presents data results gathered using a mixed research method. Quantitative data was obtained through sending questionnaires by email to Denair service dealers and distributors using the programme called QuestionPro. Out of 47 service dealers and 8 distributors, there were 60 customers that viewed the questionnaire, 30 started completing it, 28 completed it and 2 dropped out of the survey. There is a system limitation to the QuestionPro software which does not allow the use of smart phones to access the questionnaire. The data obtained will assist in understanding the objectives of the study through analysing each questionnaire separately. This data will also be used to validate the hypothesis of the literature review to understand if the following objectives or questions have been answered:

Objective 1: To identify the factors that influence the buying decisions of the customers (intermediaries).

Objective 2: To establish the source or country of origin of the products the intermediaries buy from.

Objective 3: To assess the impact of the intermediaries' buying decisions to the independent aftermarket supplier-Dunair.

Qualitative data was obtained through market research and product tests of the China copy products by the researcher.

4.2. Quantitative Data Presentation

4.2.1. Position of a person conducting the survey.

Customer's businesses vary from size to size and sometimes owners are directly involved in the day to day running of the business. The data suggests that most owners are still directly involved in day to day decision making in the business. Most business owners still make purchasing decisions with regards to what they purchase and where. Distributors as intermediaries are mostly the ones that can choose the import products as they bulk buy to resell.

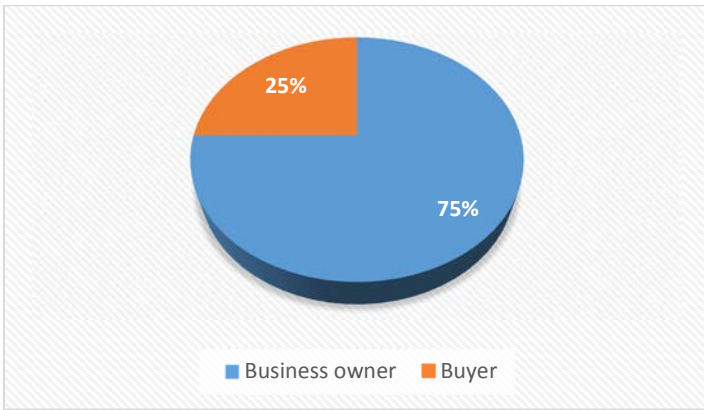


Figure 14: Position of the person conducting the survey

4.2.2. Business location

The geographic location will provide an indication of where the business is located to understand the factors that influence the decisions made by the business. The data suggests that most businesses that responded are based in Durban which is closer to the harbour for direct importers. Businesses in remote areas tend to be more concerned about availability since it takes longer to courier products to their locations and their customer's locations.

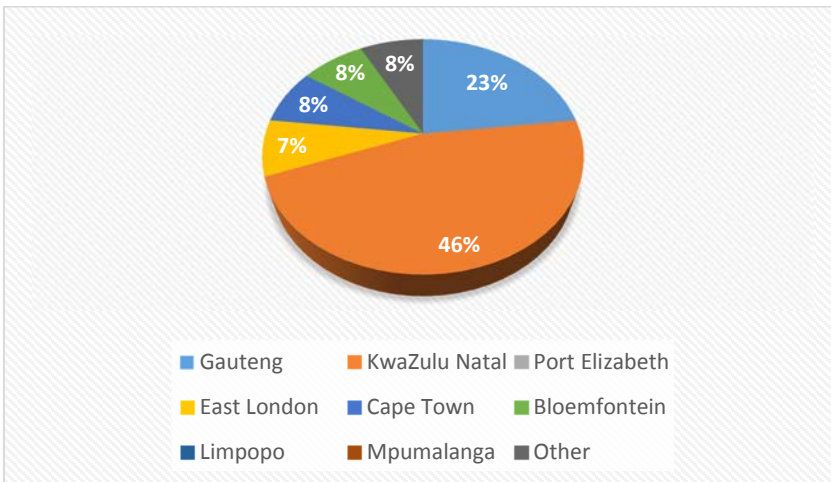


Figure 15: Business Location

4.2.3. Nature of the business

The nature of the business will determine if the customer is a service dealer or the distributor. Smiths/Dunair have eight distributors and 47 service dealers as their customers. Distributors sell their products to various customers at different levels and can also import products directly if there's a market demand. There is a very high probability for distributors to import products directly due to capital injection. From the market studies, there's a low probability that service dealers import products to supply to their competitors. Most service dealers purchase products for their consumption to service their customers than to sell to the direct market. They will order products after they have provided their customers with alternatives based on price, product availability and quality. Service dealers see each other as competition and it is very difficult for them to sell products that are readily available in the market to each other. There's an exception with the unique products that are difficult to access where they will be compelled to buy from each other due to customer demand.

From the survey, 54% of the respondents are distributors and 46% service dealers. Their conditioning business is seasonal and at its peak in the warmer seasons from October to February which explains the low number of participants in the survey.

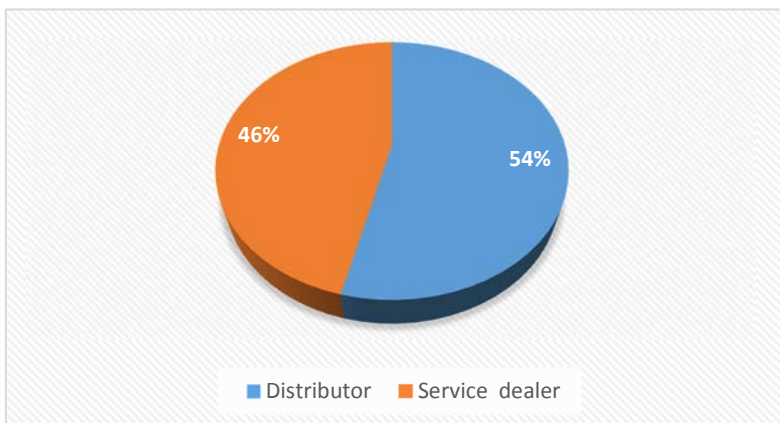


Figure 16: Nature of the business

4.2.4 Objective 1: To identify the factors that influence the buying decisions of the customers (intermediaries)

4.2.4.1 What factor(s) influenced your decision when buying parts?

This questionnaire highlights the factors that influenced the decisions made by the customer when purchasing products. Availability of products includes an uncommitted inventory that can be sold to a customer at any given time. Prices determine the amount of money the customers are willing to pay for the goods which is dependent on supply and demand. Ambe (2014) identifies price as the most important factor that determines which segments or products customers decide to purchase. This affects their buying behaviour which has a direct impact on supply and demand. Quality level is the product differentiator suppliers and intermediaries use to offer and segment the market. Service is the value proposition suppliers or intermediaries provide to their customers to grow their business relationship as a form of customer retention strategy.

From the respondents, 39% confirm it is the price, followed by 31% for availability, with both quality and service having 15%. Most South African customers will take their vehicles to the workshop for repairs when they have money available to fix their vehicles or when there's a risk of vehicle breakdown. Product price and availability will ensure that the service dealer can secure the job of repairing the customer's vehicle.

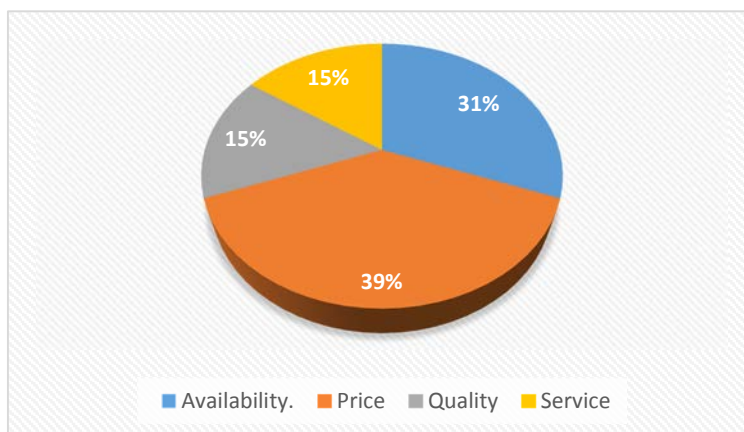


Figure 17: Factors that influence customer decision when buying parts

4.2.4.2 From the above question, what is the second factor that influences your buying decision?

The second factor that influences the buying decision of the customers is the price at 40% followed by quality at 30% and availability at 20%. It is evident that from both questions price is the determining factor followed by availability and quality. Product quality also plays a vital role in customer retention since there are less come backs that cost man hours to fix. Product warranty also gives customers peace of mind that they are dealing with a reputable service dealer that supplies good quality products. The introduction of the CPA has empowered and equipped consumers with their rights should they deal with devious service providers. The motor vehicle CPA of 68 of 2008 protect consumers with the following:

Section 55: right to safe and good quality goods.

Section 56: implied warranty of quality.

Section 57: warranty on repaired goods.

Section 61: liability for damages.

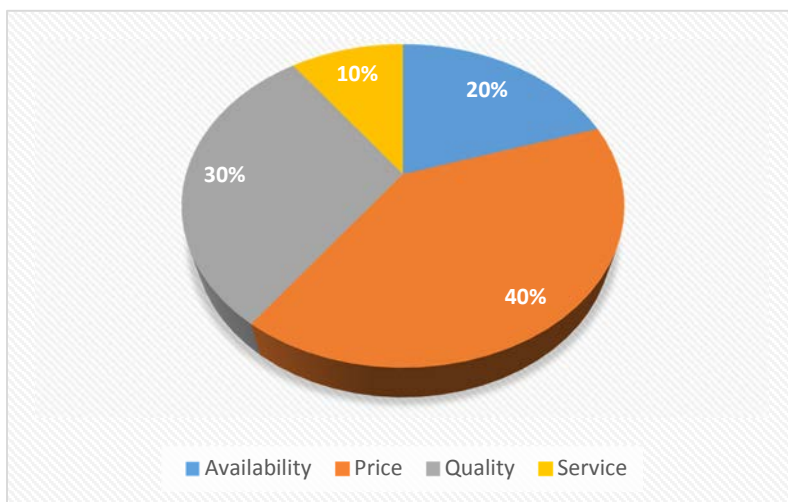


Figure 18: Second Factor that influences customer decision when buying parts

4.2.3.3 My preferred choice of replacement parts would be:

The survey requested customers to identify their preferred choice of replacement parts. The choice of replacement parts can be based on the parts available from the market. From this question, the customers chose aftermarket substitutes as their choice of parts followed by the direct OE replacement parts. Table 3 highlighted the market prices for both OES and IAM. It is evident that OES replacement parts are more expensive compared to the IAM products which explains the reason for the customer's choice of aftermarket followed by the OES parts. This is in line with the findings from figure 17 and 18 with price, availability and quality being the deciding factors on customer purchases.

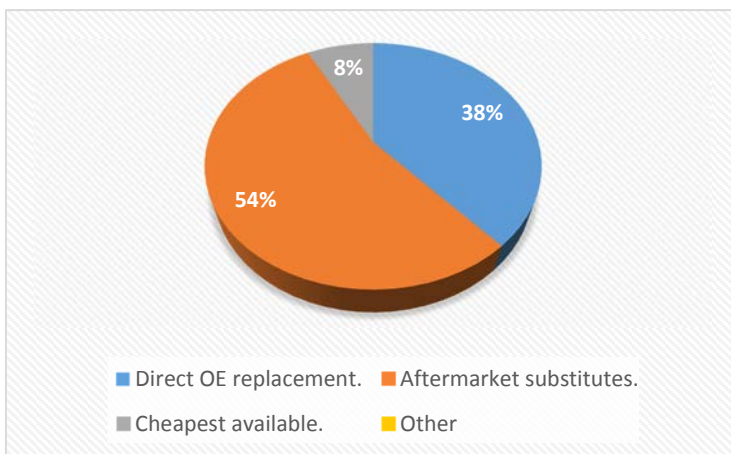


Figure 19: Customer preferred choice of replacement parts

4.2.3.4 Answer to the question above is based on the following reason:

The aforementioned question seeks to understand what influences the customers to choose their replacement parts. 62% of the customers prefer alternative products with reasonable quality followed by 23% of customers preferring original parts. More than 60% of standard vehicles in the car park will require alternative parts due to the value of the vehicle and premium cars, while over 30% will still require original replacement parts for at least three years after the warranty and service plan (Lightstone Auto 2015). There is still a significant

number of older cars which their owners will prefer to use alternative products due to the high value of OES parts compared to IAM parts.

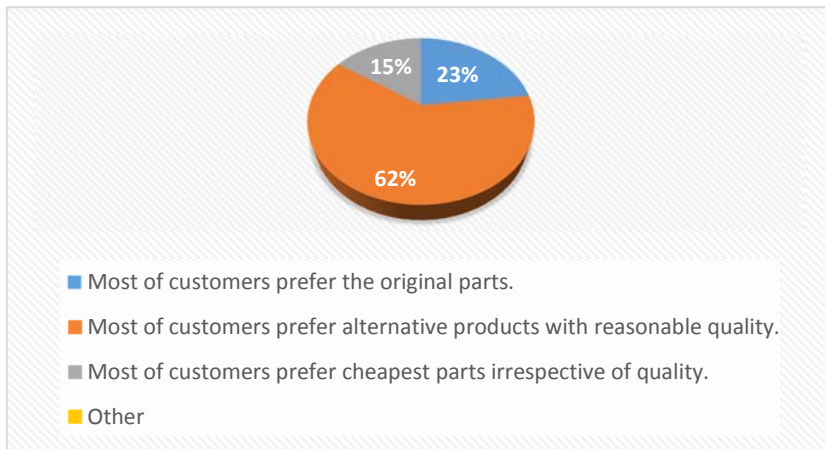


Figure 20: Factors that influence the customer decision on a choice of preferred replacement part

4.2.3.5 Which of your suppliers provides the best quality products?

This question seeks to understand the best service provider of replacement parts. Car dealerships provide OES products to service vehicles that are in-warranty, under maintenance plan and customers who choose to purchase original equipment parts. Parts distributors provide alternative products to the independent aftermarket customers. Some parts distributors can also be direct importers provided there's a market for a specific product the market requires. High market prices are usually the main driver for distributors to go and look for alternative suppliers globally to service their markets.

According to the survey, 43% of suppliers are made up of the parts distributors followed by other and direct importers. Most customers will compare prices among service providers before they commit on purchasing. Likewise, with the automotive industry, customers will look for value proposition by comparing prices among their parts distributors to provide a competitive price to their end user customer.

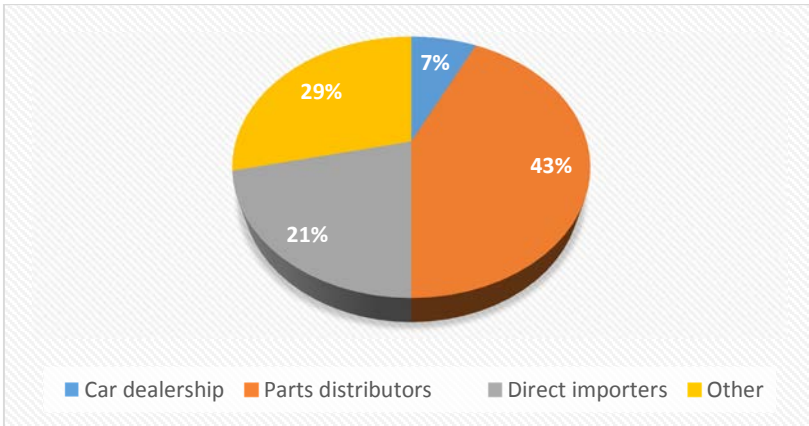


Figure 21: Suppliers for best quality products

4.2.3.6 What is the reason that made you change suppliers?

Some service dealers and distributors do not foresee their customer’s monthly demands which is normally based on previous sales history. They rely on their suppliers to keep stock and draw from them when they get confirmation of product requirements. So part availability and delivery is important in keeping and improving customer service and retention. From this question, 54% of the respondents chose parts availability as the reason to change suppliers followed by 15% for existing relationships and for warranty policy. It is evident from Figure 17 and 18 that parts availability is one of the deciding factors of the customer’s purchases. Relationships between the customer and supplier are also critical in the return business. Some suppliers will go out of their way to assist their customers.

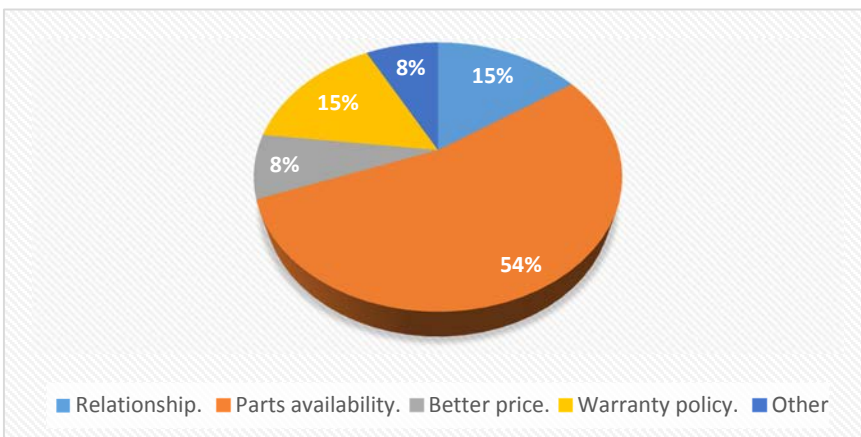


Figure 22: Reason that make customers change suppliers

Objective 2: To establish the source or country of origin of the products the intermediaries buy.

4.2.4.1 What is the preferred means of purchasing parts?

Customers look for a supplier that will provide them with value proposition to offer better service to their customers. Due to capital outlay when importing, customers choose local distributors so that they can increase their turnaround time when purchasing parts. From the study, 85% of the respondents prefer local distributors and 15% direct import. The purchases on local distributors is due to the quicker turnaround time required by customers. This also support the parts availability because parts from local distributors are quicker to access. Distributors with capital can import products to sell to the local market. So this means that it is not entirely important to end user customers but as long as they can have quick access to products.

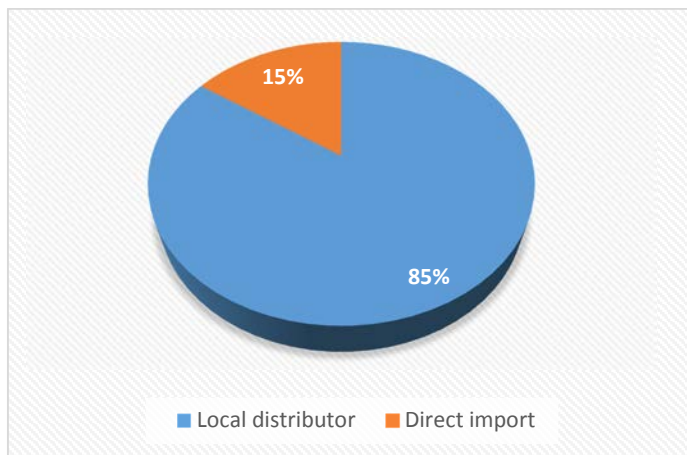


Figure 23: The preferred means of purchasing parts

4.2.4.2 Imported products are mostly of inferior quality.

Direct importers travel all over the world to look for reputable suppliers that can supply them with products for their market. With the “Right to Repair” campaign fully functioning in Europe, most suppliers can offer products to various parts of the world without restrictions. There are a lot of factories in various parts of the world that replicate genuine products to offer as an alternative replacement. Some of these manufacturers do not disclose their

product quality standards and sell them as genuine products. 54% of the respondents disagree that imported products are of inferior quality with 30% agreeing and 15% strongly disagreeing. This suggest that there's still a high confidence level on the quality of imported products with the combined 69% disagreeing with the statement.

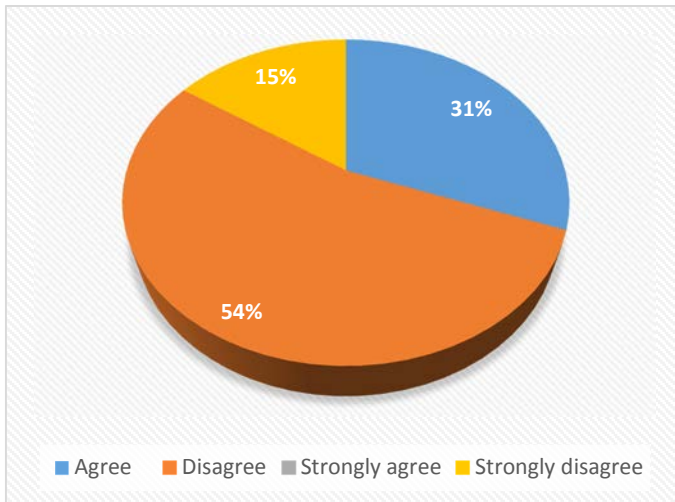


Figure 14: Imported products are mostly of inferior quality

4.2.4.3 Locally produced parts are of superior quality.

Most local producers manufacture products through licence agreements from reputable licensors to supply OEM's under localisation programme. All tier suppliers under DAC supply OEM's and OES products which rely on tier two suppliers and raw material for sub components. Customers still view local manufacturers as providers of good quality products due to their affiliation with OEM's. There's a high confidence level in the quality of locally produced products with 61% of respondents agreeing that they are of superior quality. But there's a combined 39% (31% disagree and 8% strongly disagree) of customers disagreeing with the statement.

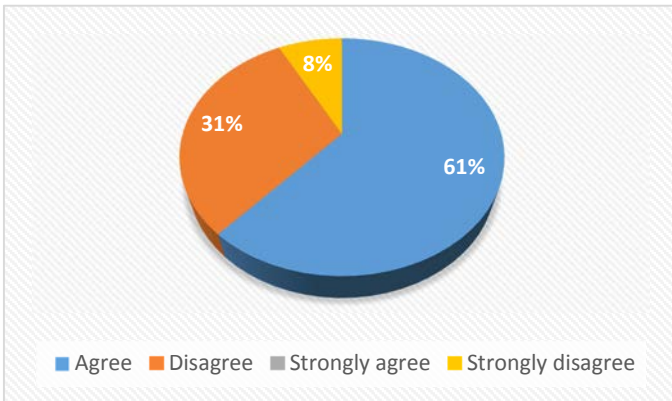


Figure 15: Locally produces parts are of superior quality

4.2.4.4 What is the influencing factor in buying imported products?

Distributors and service dealers rely on customers to provide them with an indication of products they require for their vehicles. Product differentiation is one of the strategies used by suppliers to identify their target market. The market is controlled by the customer demand which is based on affordability. Most tier suppliers produce second line products that slightly deviate from the OEM’s specifications so that they can supply independent aftermarket customers at a reasonable selling price.

From the survey, 42% of respondents chose customer demand as the influencing factor in buying imported products followed by 33% choosing affordability and 17% choosing availability.

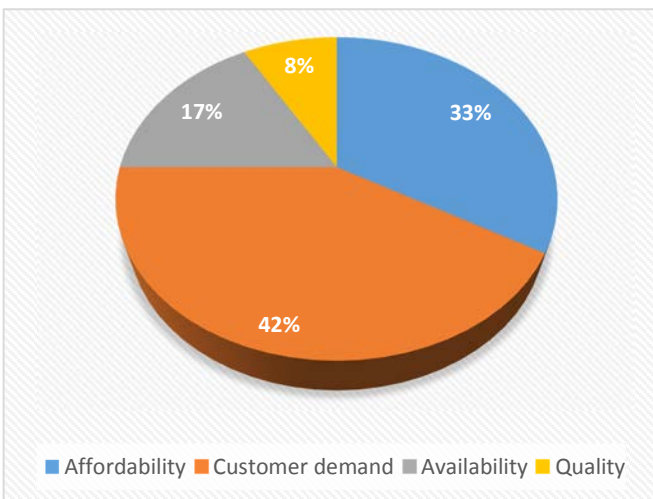


Figure 16: The influencing factors in buying imported products.

4.2.4.5 What is the influencing factor in buying from local distributors?

Intermediaries rely on product availability to service their customers, and longer lead times mean they lose the business to the opposition. There is a clear distinction between the factors that influence intermediaries when purchasing imported products and when purchasing from local distributors. It is clear from the question above that intermediaries only offer imported products only when requested by customers and when these products are reasonably priced.

From question 4.1.9, the respondents identified parts availability as a major factor influencing them to change suppliers. Likewise, the purchasing decisions from purchasing local products is based on availability at 46% and affordability and quality at 23% each. Intermediaries present various solutions to customers such as the product availability and selling prices for customers to make decisions on products to suit their budget.

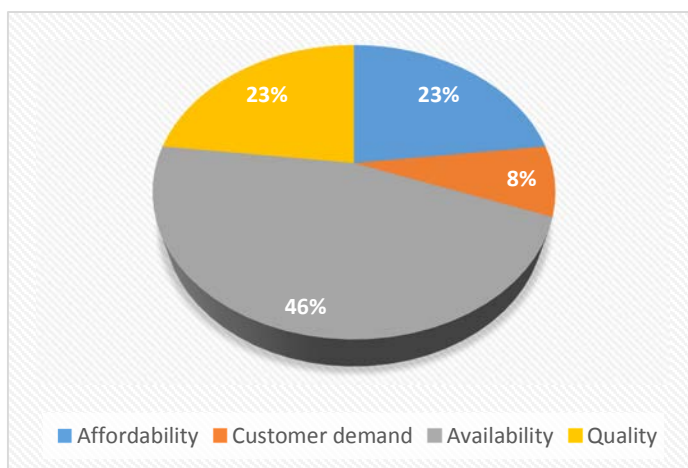


Figure 17: Influencing factors in buying from local distributors

Objective 3: To assess the impact of the intermediaries' buying decisions to the independent aftermarket supplier-Dunair.

4.2.5.1 I sometimes sell second hand parts to my customers.

There are various factors that make intermediaries offer certain kind of products. For vehicles that have just come out of warranty and have expensive OES products, some dealers offer alternative products from used spares to service their customers. This also depends on

the warranty that comes with these parts. Problems have emerged with some service dealers purchasing used spares and cleaning, spray painting and selling them as genuine new replacement parts. It is vital for service dealers to advise their customers of the nature of parts used to avoid any fraudulent activities. 42% of respondents sell second hand parts to customers with a combined 58% (33% disagreeing and 25% strongly disagreeing) of customers opposing this statement. Some service dealers will use second hand parts from used car spare shops to fix customer's cars. This is the cheaper alternative to reduce the repair cost.

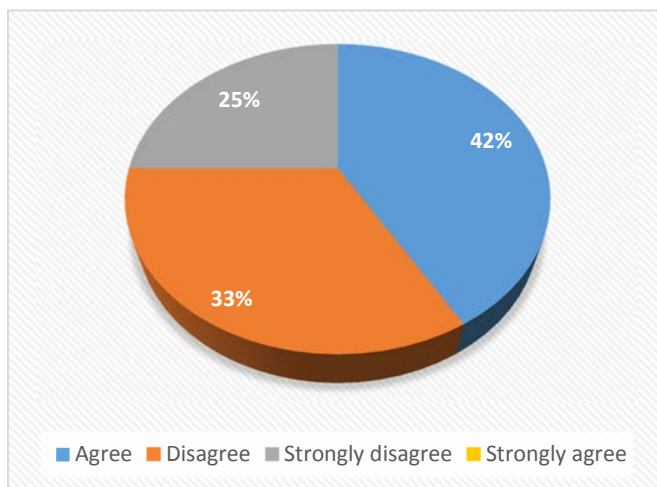


Figure 18: I sometimes sell second hand parts to my customers

4.2.5.2 I sometimes sell remanufactured parts to my customers.

Due to product availability and selling prices, some intermediaries provide their customers with a cheaper alternative to fix their vehicles. In most cases, vehicles that have just come out of warranty and maintenance plans have limited alternative replacement parts. Due to the high price of OES products, service dealers look for cheaper ways of repairing their customer's vehicles including remanufacturing the defective parts. This has been the short term solution for some of the automakers' OES supply like BMW utilizing remanufactured air conditioner compressors for the E90 series after coming out of warranty. Dunair thereafter secured that business by offering a genuine replacement compressor as a permanent solution. This is not a unique trend since some of the automakers like Mercedes Benz started offering Mercedes Benz approved remanufactured parts. There's still 46% of

intermediaries that sometimes sell or use remanufactured parts to their customers with 46% disagreeing and 8% strongly disagreeing.

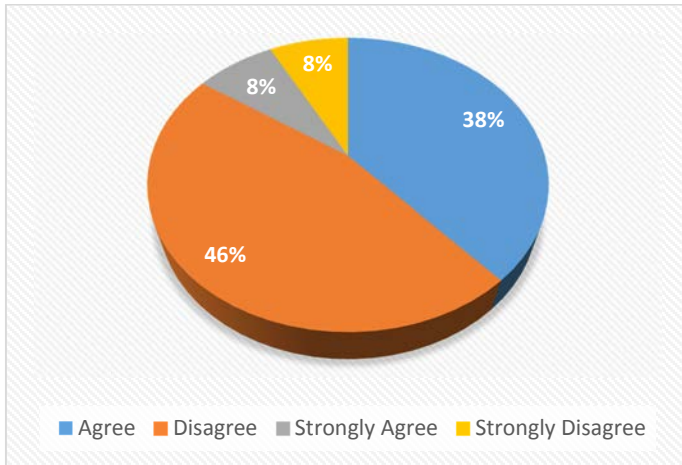


Figure 19: I sometimes sell remanufactured parts to my customers

4.2.5.3 I sometimes sell genuine parts to my customers.

85% of the respondents agreed with the question, with 15% strongly agreeing on using genuine parts. Most customers with newer cars and premium cars that just came out of warranty choose to use genuine parts when repairing their cars. There's a high probability that the value of the vehicle plays a vital role when customers are choosing the quality of parts to use.

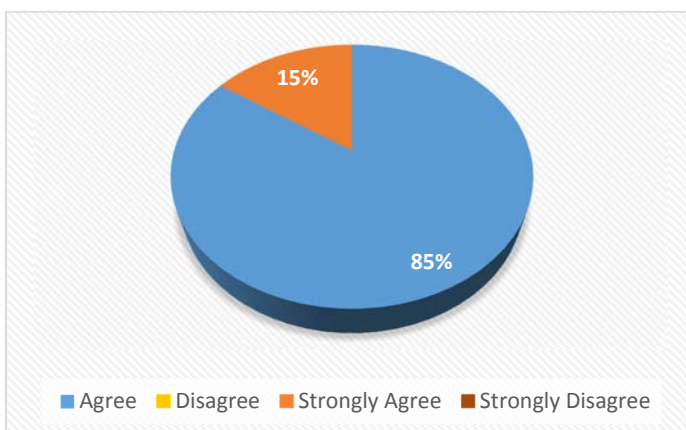


Figure 20: I sometimes sell genuine parts to my customers

4.2.5.4 I sometimes sell imported parts to my customers

Insurance companies and private customers have lost a lot of revenue due to the high cost of repairing vehicles. Due to customer demand, intermediaries have to source products in different price ranges to provide a solution to their customers. Some of the suppliers from developed countries utilise developing markets as their growth strategy. China's local market consumption has plateaued to a minimal growth and it has since looked for alternative markets to offer its goods. There's a 67% response rate that intermediaries sell imported parts with 17% strongly agreeing and 16% disagreeing. According to Ward (2012) there's still 40% of locally produced products with 60% as vendor to vendor sub components used to complete the assemblies. Most of the products that need high technology equipment and processes to manufacture are still imported, and still incur high freight costs depending on the country of origin. High technological equipment's require partnering with international producers that will offer FDI to invest in machinery and technology. Smiths and a tier one supplier that produced products under the DENSO licence agreement, partners with them by offering 25% shares that assisted Smiths to build a factory to produce products under DENSO technology.

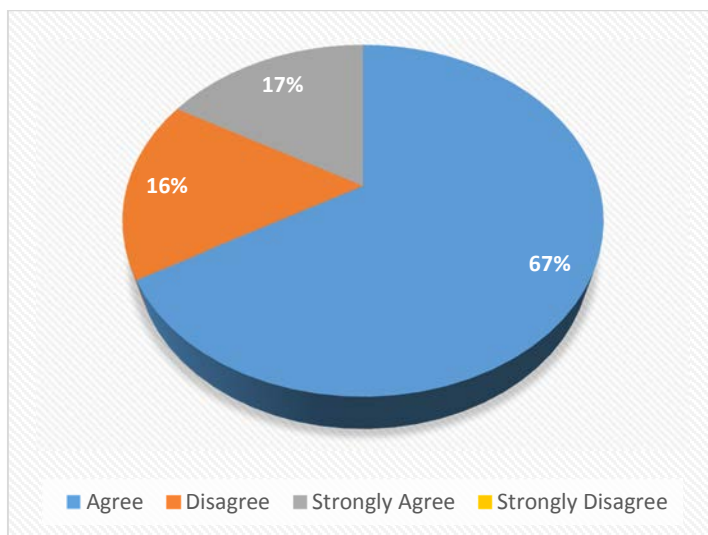


Figure 21: I sometimes sell imported parts to my customers

4.2.5.5 I sometimes sell locally produced parts to my customers.

South Africa's automotive industry has tier suppliers that manufacture products for both OEM and IAM customers. The use of local products depends on price and availability. As part of the Broad Based Black Economic Empowerment (BBBEE) initiative, customers gain points through utilising local service providers. Also as part of APDP, local producers can gain through production incentives and automotive incentive schemes. Through this, it is important for local producers to increase their market share by securing more businesses to increase their productivity. 77% of the respondents agreed on using locally produced products with 15% strongly agreeing and 8% disagreeing.

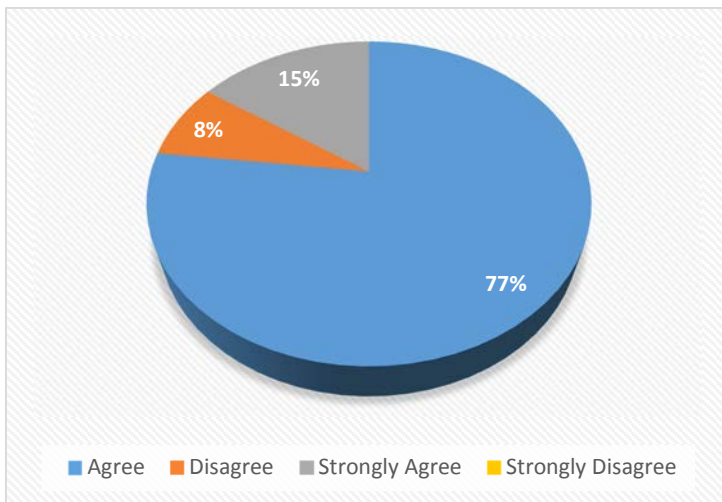


Figure 22: I sometimes sell locally produced parts to my customers

4.2.5.6 I sometimes use China copy products.

South Africa's automotive industry has adopted the Right to Repair and CPA policies which protect the rights of consumers. Section 55 promotes the right to safe and good quality goods which need to comply with applicable standards. 62% of the respondents agree on using China copy products with 38% not using China copy products.

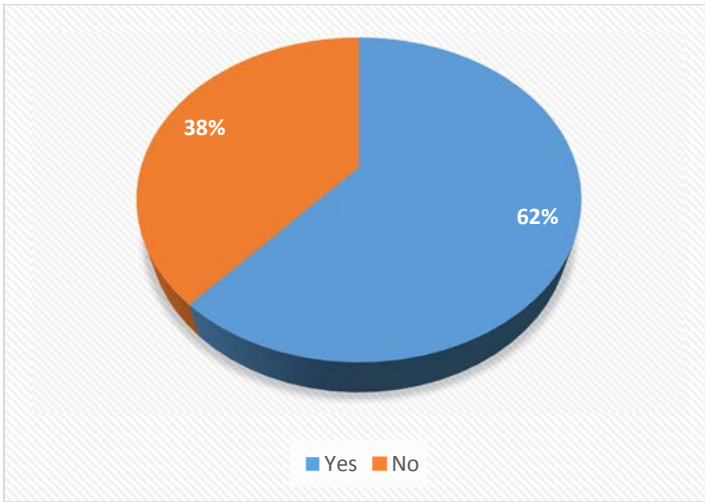


Figure 23: I sometimes use China copy products

4.2.5.7 I inform my customers when I use China copy products.

Most corporate customers require declarations of product origin, material composition among other requirements. The CPA allows consumers to receive relevant information pertaining to goods and services. 89% of respondents have agreed that they inform customers when using China copy compared to the 11% who do not inform them. This is in support with good business practice and the CPA 68 of 2008.

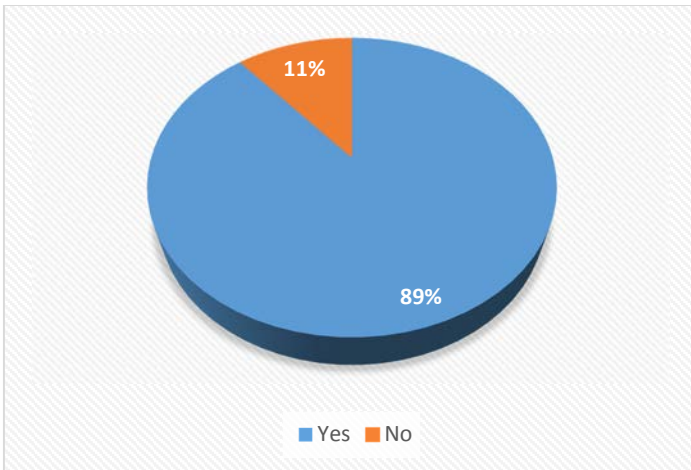


Figure 24: I inform my customers when I use China copy products

4.2.5.8 China copy products are reasonably priced.

Most suppliers utilize their economies of scale as their competitive advantage. Likewise factors of production like labour and material cost assist manufacturers to offer better prices.

Some reputable suppliers partner with factories in China to produce cost competitive products to supply them as their second line brands. These products are tested utilising the reputable supplier's specifications and standards so that they can be of acceptable standards. From the literature review, most global automakers have started to utilise China based automotive clusters and their engineers to design and develop cost competitive products. This means that these automakers can compete with the reasonably priced Indian and Korean cars.

54% of the respondents in the survey agree with this notion with 31% strongly agreeing and 15% disagreeing. This answer is in response to Figure 26 and the question of the factors influencing the purchase of imported products with 42% being customer demand and 33% being affordability.

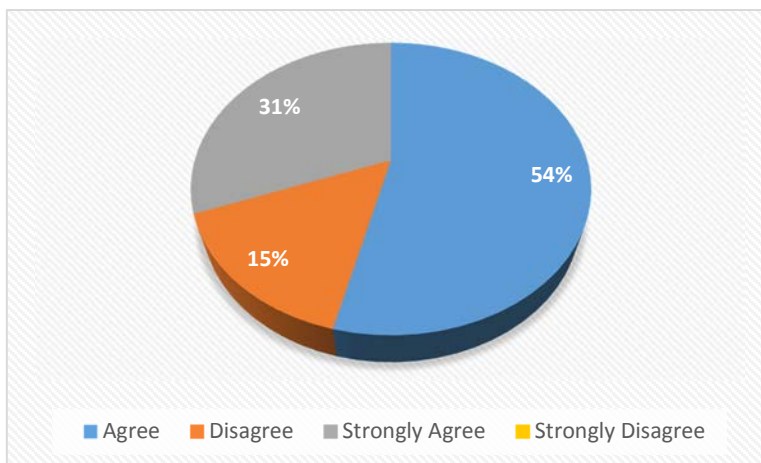


Figure 25: China copy products are reasonably priced

4.2.5.9 Customers request alternative cheaper products.

Most industries have introduced the second line product range to provide customers with cheaper alternatives. Like in the medical field, the use of generic products has increased. These products have to be able to do what they're designed to do and comply with applicable standards. 77% of the respondents agree that customers request cheaper alternatives with 15% strongly agreeing and 8% disagreeing.

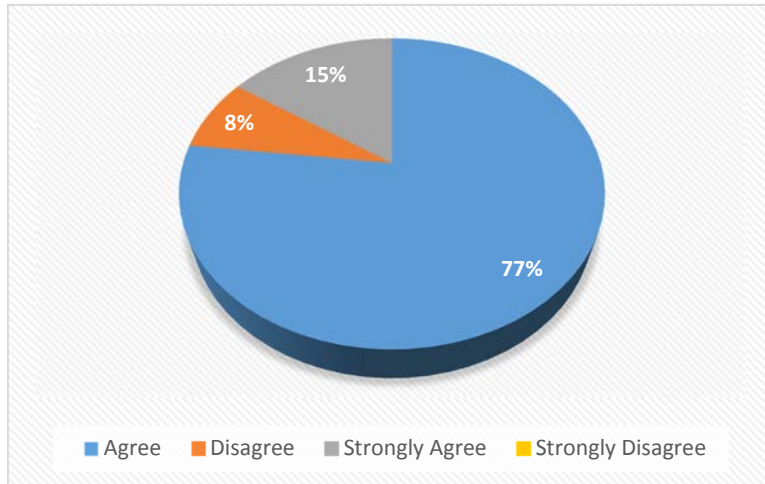


Figure 26: Customers request alternative cheaper products

4.2.6 Survey data results

It was highlighted in Chapter Three that this research was descriptive in nature which describes and synthesises data by providing all patterns and trends (Ingham-Broomfield, 2014). She further quoted Burns and Grove (2009) explaining that data presentation can be presented in a form of raw figures and percentages and in visuals like graphs, tables or histograms. For this data to be analysed, they need to be provided in a measurable form known as averages by utilizing numbers or scores (Ingham-Broomfield, 2014). According to Burns and Grove (2009), these averages are expressed in the form of mean, median and mode. Statistical calculations utilize probability models to validate the probability of the event occurring. Statisticians will utilize p-values to measure the probability of the event from happening (White & Millar, 2014). They further explain that significant levels are used to obtain significant results which are measured as $p > 0.05$ or $p < 0.05$. This means that the results have a 5% chance of happening. Statisticians also use confidence intervals which means that the researcher is satisfied that 95% of the true sample researched lies between two values (Ingham-Broomfield, 2014). Standard deviation is used to validate data that is outside the normal mean values. According to White & Millar (2014) mean and standard deviation assist to provide differences and similarities in the sample that is being researched.

Hypothesis test for proportions.

Calculate the probability value (p-value)

$$\hat{p} = 28/55 = 0.51$$

Ho: There is no significance influence of China copy products on Smiths

$$\text{Ho: } p = 0.5$$

H1: There is a significance influence of China copy products on Smiths

$$\text{H1: } p \neq 0.5$$

Confidence interval = 95%

Calculate test statistics:

$$Z = \frac{\bar{X} - \mu}{s/\sqrt{n}} = \frac{0.51 - 0.5}{\sqrt{\frac{0.5 \times 0.5}{55}}}$$

$$= \frac{0.01}{\sqrt{0.0045}}$$

$$= \underline{0.149} \rightarrow$$

$$\text{p-value} = [P(z < 0.149)]$$

$$= 0.596$$

$$= 59.6\% \longrightarrow$$

This data proves that there is a significant influence of China copy products in the South African market which affects the supply of locally produced products by Smiths Manufacturing.

4.2.7 Limitations on data capturing

There were a few limitations related to the QuestionPro portal which had a negative effect on the results. QuestionPro portal sometimes could not send questionnaires to the respondents. There were difficulties in accessing the second page of the survey with a mobile device. Due to these limitations, some of the questionnaires were sent to the researcher's private e-mail address, or his work e-mail address particularly when sending sample sizes.

After numerous attempts, the surveys had to be sent using Smiths address so that intermediaries could identify with the person sending the survey.

Table 4: Survey data

Question Number	N	Mean	Confidence Interval	Std Deviation	Std Error
1	28	1.357	95%	0.497	0.133
2	28	3	95%	2.33	0.602
3	28	1.533	95%	0.516	0.133
4	28	2.067	95%	1.033	0.267
5	28	2.167	95%	0.937	0.271
6	28	1.733	95%	0.594	0.153
7	28	1.933	95%	0.594	0.153
8	28	2.750	95%	0.931	0.233
9	28	2.467	95%	1.125	0.291
10	28	1.2	95%	0.414	0.107
11	28	1.933	95%	0.951	0.248
12	28	1.533	95%	0.834	0.215
13	28	1.929	95%	0.917	0.245
14	28	2.733	95%	1.033	0.267
15	28	1.786	95%	0.802	0.214
16	28	1.733	95%	0.884	0.228
17	28	1.267	95%	0.704	0.182
18	28	1.5	95%	0.760	0.203
19	28	1.333	95%	0.724	0.167
20	28	1.4	95%	0.507	0.131
21	28	1.091	95%	0.302	0.091
22	28	1.667	95%	0.9	0.232
23	28	1.333	95%	0.724	0.187

4.3. Qualitative Data Presentation

Smiths Manufacturing is the supplier of OEM, OES and IAM replacement parts through Dunair and so it needs to benchmark its products to the direct competitors. Independent aftermarket importers supply products from different suppliers to suit market demand. In the global market, most tier suppliers manufacture second line products as a lower cost aftermarket alternative brand. These products are manufactured to meet quality and performance standards and every effort was utilised to reduce cost.

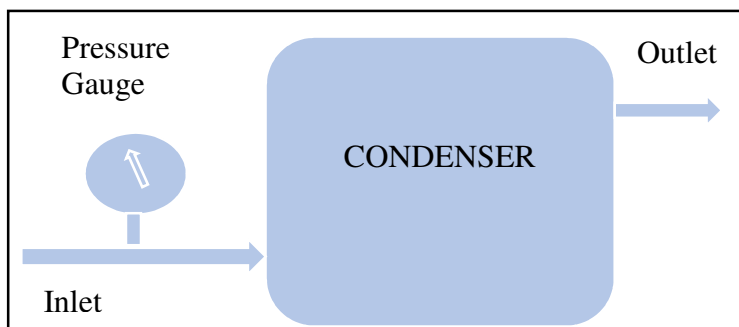
Qualitative data presented was obtained from the following:

Heat Exchanger Test

The back pressure test results conducted on the China copy heat exchanger and cross section of the defective parts. These products are sold to the market for the fraction of the standard products. Smiths Manufacturing manufactures Toyota Tazz radiator for about R350 compared to its China copy market selling price of R250. Another cheaper product is the VW Citi Golf radiator with the market selling price of R110 which is far cheaper than what the local tier supplier can produce.

Below is the test procedure and apparatus used in the test:

- Compressed air is supplied at 800kpa.
- Air is blown through the core (refrigerant path).
- Back pressure is measured using a pressure gauge to determine flow resistance through the core.



Findings:

The batch of 50 sample condensers was tested as per appendix one to validate if they were suitable to be sold and used by customers. Eight percent of the tested samples were found to be defective and few samples were cut open on side tanks cross sections to identify the root cause of the problem. The following are the problems found with the condensers:

- Extrusions were not cut to size.
- Extrusions were partially blocked.
- Some holes from the condensers were not aligning to the receiver drier.

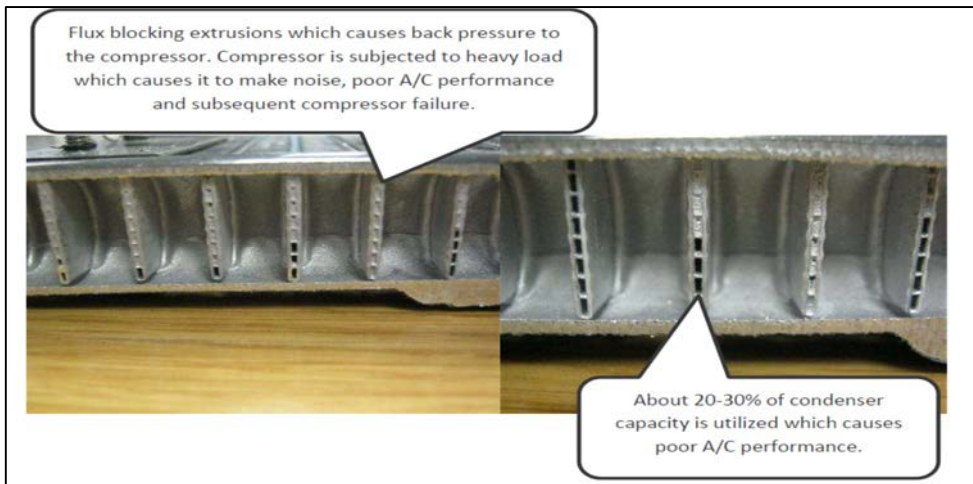


Figure 36: Cross section of a condenser core with blocked extrusions.

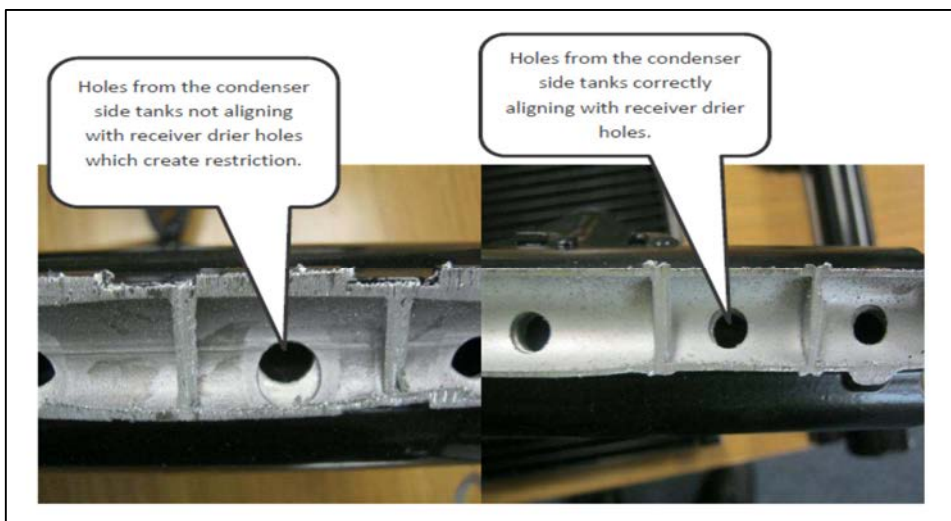


Figure 37: Cross section of a condenser core with miss-aligned receiver drier holes.

Manufacturing of heat exchanger requires a detailed process that will ensure product quality.

This requires the following production process:

- Cut lengths of extrusions and aluminium fins.
- Side tanks.

The raw material gets assembled to the production jig that gets welded by applying the bonding liquid called flux on all joints, and fed through the furnace for welding. The welding

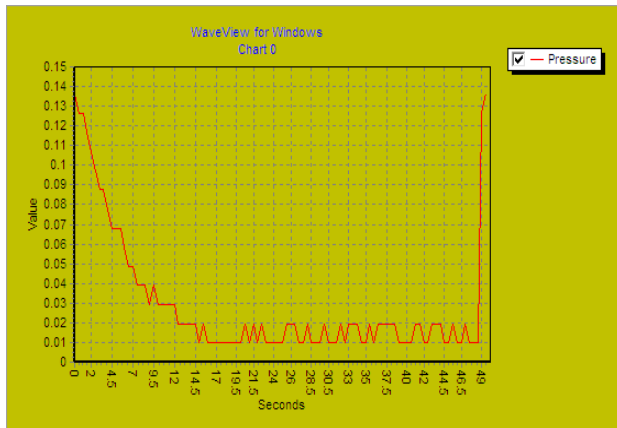
through the furnace melts the flux and joins all open seams. There are baffles inserted in each tank that will provide the channel flow of refrigerant which will determine the cooling capacity of the heat exchanger. Fin design also assists in determining the manner which the ram air is deflected to trap it inside for better cooling.

Flux residues that are seen on the ends of extrusion shows that there was an inconsistency in the height in the slots of the side tanks which will enable the flux to leak through. Some of the extrusions show inconsistent cut lengths protruding in the side tanks. Misaligned holes between the side tanks and the receiver drier show that there was no, or poor use of production jigs to correctly align the holes. It is evident that there was no testing procedure done after production to ensure that the products conform to the acceptable quality standards. Most manufacturers subscribe to Total Quality Management (TQM) which is a management technique used to improve production quality and services.

The adoption of international standards have created a quality practise that makes manufacturers focus on product quality (Hill, 2003). This phenomenon gave rise to the implementation of the quality standards called ISO 9000. This will ensure that good quality goods are being offered to the customer at a fair market price. There has been an increase in inferior quality products entering South African markets and being sold at lower than market prices. This has been evident with the increase of China Malls which have brought in products and dumped them at a fraction of the normal price. Hill (2003) defines dumping as selling products in the foreign market below what they can be produced for.

The partial blockage on condensers affects the performance of the air conditioner. Due to back pressure caused by partial blockage, the air conditioner's compressor pump works under pressure which results in its failure and that of its other components. Failure to these products Although the customer spends far less on these products, they end up spending a bit more when inferior quality products fail which subsequently causes major damage to the vehicles. The failure effect of these inferior quality products like radiators can cause major damage to the customer's vehicle which can cause engine mal-function

PASS



FAIL

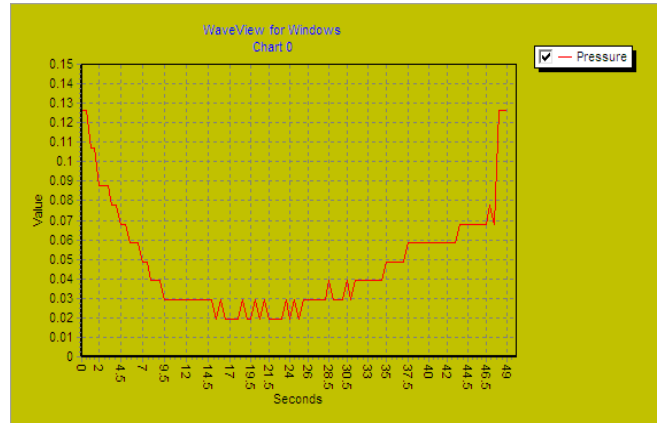


Figure 27: Graphical representation of tested condenser

Contaminated R134a Refrigerant gas

Most manufacturers and suppliers offer warranties to guarantee the products they sell. It is rather difficult for some of the global customers to exercise their rights to return unwanted, defective or inferior quality products. In 2009, Smiths as an air conditioner parts manufacturer looked at sourcing consumables like R134 refrigerant gas to complement their products in the market. Refrigerant gas is a competitive commodity with its price directly affected by supply and demand. Smiths then partnered with the Chinese gas supplier Zhejiang Amp Orient Import and Export Company for continuous gas supply. Smiths did its quality check on acceptable standards before the order was placed. The first consignment arrived, and one cylinder of gas was checked with its gas composition per batch before supplied to the market. The second forty-foot container that arrived had the front batch with 26.5% good gas and three quarter with contaminated gas. On the 22nd of July 2011 Smiths had to scrap 571 cylinders of gas at R360 each and a total value of R205 765 as per appendix two, due to government regulation to the correct disposal of hazardous gases. According to Fregust Ziemkendorf, the Aftermarket Director, Smiths had to pay an additional R270 000 to dispose gas correctly.

4.4. Summary

The primary data suggests that there is a demand of alternative replacement parts required to service independent aftermarket customers. From the data, most distributors have greater flexibility to import China copy products due to the investment of capital. The demand of these products comes from the end users that seek alternative products from the workshops to save money when repairing their vehicles.

The survey also proves that service dealers or workshops rely on customers to provide them with an indication of products they require. It is evident that product availability is the key deciding factor followed by product price when customers are making a decision on products to utilize. It is also evident that most customers or respondents in the survey use China copy products due to market demand. The study also reveals that some intermediaries do not inform their customers when using alternative inferior products. This practise is not in line with the CPA which seeks to improve customer awareness on responsible and informed consumerism.

The secondary data suggests that some China copy products are of inferior quality and are not suitable for consumption. Material composition, preparation and production processes in the sale of goods prove to be a fraudulent conduct, unjust and improper trade practices (CPA, 2009). This was the case with the poorly produced heat exchanger and the mixed gas supplied to Smiths. Returning inferior quality goods to its supplier is difficult since it involves customs clearance and additional freight charges which does not guarantee that capital outlaid when purchasing goods will be reimbursed. These intermediaries bank on customers to realize the product's condition after they have received them and it is difficult or expensive to return them.

CHAPTER FIVE: DISCUSSION OF RESULTS

5.1. Introduction

Chapter Four presented data results which was collected using questionnaires and secondary data from surveys and company reports. The aim of this chapter is to examine and analyse data obtained from the intermediaries of Smiths aftermarket division in relation to the questions formulated using the objectives of the study. The data will be compared with the hypothesis set out in the literature review chapter to validate the study and provide or suggest remedies to the problem at hand.

5.2. Discussion of results

Quantitative data provides an overview of the intermediaries' businesses and factors affecting the day to day running of their businesses.

The position of the respondent shows that they understand the decision making process. Most business owners are hands on but will have buyers that assist workshop technicians by providing them with the confirmation of product availability and quotation of parts required to repair the vehicle. Most technicians recommend parts they want to use due to ease of fitment and acceptable quality standards which will reduce returns. Some of the suppliers provide incentives to the buyers to use their products and to influence their decisions irrespective of whether the products meet quality standards. Some distributors carry out workshops with consignment stock of China copy products which will improve product supply and meet customer's price expectations. It is easy for a buyer to play foul and claim unavailability of reputable products to justify the use of China copy. Some buyers from distribution houses choose to import products rather than purchasing local. Local purchases limit their overseas trips to go visit suppliers and cash in on incentives they provide. Some of the suppliers provide holiday vouchers or gifts to the buyers and their spouses, which limits their decision making and increases their focus on personal gains.

The geographic location of a business plays an important role in the ease of access to products. Ambe (2014) suggests that intermediaries should consider trade-offs between responsiveness and efficiency. Harris (2010) suggests that intermediaries should look at

customer attributes which will allow them to categorize their customers according to customer's demographic location, psychographic and firmographic information. This will assist them to make a decision on whether to increase their presence at the national levels to maximise economies of scale or decentralise activities in many hubs closer to customers to increase efficiency. Most of the distributors preferred to have a national presence or warehouses in major cities to be able to increase their turnaround time in servicing their customers. Service dealers or workshops usually do not keep stock of replacement parts, they will order parts when the customers give them go ahead to repair their vehicles.

It is difficult for an aftermarket supplier to provide customers with products that will meet their demands. Most businesses rely on the customers to provide them with bi-annual and annual forecasts which is based on their previous year's sales history. Independent customers experience difficulty in predicting whether to shift all the responsibility to the parts wholesaler to keep excess stock. It is important for a wholesaler to also provide a warehouse facility that will keep products in regions close to their customers. Validating an intermediary's geographic location will also assist the distributor or wholesaler to formulate value chain strategies that will complement their customer base and growth prospects. Identifying the nature of the business will help in understanding the rationale behind the answers to the questionnaire. Since distributors also purchase products to sell to their customers or workshops, they will need to keep extra stock to service their market. As explained above, most of the service dealers will purchase products when they have a confirmed sale of the product to repair a customer's vehicle.

5.2.1. Objective 1: To identify the factors that influence the buying decisions of the customers (intermediaries).

There are various factors that influence the purchasing decision of customers in the aftermarket industry. The South African economy has not performed at its very best with the rand weakening in comparison to the American dollar. Inflation has caused an increase in some commodity prices. Most of the direct importers are feeling the pinch as it is expensive to import quality goods to service the market. There have also been irregularities with the imported products particularly when clearing tariff codes at the customs offices. Some of the importers use incorrect tariff codes that are a fraction of the normal product value. This

provides importers with an advantage of bringing in goods at a cheaper price and they pay minimal duties on products that are also manufactured in South Africa to protect our manufacturers. The practice can be looked at as dumping their cheap products in our market with the aim of crippling the current market to gain market share and increase product prices later. Presented below are the factors that can influence the buying behaviour of a customer:

5.2.1.1. Availability

Product availability plays an important role in customer service. Customers look at the range of products the wholesaler keeps to secure future business dealings. Customers require a one stop shop that will provide them with almost all the parts they require rather than spilling the sale to different suppliers. This provides them with an opportunity to be able to negotiate better prices when buying in bulk. Some of the suppliers are now offering product kits which are used simultaneously when repairing the vehicle. Toyota dealerships have started with the service kit they provide for their clients in the taxi business. Taxi operators can purchase kits cheaper than loose components when servicing their vehicles. It is understandable from the respondents that availability is the greatest second factor that influences customers make purchasing decisions.

5.2.1.2 Price

Product price is one of the deciding factors customers think of when making their purchasing decision. Harris (2010) stresses that individual customers and businesses want to utilize their financial resources efficiently to see a value proposition. High prices from automaker dealers have created opportunities for the independent aftermarket industry. Very low prices on the other hand tend to be suspicious and associated with inferior products. According to Schiller (2011), customers will only pay prices for goods and services that will meet their expectation or fulfil their need. Most customers will benchmark better prices with various intermediaries before they commit to the sale or getting the vehicles repaired. Customers have started to look at value proposition on a product or a service as they have realised that not all expensive products are of superior quality and not all cheap products are of an inferior quality. Some of the big OEM brands like Denso have resorted in creating second line brands called Cool Gear that will compete with the more price products. These products are manufactured in

the Denso plant utilising their latest technology, but changing material specifications slightly to deviate from the OEM products.

5.2.1.3 Quality

Product quality is one of the contributors to customer service. Harris (2010) suggests that most customers require a product that is durable and functional until they decide to replace them. Warranty claims due to inferior quality products do not only cost money on returns and additional labour to repair, it also cost the intermediaries its relationship with its customer. Unhappy customers will at some point look for an alternative supplier that will provide value add to their business and peace of mind to their customers. Some may argue that product quality is directly proportional to the product price, and good quality associated with a higher price. Some customers will base their purchases on quality than on price.

5.2.1.4 Service

Customer service provides an intermediary with regular business and increased relationship with its customers. Some believe that people carry out business with people that they have a relationship with. Harris (2010) describes customer service as anything that the intermediary does to enhance customer experience. He further elaborates that customers would like to experience the service they feel is appropriate for the value of the purchase they make. If the customers feel that their business is not valued, they will opt to go to another service provider that will make them feel respected.

Customer service in the automotive industry goes beyond the prompt delivery of products, to also involve technical backup and aftersales service. Most customers will require technical information from the manufacturer or warehouse on how to install or repair certain products. This is in line with the Right to Repair programme that gives customers the right to access technical information and diagnostic tools and equipment. There is a fairly reasonable level of staff turnover within the aftermarket repair business which leads to a lot of skilled works moving from workshop to workshop. This results in workshops losing technical skill and relying on service providers for assistance. Although customer service will not beat

availability and price, customers always feel they are part of the strategic partners that add value to the service provider.

5.2.1.5 My preferred choice of replacement parts would be:

Suppliers choose to conduct business to offer a service to their customers. There are various service providers that target specific customers in relation to their segment. Service providers will source products that is mostly required by their target market. The customer choice of which product and where to purchase depends on the factors discussed above. The choice of first purchasing from the aftermarket substitutes, supports the notion of looking at the price as a significant determining factor. Aftermarket substitutes prove to be competitively priced compared to the direct OE replacement. An example of the OES versus IAM replacement part price comparison was shared in Table 3 in Chapter Two. The benchmark price reveals that the OES price is almost six times the price of the independent aftermarket product. Based on this information, the intermediaries will try to provide products that will meet the requirements of the customers before they go and view the products at an alternative supplier. Most South African customers negotiate their way in order to get better deals before they commit. Some of the China copy products fit in this category which makes it difficult to get a true reflection of locally manufactured products and good quality alternative imports.

Customers that have vehicles that just came out of warranty and service plans can opt for the direct OE replacement parts. The second determining factor when making purchasing decisions is the product availability, another contributing reason for why service dealers purchase some products from the automaker dealership. As stated in the literature review, some automakers have started to sell affordable genuine parts of older vehicles so that they can retain older customers. Some of the automaker dealers offer workshops better discounts which is another incentive for them. According to the report, there is a very low percentage of respondents that choose cheapest products as the customer's preferred choice of replacement parts. These are the products that are cheap to purchase but will cost more to repair should they break. Most intermediaries avoid selling products that will tarnish their reputation in the market place.

5.2.1.6 Answer to the question above is based on the following reason:

The question sought to understand the reasons customers chose the above answer. Although customers preferred aftermarket substitute products, it is imperative for them to purchase products with reasonable quality. Some intermediaries do not want to sell products that are of inferior quality. There is another group of intermediaries that will sell cheap China copy products and do not inform their customers because they want to make a quick buck. This is not a very good strategy; as some customers will go an extra mile in ensuring that the right parts were used while repairing their vehicles. One of our old service dealers used to purchase second hand air conditioner compressors to clean, paint them and install on customer vehicles. The service dealer used to charge the full price of the brand new genuine compressor until some of the products started to fail and were sent to another service dealer for warranty repair. Similar investigations have been seen with Carte Blanche exposing some workshops that claimed to replace and charge customers for parts that were not replaced or repaired. Such practices damage the intermediary's reputation and customers can report it as a criminal offence to the authorities.

It is evident from the answers provided by the respondent that customers, to some extent, still prefer original parts even though their vehicles are out of warranty and service plans. There is a percentage of customers that look after their vehicle so that they keep them for a longer period of time. Customers that own premium vehicles like Mercedes Benz, BMW and Audi tend to invest in good quality products for their vehicles. This will prolong the life expectancy of the vehicle and provide them with the better resale value if they choose to trade in the vehicle or sell it privately. According to this survey, there is a small percentage of customers that will still prefer cheapest parts irrespective of quality. There is a small percentage of customers that specialize in buying and selling of vehicles. These customers would purchase cheap products so that they can repair the vehicles and sell them in a working condition to make a quick buck.

5.2.1.7 Which of your suppliers provides the best quality products?

This question gives an insight into which intermediary is most preferred of all. Customers will choose the intermediary that provides them with the best quality products based on the amount of purchases they make with them. From the responses, it is evident that most

customers purchase from distributors because they are looking for the good quality aftermarket substitute products. Most direct imports in the aftermarket sector provide alternative replacement products which also fall under the portfolio of parts distributors. There are some good quality imported products that do not come from China that still provide value proposition to end user customers. From the literature review, there are a lot of tier suppliers under the China automotive cluster that produce good quality products for markets like Germany, United States of America and India. There is a degree of uncertainty of the origin of the other products that fall under the 'other' category. There is a probability that these are suppliers of remanufactured or second hand parts which are used due to the unavailability of replacement parts for some vehicles.

5.2.1.8 What is the reason that made you change suppliers?

The automotive independent market is very reactive with most customers inquiring about the product when it is required. It has been an industry norm that suppliers or wholesalers will keep excess products to cater for the market demand. From Figure 17 and 18, the second determining factor of customer's purchases is the availability of parts. This question proves that parts availability is the best form of customer satisfaction which makes customers keep their business with the service provider. Business relationship and warranty policy are on par as the second and third reason customers change their suppliers. Section 56 of the CPA addresses implied warranty of quality on products sold to the customer. It is the right of the customer to be provided with a product that carries a warranty of at least six months. The warranty will give the customer freedom to return the goods within six months without paying any penalty fee. The longer warranty provides the sense of guarantee that the supplier is confident of the durability of the product and that it will be usable for a reasonable period. This has been evident with the Korean vehicle car sales gradually increasing since they provide five years with a 150,000 kilometre warranty versus their rivals providing three years or 100,000 kilometre guarantee whichever comes first. Warranty is an added benefit that provides a platform of creating good business relationships between customers and suppliers which result in repeat business.

5.2.2. Objective 2: To establish the source or country of origin of the products the intermediaries buy.

5.2.2.1 What is the preferred means of purchasing parts?

The respondents chose local distributors as the preferred means of purchasing products. This answer supports the second determining factor of changing purchases and supplier availability. If customers choose local distributors, this means that they will want to have quick access to a product as soon as the customer places an order. Direct importers outlay a lot of financial resources which does not guarantee quicker product availability due to longer manufacturing and shipping lead times. Once direct importers receive stock and it is available at their warehouses, stock becomes easily accessible by the local distributors that will sell to customers. It is imperative to understand that not all local distributors will sell locally produced replacement parts.

5.2.2.2 Imported products are mostly of inferior quality.

Most respondents disagreed that imported products are mostly of inferior quality. The literature suggests that there is still a bigger percentage of tier suppliers from the automaker's home country or OEM suppliers that produce good quality products for the independent aftermarket customers. China and India have been known for producing low cost vehicles, one of China's automakers TATA bought Land rover which is one of the world's premium sport utility vehicle manufacturers. There are manufacturers of imported products that produce parts that are below the acceptable quality standard. An example of these products are the heat exchangers and R134a refrigerant gas discussed in Chapter Four. These manufacturers rely on the fact that customers will take a long time to claim for the inferior quality products they bought from them.

5.2.2.3 Locally produced parts are of superior quality.

Most tier local manufacturers rely on licensors to provide them with technological capabilities to manufacture complex products. This enables some OEM tier local producers to manufacture superior quality products that are acceptable to international standards. The literature shows that there is still a high number of vendor to vendor parts or sub components

that are produced by overseas suppliers which has kept the locally produced parts to just over 40%. Due to skills shortage, the South African automotive industry still has limited capabilities to design machinery to produce certain products. Smiths Manufacturing as a heat exchanger manufacturer still relies on overseas suppliers to produce complex manufacturing tools to produce sub components. This can pose a challenge to local producers that are not affiliated with OEM's with access to latest technology machinery to produce goods that are on barely acceptable quality.

Another challenge for local manufacturers is the increase in industrial actions which has resulted in reduced productivity and increased labour rate far beyond its rivals in China. These factors will reduce the capital expenditure of local producers to invest in high technology machinery. Industrial actions also discourage foreign direct investors from investing in local manufacturers. All of these factors can hinder growth that could assist manufacturers in providing resources that will ensure improved quality standard.

5.2.2.4 What is the determining factor in buying imported products?

Service providers provide the market with products that will satisfy their demands. So it is vital that customers can access what they require or they will look for an alternative product or service provider. The reason most intermediaries purchase imported products is because of the demand from their customers and affordable prices provided by direct importers. Availability is the lowest determining factor followed by quality. There is a probability that some customers understand that these products are subjected to longer lead times which might not make them available as soon as they are required.

5.2.2.5 What is the determining factor in buying from local distributors?

Product availability is the highest determining factor for why customers purchase from local distributors because it provides them with the flexibility to get products when required. Affordability and quality are the second largest determining factors. As explained in Section 5.2.2.2, local distributors do not entirely mean local producers but refer to intermediaries that can provide the market with both local and imported products.

Objective 3: To assess the impact of the intermediaries' buying decisions to the independent aftermarket supplier-Dunair.

The supply of alternative replacement parts by competitors have a direct impact on the business. Some Smiths aftermarket intermediaries also purchase from various parts distributors which gives them access to a multiple supply of parts. With the increase of China copy products, it is difficult to validate the supplier of a product when claiming for warranty.

The market has a reasonable percentage of vehicles with products that are not easily available in the aftermarket. This has created a market for remanufactured products to capture a smaller percentage of the market share. BMW South Africa introduced an OES remanufactured compressor to support the repair of vehicles that was still under warranty due to the high price and limited supply of the original equipment product. Smiths managed to source a genuine compressor from the resellers in Europe to service BMW. There are few parts distributors that specialize in supplying remanufactured products in the South African automotive industry. This is due to the high price of some products that still do not have alternative products available. Most of these distributors offer about three months' warranty on the part which gives a customer peace of mind.

Some service dealers also keep some of the older parts that can still be reconditioned to save a customer from paying for the new products. There are still issues with this particularly because some of the service dealers do not disclose that the part has been remanufactured. Auto electrical components like starters and alternators are some of the products that have been part of the remanufacturing programme. Product manufacturers and suppliers develop programmes with auto electricians and provide them training and testing equipment to carry out the repairs. These products cost almost a third of the brand new genuine product. There is still a market for the remanufactured products which require that intermediaries provide the products.

Most customers have confirmed that product price and availability are the determining factors for why they purchase a product. Genuine products are available from both automaker dealerships and the aftermarket direct importers. Customers often choose products that are of superior quality standard but the deciding factor is the price of the product. The automotive insurance industry has been experiencing high repair costs of

vehicles they insure which sometimes cost close to half the value of the vehicle. This has caused insurance companies to write off vehicles that could have been repaired using aftermarket alternative products. Insurance companies will pay panel beaters a percentage of the part they will use on a vehicle. Some panel beaters will choose to use expensive parts from the automaker dealers so that they can claim a higher pay. There is a correlation with the value of the car versus the amount the customer is prepared to spend repairing the vehicle. There is a very high probability that owners of older cars and budget cars will use acceptable quality products to reduce the repair cost.

Most intermediaries source products from global suppliers due to the limited products available in the local market. Skills shortage and technological advancements contribute to this problem. Most global parts manufacturers and their parts distributors service the customers in their regions. Due to market saturation and low demands in their region, some of them look for alternative markets. Markets like Europe have fully implemented the Right to Repair programme with most of the OEM products available for all customers in the market. Smiths Manufacturing have signed the supply agreement with its shareholder DENSO to be an exclusive central distributor to its customer Midas Group on diesel products. Some of the diesel parts intermediaries are managing to source similar products from United Kingdom and France which provide dual supply of products in the market.

Most local tier manufacturers produce parts for the OEMs. It is imperative to understand that there are manufacturers that assemble sub-components and sell assembled products as a local part to reduce freight charges and claims on APDP. Automakers like Beijing Automobile Works (BAW) from China have partnered with local investors to build an assembly plant in Springs Johannesburg. They are receiving semi-knocked down (SKD) parts that get assembled to complete vehicles that are sold to the local market. Their Sasuka mini-bus aimed at targeting Toyota Quantum market looks similar to its rival which is targeting the taxi industry. Sasuka selling price is R275 990 which is R36 000 less than its rival selling price.

Customers require alternative products to reduce the repair cost and intermediaries' source products to suit market demand. It is the obligation of the intermediary to source products

from the reputable supplier and ensure their quality level meets the acceptable standard. From the study, most customers approve the use of China products as an alternative replacement part.

CHAPTER SIX: RECOMMENDATIONS AND CONCLUSION

6.1. Introduction

The independent aftermarket business is a growing section of the automotive industry which caters for the alternative replacement parts supply. The phenomenon depicts a similar strategy used by the pharmaceutical companies by providing generic medication as an alternative in reducing medical costs. This chapter presents findings, recommendations and conclusions from the analysis of the research objectives. The factors analysed affects most of the tier manufacturers that supply both OEM and IAM. The inadequate control of customs enables inferior quality products to enter the South African market which compromises the local manufacturers.

6.2. Research problem

The overarching objective of the study was to determine the factors that affect the aftermarket section of Smiths Manufacturing, Dunair. The following are the research objectives that seek to answer the hypothesis:

- To identify the factors that influence the buying decisions of the customers (intermediaries).
- To establish the source or country of origin of the products the intermediaries buy.
- To assess the impact of the intermediaries' buying decisions to the independent aftermarket supplier-Dunair.

6.3. Findings and Implications of the Study

The industry is greatly affected by the influx of Chinese imports which hinder its growth prospects. The findings made in the study concurs with the findings made by Yang (2014) which identified Chinese imports as the biggest contributor to the downward trends in the South African automotive industry. The findings are also in line with Edwards & Jenkins's (2013) findings that the preference for Chinese products has contributed to the reduction of

local manufacturing. Similar findings were also evident with the local fastener producers losing market share to importers of Chinese fasteners (Booyens, 2014).

South African government institutions can draw from the study to devise strategies to curb the influx of imports which create a trade deficit. Local manufacturing needs to protect its industry so that it can be competitive and grow. Our industry can adopt the principles of localization barriers to trade suggested by Ezell et al. (2013). Like the poultry industry, local farmers highlighted their problems which led to government intervention of introducing anti-dumping policies of chicken from Brazil. This research like the poultry sector, can assist the independent aftermarket sector to request assistance from the South African government to protect the vulnerable aftermarket automotive industry. This can assist the industry to grow the local component suppliers and support industry's projection of producing 1.2 million units of vehicles per annum in 2020 (Pooe, 2012). This will also assist Smiths management to develop innovative short and long term strategies to ensure sustainable growth in the aftermarket sector.

6.4. Recommendations to resolve the problem

The study suggests a high demand of cheaper alternative aftermarket products that need to be supplied as the market demands. The recommendation will be for the local producers to develop cheaper second line products in conjunction with the automakers to provide cheaper alternative replacement parts.

The second recommendation is that automakers can provide the market with cheaper alternative products after warranty and maintenance plans expires. This will provide component suppliers with continued increased production and supply of products. There is very limited business coming to OES parts supply after vehicles are out of warranty and service plan. Thus the supply of cheaper OES products will provide an opportunity for automaker dealers that can provide extra and continuous business.

The South African government is losing a lot of tax revenues on company, personal income tax and custom duties due to counterfeit and incorrectly identified products. The South African Revenue Service (SARS) and customs department can intensify control on product quality and tariff codes used on products entering the South African market. For products sold below the market value, the government can impose antidumping policies.

6.5. Chapter Summary

The study has highlighted the factors that influence the buying decisions of end user customers and intermediaries that purchase and sell replacement products. Although the response was low due to market conditions, current data provided the market analysis that supports the research objectives. This study utilised applied research to provide market information that will assist stakeholders to formulate strategies to resolve the problem. The information gathered presents an opportunity to perform further research in understanding the effect of China copy products on the automotive independent aftermarket parts business.

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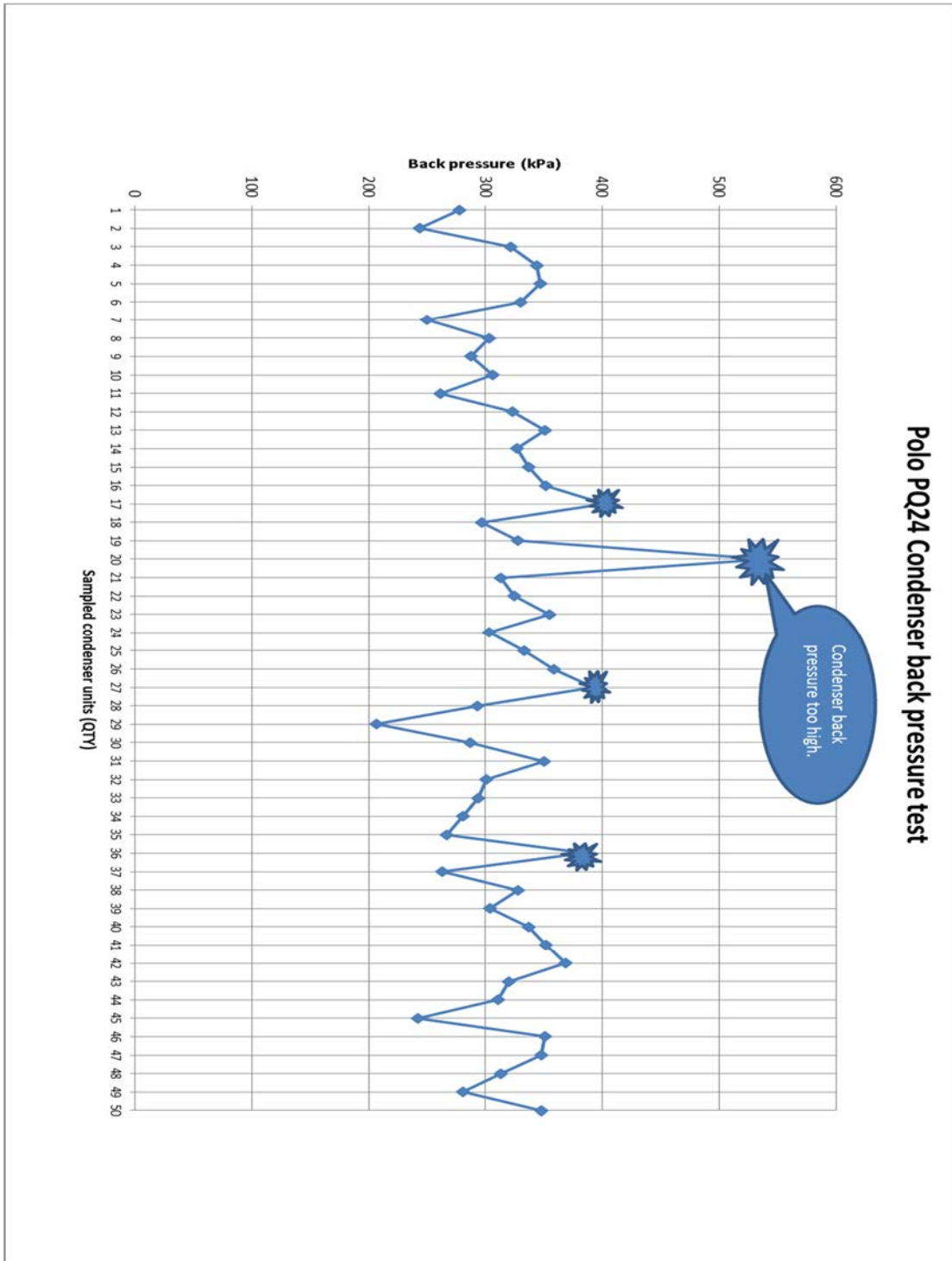
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APPENDICES

Appendix 1: Heat exchanger back pressure test.



Appendix 2: Obsolescence Disposition of contaminated R134a refrigerant gas

Tuesday, 19/07/2011

Obsolescence Disposition Authorisation

Divisional Obs Account No.: 4 1 0 . 2 5 0 0 9 . 1 0 0 5

Reference No. A M 1 9 0 7 1 1

Division.: Dunair Aftermarket

PART NUMBER DATA CAPTURED
2011-07-22

DESCRIPTION Refer to Attached list

Unit Cost

Qty: Total Cost
R 205 766.99

Requested By	NAME	SIGNATURE	DATE:
Planning Manager	Vis Naidoo		19/07/2011
Manufacturing Manager	Janos Molnar		19/07/2011
GM - Assembly / IBMS / SHEQ	H.Botha, G.Preston, G.Naidoo, K.Jennings		20/7/2011
GM - Supply Chain	Paul Kenny		22/7/11
GM - Int Business / Aftermarket	Selvin Konar		22/7/2011
GM - Manufacturing	Fregust Zienkendorf		22/7/2011
GM - OE Sales	Anand Naidoo		22/7/2011
Commercial Liaison Director	Nigel Oxenham		22/7/2011
Finance / IT Director	Fred Ito		22/7/2011
Manufacturing Operations Director	Tim Lane		22/7/2011
Managing Director	Jean Esterhuizen		22/7/2011
	Ken Lello		22/7/2011

Reason for disposition

No. of Parts = 1
Contaminated Gas
refer attachment for comments

Detailed list of excess obsolete stocks for disposition UNIT: Aftermarket (Finished Goods)

Cost Center:410.25009.1005

Doc. No. 190711

Date: 19. Jul. 2011

Distribution: Steven Moodley / Shan Naicker / Lawrence Pillay (4000, 4001, 4002, 4003, 4004, 4005)

Move	Part Number	Description	JDE Stock	Qty to Dispose	Unit Cost	Value to Dispose	Qty to Retain	Value to Retain	Normal Store	Cost Centre	Where Used & Reason for Disposition
1	07-018-007-01P	Gas A/C R134A (13kg.)	571	571	350.36	205 766.99	0	0.00	400	410.25009.1005	Contaminated Gas for Disposition re-mail attached for comments
					Total	205 766.99		0.00			

DATA CAPTURED
2011 -07- 22

Vis Naidoo

From: Steven Moodley
Sent: 19 July 2011 12:36 PM
To: Rajan Moodley; Vis Naidoo
Cc: Fregust Ziemkendorf
Subject: RE: Contaminated gas cylinders

Hi Vis,

As discussed please assist with a scrap note for 571 x 07-018-001-01P against the Dunair obsolescence account.
The current cost is R360,36 x 571 = R205,765,56.
Your assistance would be highly appreciated.

Kind regards

Steven Moodley

Logistic's Manager

☎ Tel: +27 31 719 4367

☎ Fax: +27 31 0866496618

✉ E-mail: steven.moodley@smiths.co.za

Websites: www.smiths.co.za & www.dunair.co.za

 *please consider the environment before printing this e-mail.*

From: Rajan Moodley
Sent: 19 July 2011 10:28 AM
To: Steven Moodley
Subject: FW: Contaminated gas cylinders

From: Fregust Ziemkendorf
Sent: 19 July 2011 10:20 AM
To: Rajan Moodley
Subject: FW: Contaminated gas cylinders

Please raise a scrap note for the gas

From: Selvin Konar
Sent: Tuesday, July 19, 2011 10:01 AM
To: Fregust Ziemkendorf; Wade Botha
Cc: Ken Lello; Jean Esterhuizen; Tim Lane
Subject: RE: Contaminated gas cylinders

Thanks Ziggy,

Please process the scrap note. I will work on the disposition side with Afrox.

Regards,

Selvin Konar

From: Fregust Ziemkendorf
Sent: 19 July 2011 09:58
To: Selvin Konar; Wade Botha
Cc: Ken Lello
Subject: RE: Contaminated gas cylinders

We checked all the cylinders for half of the consignment and then a cylinder from each pallet and found no pure R134a filled cylinders. We are confident that all the cylinders we have is mixed gas. The gas mixtures are all very similar.

I suggest we write off the stock now and have it removed.

Many thanks for the efforts

Fregust

From: Selvin Konar
Sent: Friday, July 15, 2011 3:05 PM
To: Fregust Ziemkendorf; Wade Botha
Cc: Jean Esterhuizen; Ken Lello
Subject: FW: Contaminated gas cylinders

Hello Gents,

Herewith the alternate quote.

There is a marginal difference to the Afrox price R0.10/kg more.

Regards,

Selvin Konar

From: Ronnie Govender
Sent: 15 July 2011 14:33
To: Selvin Konar
Subject: FW: Contaminated gas cylinders

From: Stuart Hamilton [mailto:stu.hamilton@netactive.co.za]
Sent: 11 July 2011 08:53 PM
To: Ronnie Govender
Subject: FW: Contaminated gas cylinders

Apologies, this is a second sending. I entered a wrong address which the Postmaster has just returned as undeliverable. Stuart

Dear Ronnie,

After talking to Selvan I have asked Dr Christos Eleftheriades (Director) to consider a reduced price for your request. He asks me to let you know the process – the gases are bled from the cylinder into the oxidizer at 1100 degrees C. The empty cylinder is then cut in half and placed in the top hat furnace and heated to 700 degrees C for a cycle of hours to decontaminate the cylinder. All the off-gases are treated through the gas clean up system to control emissions to atmosphere in order to comply with emission limits. Gas cylinders are thus treated in two processes, both of which are electrically heated to the temperatures mentioned.

I trust you understand the costs involved in the treatment of the cylinders and contents.
I have attached a quote for the treatment and disposal of the cylinders. The incoming waste procedure must be compiled with prior to acceptance. If there are any queries in this regards, please do not hesitate to call me.

Kind regards,
Stuart

Stuart Hamilton Dip. Pharm
Mobile: 0837291480
Tel: 011 744 1418 Home office
Fax to E-mail: 0872115 8180

Vis Naidoo

From: Rajan Moodley
Sent: 20 July 2011 11:07 AM
To: Vis Naidoo
Subject: FW: REFRIGERANT GAS RECYCLING

From: Fregust Ziemkendorf
Sent: 20 July 2011 10:36 AM
To: Rajan Moodley
Subject: FW: REFRIGERANT GAS RECYCLING

Please add this letter to the scrap note

From: Fregust Ziemkendorf
Sent: Tuesday, July 05, 2011 1:00 PM
To: Ken Lallo
Subject: RE: REFRIGERANT GAS RECYCLING

We purchased on first consignment 350 cylinders, and then purchased a further 777, in total we sold 556 (good stock) and now we have 571 (bad stock).

Cost of Cylinder = R360.36 . Hence R360.36 X 556 (good stock) = R200'160.00
Selling Price Cylinder =R650.00 . Hence R650.00 X 556 (good stock) = R361'400.00
Total Profit = R161'240.00

Current bad Sock =571. Hence R360.36 X 571 = R205'765.56 effectively we lost R44 525 on the gas deal.

From: Ken Lallo
Sent: Tuesday, July 05, 2011 8:38 AM
To: Fregust Ziemkendorf
Subject: RE: REFRIGERANT GAS RECYCLING

Please advise total cost for the gas we are going to write off.

Regards

Kenneth Lello
Managing Director
Smiths Manufacturing
(ph) +27 31 719 4007
(fax) + 27 31 7194241
(cell) + 82 807 4710
(E Mail) ken.lello@smiths.co.za

From: Fregust Ziemkendorf
Sent: 04 July 2011 03:52 PM
To: Ken Lello; Tim Lane; Paul Vermaak; Nigel Oxenham; Paul Kenny; Anand Naidoo; Jean Esterhuizen; Fred Ito
Subject: FW: REFRIGERANT GAS RECYCLING

Afrox e-mail re mixed gas ex China

From: Wade Botha
Sent: Friday, March 11, 2011 4:23 PM
To: Fregust Ziemkendorf; Marc Lightley
Subject: FW: REFRIGERANT GAS RECYCLING

From: Carlton-Shields,Robert [mailto:Robert.Carlton-Shields@afrox.linde.com]
Sent: 11 March 2011 13:17
To: Wade Botha
Subject: RE: REFRIGERANT GAS RECYCLING

Hi Wade

Sorry for the delay in getting back to you

What we are currently able to offer is the following against an official order:

- Afrox will uplift all cylinders with the product and to our facility in Roodekop.
- We will weigh the product and invoice you for the actual weight returned
- All products will be decanted and if the cylinders are refillable cylinders these will be returned to you. Alternatively they will be disposed in the correct and appropriate manner.

- Afrox will provide you a certificate of receipt for the product received and the packaging if required.
- This certificate will include the % split of product received.

The cost for the above is R17.50/Kg of product received excluding VAT and the weight of the packaging for which we do not charge.

I trust that the above meets your requirements and I will have our scheduling center forward you an official quote on Monday detailing the above and against which you may then raise the order.

Regards

Robert Carlton - Shields | Business Manager - Special Product & Chemicals | Selby

Tel: +27 (0) 11 490-0492 | Fax: +27 (0) 11 490-0495 | Cell: +27 (0) 84 325-1347

Email: robert.carlton-shields@afrox.linde.com | Website: www.afrox.com

 **AFROX**

A Member of The Linde Group

From: Wade Botha [mailto:Wade.Botha@smiths.co.za]

Sent: 09 March 2011 08:13 AM

To: Carlton-Shields,Robert

Subject: RE: REFRIGERANT GAS RECYCLING

Hi Robert,

I am following up on the proposal for our gas. Any development?

Regards

Wade

From: Carlton-Shields,Robert [mailto:Robert.Carlton-Shields@afrox.linde.com]

Sent: 23 February 2011 08:26

To: Wade Botha

Cc: Radford,Mark; Ntuli,Hlengiwe

Subject: RE: REFRIGERANT GAS RECYCLING

Hi Wade

We should not have a problem disposing of it for you.

Unfortunately as it is a mix of products we cannot recycle. Consider for the future that we can clean any refrigerant contaminated with water, oil or non condensable

Can you please confirm if you have done any form of analysis on the product?
What Quantity do you have so that we can arrange the appropriate package size?

Once we have this information I will contact you and we can discuss it through.

Regards

Robert Carlton - Shields | Business Manager - Special Product & Chemicals | Selby
Tel: +27 (0) 11 490-0492 | Fax: +27 (0) 11 490-0495 | Cell: +27 (0) 84 325-1347
Email: robert.carlton-shields@afrox.linde.com | Website: www.afrox.com

 **AFROX**
A Member of The Linde Group

From: Wade Botha [mailto:Wade.Botha@smiths.co.za]

Sent: 22 February 2011 01:58 PM

To: Carlton-Shields,Robert

Subject: RE: REFRIGERANT GAS RECYCLING

Hi Robert,

We have some "bad" refrigerant which we thought to be R134a, but it turns out to be a blend of different gases including R22 and R134a amongst others.

Could you provide us with some idea of getting rid of this gas. Does Aprox recycle gases?

I look forward hearing from you.

Regards

Wade

From: Radford,Mark [mailto:Mark.Radford@afrox.linde.com]

Sent: 22 February 2011 10:38

To: Wade Botha; Carlton-Shields,Robert

Subject: RE: REFRIGERANT GAS RECYCLING

Hi Robert

Please advise in this regard.

Regards

Mark Radford | General Sales Manager | KZN

Tel: +27 (0) 31 336-4201 | Fax: +27 (0) 31 305-6473 | Cell: +27 (0) 82 9212353

Email: mark.radford@afrox.linde.com | Website: www.afrox.com

**AFROX**
A Member of The Linde Group

From: Wade Botha [mailto:Wade.Botha@smiths.co.za]

Sent: 22 February 2011 09:35 AM

To: Radford,Mark

Subject: REFRIGERANT GAS RECYCLING

Hi Mark,

I trust this finds you well.

Could you assist me. I know that Afox does supply or manufacture refrigerant gases. Could you please put me onto the right person in your organization who deals specifically with refrigerant gases.

We are trying to get a handle on how to recycle or neutralize old R134a and R22 gas.

Your assistance will be greatly appreciated. Looking forward hearing from you.

Regards

Wade Botha
Product and Business Manager
Heating and Cooling
Smiths Manufacturing (Pty) Ltd
+27 (0) 31 7194063
+27 (0) 836633247

NOTICE: Please note that this e-Mail, and the contents thereof, is subject to the standard Smiths e-Mail disclaimer which may be found at:

<http://www.smiths.co.za/discclaimer.htm>

If you cannot access the disclaimer through the URL attached and you wish to receive a copy thereof please send an e-Mail to postmaster@smiths.co.za

Appendix 3: Research Questionnaire

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

Dear Respondent,

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS & LEADERSHIP

MBA Research Project

Researcher: Bongani Khumalo (031-719 4377/083 679 0497)

Supervisor: Dr Abdulla Kader (082 901 0225)

Research Office: Ms P Ximba 031-2603587

I, **Bongani Duncan Khumalo** an MBA student, at the Graduate School of Business and Leadership, of the University of KwaZulu Natal. You are invited to participate in a research project entitled **“The effect of China imports to Smiths Manufacturing’s aftermarket division-Dunair”**. The aim of this study is to: **understand and validate the impact of China imports to the independent automotive replacement parts supplier.**

Through your participation I hope to understand **the factors that influence the buying decision of the customer (intermediaries)**. The results of the focus group are intended to contribute to **Smiths Manufacturing aftermarket division’s strategic plan.**

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

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

The survey should take you about **15** minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator’s signature _____ Date _____

The objective of the study is to highlight the effect the cheap China imported products have in the local independent aftermarket replacement parts supplier –Dunair. Through the study, the following will be achieved:

- Objective 1: To identify the factors that influence the buying decisions of the customers (intermediaries).
- Objective 2: To establish the source or country of origin of the products the intermediaries buy.
- Objective 3: To assess the impact of the intermediaries' buying decisions to the independent aftermarket supplier-Dunair.

1. Please indicate your position in the company.

- Business owner
- Buyer

2. Please indicate the location of your business.

- Gauteng
- KwaZulu Natal
- Port Elizabeth
- East London
- Cape Town
- Bloemfontein
- Limpopo
- Mpumalanga
- Other

3. Please indicate the nature of your business.

- Distributor
- Service dealer

4. What are the factors that influence your decision when buying parts?

- Availability.
- Price
- Quality
- Service

5. My preferred choice of replacement parts would be :

- Direct OE replacement.
- Aftermarket substitutes.
- Cheapest available.
- Other

6. Answer to question 3 is based on the following reasons:

- Most of customers prefer the original parts.
- Most of customers prefer alternative products with reasonable quality.
- Most of customers prefer cheapest parts irrespective of quality.
- Other

7. Which of your suppliers provides the best quality products?

- Car dealership
- Parts distributors
- Direct importers
- Other

8. What are the reasons that make you change suppliers?

- Relationship.
- Parts availability.
- Better price.
- Warranty policy.
- Other

9. What is the preferred means of purchasing parts?

- Local distributor
- Direct import

10. Imported products are mostly of inferior quality.

- Agree
- Disagree
- Strongly agree
- Strongly disagree

11. Locally produced parts are of superior quality.

- Agree
- Disagree
- Strongly agree
- Strongly disagree

12. What is the influencing factor in buying imported products?

- Affordability
- Customer demand
- Availability
- Quality

13. What is the influencing factor in buying from local distributors?

- Affordability
- Customer demand
- Availability
- Quality

14. I sometimes sell second hand parts to my customers.

- Agree
- Disagree
- Strongly disagree
- Strongly agree

15. I sometimes sell remanufactured parts to my customers.

- Agree
- Disagree
- Strongly Agree
- Strongly Disagree

16. I sometimes sell genuine parts to my customers.

- Agree
- Disagree
- Strongly Agree
- Strongly Disagree

17. I sometimes sell imported parts to my customers.

- Agree
- Disagree
- Strongly Agree
- Strongly Disagree

18. I sometimes sell locally produced parts to my customers.

- Agree
- Disagree
- Strongly Agree
- Strongly Disagree

19. I sometimes use China copy products.

- Yes
- No

20. China copy products are reasonably priced.

- Agree
- Disagree
- Strongly Agree
- Strongly Disagree

21. Customers request alternative cheaper products.

- Agree
- Disagree
- Strongly Agree
- Strongly Disagree

22. I inform my customers when using China copy products.

- Agree
- Disagree
- Strongly Agree
- Strongly Disagree

End of the Questionnaire

Thank you for taking the time to complete the questionnaire.

Appendix 4: Ethical clearance



14 October 2015

Mr Bongani Duncan Khumalo (212553193)
Graduate School of Business & Leadership
Westville Campus

Dear Mr Khumalo,

Protocol reference number: HSS/1340/015M

Project title: The effect of Chinese Imports on Smiths Manufacturing's aftermarket division, Dunair

Full Approval – Expedited Application

In response to your application received on 31 August 2015, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have 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.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

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

Yours faithfully

.....
Dr Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

cc Supervisor: Dr Abdullah Kader
cc. Academic Leader: Dr Muhammad Hoque
cc. School Administrator: Ms Zarina Bullyraj

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

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