

Managers' views regarding optimisation of local content in the automotive component industry in KwaZulu-Natal

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Abstract

The purpose of the study is to determine the impact optimisation of local content in domestically assembled vehicles will have on the future growth potential of the automotive component sector. This was a descriptive cross-sectional study conducted among 47 managers who were selected randomly using anonymous questionnaire. The respondents indicated that the two major challenges faced by the automotive component industry were, the local manufacturers pricing in comparison to global manufacturers was higher and the high level of dependence that local manufacturers have on foreign licences. A large percentage of the respondents believe that to optimise local content in locally assembled vehicles, government intervention and support will have to be at a high level. Improving internal competitiveness, rationalisation to achieve economies of scale and maximising government support are some of the key drivers to achieving optimal local content in the automotive component industry.

Key phrases

challenges, competitiveness, impact, local content, optimization, South Africa

1. INTRODUCTION

The South African automotive industry is a major contributor to country's output of manufactured products making it a crucial cog in contributing to the country's economy. This sector accounts for 14 percent of South Africa's manufacturing exports, contributing 6.2 percent to the country's gross domestic product (GDP) in 2010. The industry employs some 28,000 people directly and 64,000 in the component industry (AIEC 2011:Internet).

In promoting the development of the automotive industry, the South African government implemented a series of industry focused policies from 1961 to 1994, which established a significant degree of localised automotive component manufacture (Barnes & Morris

2008:41). In 1995 the South African automotive industry was liberated by the introduction of the Motor Industry Development Plan (MIDP), which resulted in major transformation in the automotive component industry (Black 2011:179).

2. LITERATURE REVIEW

The South African automotive industry evolved through challenging times, which placed extreme pressure on automotive component manufacturers to remain globally competitive. Instability, together with global market dynamics resulted in automotive component manufacturers being highly dependent on foreign license agreements and imported technology (Black 2011:176).

Comrie (2002:2) stated that South African automotive industry has historically depended heavily on imported technology. The locally owned vehicle manufacturers and first tier component producers operated under license from European, Japanese or American firms, which involved royalty costs and imposed restrictions on exports. Black (2011:176) argued that in spite of these disadvantages, many firms considered licensing to be the most cost effective way to obtain up to date technology. Barnes (2010:15) emphasized that whilst the South African automotive industry is deemed to be strategically vulnerable by a number of leading academics, the national government has set substantial growth targets for the sector through to 2020, to increase local content by value to 75% in achieving the 1.2 million vehicle target.

The National Association of Automotive Component and Allied Manufacturers (NAACAM) represent the interests of automotive component manufacturers in South Africa and provide a forum through which to formulate policies and lobbies for the benefit of the industry as a whole. The South African automotive component industry is a mature and multi-tiered supplier base to the OEMs. South Africa's component export capability has increased since 1995, with component exports increasing from R3.3 billion to a value of R44,1 billion in 2008 (NAAMSA 2011:Internet).

2.1 Overview of the automotive component industry in South Africa

Black (2003:32) identifies four tiers of suppliers in the component manufacturing segment of the automotive industry. The first tier suppliers are generally assumed to be supplying components directly to the OEM production facility. They are often involved in sub assembly and produce components which are core to the vehicles (engine, body sections, and electronic systems). These firms work in closer partnership with OEM's and operate in

secure long term contracts. First tier suppliers are generally owned subsidiaries of multinational corporations (due to the nature of global supply contracts enforced by the OEM's), while a handful remain SA owned operations.

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Second tier firms generally supply either the OEM directly or supply critical components to first tier firms. They are either producers of scale or involve specialist higher value activities that are needed in automotive production. The majority of second tier suppliers to the automotive industry are SA owned operations, which produce a full range of components for the domestic and international markets (Comrie 2002:3).

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

According to Barnes and Johnson (2004:24), in 2003, 10 firms were first tier suppliers, 20 were second and third tier and 10 supplied aftermarket, while a range of other suppliers were not exclusive automotive focused, but supplied into variety of industries. The AIDC (2010) quarterly report pointed out that some second and third tier suppliers were not exclusive automotive component firms and produce goods for other sectors but count the automotive sector as a significant customer. The component manufacturers in KZN subsequently moved rapidly towards greater specialisation in production and improving performance levels in order to secure export contracts into Toyota's global supply system.

2.2 Growth potential of the automotive component industry in South Africa

According to Barnes (2010:9), a total of 347,888 vehicles would be produced in KwaZulu-Natal in 2020. Toyota South Africa (TSA) has installed production capacity of 220,000 units.

An additional 130,000 units of capacity will be required. Given the low levels of local content in South African assembled vehicles, the growth in vehicle production volumes is likely to substantially grow importing levels of automotive components. The magnitude of this growth reveals the extent of the industry's localisation opportunities. Pitot (2011:Internet), stated that increasing local content in South African made vehicles is important, as it improves the South African trade balance and provides additional volumes to local component manufacturers, which enables the component manufacturers to become more competitive to the advantage of the consumer and will bring new technology to South Africa, which will promote other sectors (Engineering News 2010:Internet).

South African component manufacturers previously had licence agreements with multinationals, manufacturing products according to their design specifications but these components could only be sold locally. This prevented the local manufacturer from competing in the global market, as well as obtaining global scale of economies in their production. South African based assemblers wanted the domestic suppliers to be wholly owned subsidiaries or joint ventures of foreign TNCs (Barnes & Morris 2008).

The MIDP influenced structural changes of ownership with respect to OEM's and suppliers in the South African automotive value chain. The MIDP impacted the process of transformation from a protected, inefficient industry to a highly outward orientated export industry (NAAMSA 2011:Internet). The transformation was supported by substantial growth in exports and an inflow of foreign direct investment and new technology, together with improvements in productivity and economies of scale (Black 2009:503).

NAACAM (2011:Internet), stated that in 2013 the new Automotive Production and Development Programme (APDP) will commence, which is designed to increase global competitiveness by expanding manufacturing capabilities within South Africa. The APDP offers incentives to up skill employees, increase technical expertise and to invest in technology, research and development. Ellis (2008:3) stated that the key focus of the APDP is to encourage local assembly that have economies of scale and increase the depth of local component manufacturing to international output levels. The ultimate aim is to achieve ambitious targets for annual vehicle production of 1.2 million units by 2020.

2.3 Motivation for the study

South Africa has an automotive industry that is held in high esteem by the government and as such is supported by industrial policy. In promoting the development of the industry,

government policy resulted in the transformation of the industry into one that operates globally. In 2008 the South African government identified the automotive industry as a key economic growth sector, with the aim to increase vehicle production to 1.2 million units by 2020, while significantly increasing local content to a targeted 75%, in domestically assembled vehicles (Black 2011:188). It is therefore imperative for the automotive component industry to focus on optimising local content by improving technology and capabilities to remain competitive in the global automotive industry (Barnes 2009:40). In order for the automotive component industry to remain globally competitive, it is vitally important that local content is optimised. Therefore the objective of the study is to establish the impact that optimisation of local content will have on the potential growth and sustainability of the automotive component industry in KwaZulu-Natal, South Africa.

3. RESEARCH METHODOLOGY

This was a descriptive quantitative study conducted among managers in TSA. TSA is one of the Africa's biggest automotive manufacturers, manufacturing vehicles for the domestic and international markets. There are 84 component manufacturers located in KwaZulu-Natal, supplying components to TSA, for both domestic and export markets. They are located in a close proximity to TSA production complex in the Southern Industrial Basin. The study was conducted in KwaZulu-Natal, focusing on component manufacturers located in 100 km radius from TSA assembly plant.

3.1 Population and samples

The population consisted of 84 component manufacturers situated in KwaZulu-Natal. Sample size for the study was calculated based on the following assumption: 50% of the managers having positive response, and 80% of the study power giving the sample size for the study as 46. We added 10% to the sample for incompleteness or non-response. So the final sample size for the study became 51. Simple random sampling method was used to select the samples using the Trade and Investment KwaZulu-Natal database. Computer generated random numbers was used to select the companies.

3.2 Inclusion criteria

All the Operations Managers, General Managers, and Supply Chain Managers were included in the study. The reason for choosing them was because they have the ability to influence and implement strategic decisions. Also they interact with manufacturing and production processes, gives them first hand understanding and knowledge of their ability to

manufacture the parts locally, interact with suppliers gives them the know-how of the cost implications of the production processes, understanding of international quality standards helps maintain global competitiveness, and understanding of research and development helps in implementation of new technology and skills.

3.3 Data collection

The selected respondents were notified via email before the pretested, self-administered anonymous questionnaires were delivered to them. Data collection took place between mid-February 2012 and mid-March 2012. Questionnaires together with a covering letter were hand delivered to the respondents. The managers were given two weeks' time to complete the questionnaire. Those who did not complete in the first week were reminded telephonically to complete the questionnaire.

3.4 Ethical clearance

Ethical approval for the study was obtained from the University of KwaZulu-Natal ethics committee. Also authors obtained permission to conduct the study from the Trade and investment KZN. Participants' were informed that participation in the study was voluntary and they could withdraw from the study anytime without any consequences. Also, confidentiality was maintained at all times as no names were in the questionnaire.

3.5 Data analysis

Data were entered into a Microsoft Excel 2003 spreadsheet and imported to SPSS 17.0 for window version for analysis. The demographics and baseline outcome variables were summarised using descriptive summary measures: expressed as mean (standard deviation) for continuous variables, and percent for categorical variables.

4. RESULTS AND DISCUSSION

A total of 51 questionnaires were distributed but only 47 completed the questionnaire with a response rate of 92.22%. Table 1 summarises basic information of the company they worked for. Results showed that about half (46.8%) of the respondents fell under the category of 'other' which was director and executive level and one third were working five or less years in the company. More than half of the respondents (59.6%) mentioned that companies were locally owned South African supplier, 59.6% were classified as modular assemblers in the supply chain, 55.3% of the company employing more than 250 people, and majority (93.6%) belong to tier 1 or tier 2. Barnes and Morris (2008:43) stated that more

than 70% of component suppliers originate in an international environment, either wholly owned international suppliers or joint ventures of locally owned international suppliers.

TABLE 1: Frequency distribution of the basic information of the participants and the company (n = 47)

Biographical variables		Frequency	Percentage
Current position	General manager	12	25.5%
	Operations manager	6	12.8%
	Purchasing manager	5	10.6%
	Supply chain manager	2	4.3%
	Other	22	46.8%
Tenure	0 - 5 years	16	34.0%
	6 - 10 years	12	25.5%
	11 - 15 years	8	17.0%
	More than 15 years	11	23.4%
Number of employees	0 – 100	16	34.0%
	101 – 250	5	10.6%
	251 – 500	7	14.9%
	More than 500	19	40.4%
Category of component supplier	Tier 1	27	57.4%
	Tier 2	17	36.2%
	Tier 3	3	6.4%
	Tier 4	0	0.0%
Classification in value chain	Material supplier	3	6.4%
	Component supplier	12	25.5%

Biographical variables		Frequency	Percentage
	Module assembler	28	59.6%
	Distributor	4	8.5%
Type of ownership	Locally owned South African supplier	28	59.6%
	Locally owned South African supplier operating under international licenses	1	2.1%
	Joint venture of locally owned South African and international supplier	9	19.1%
	International owned supplier	9	19.1%

Source: Data from the current study

4.1 Localisation in South African automotive component industry

Participants' views regarding the extent of localisation in the automotive component industry is summarised in Table 2. More than a third (34%) of the participants indicated that high volume of greater than 60% is used and 31.9% mentioned that more than 50% of imported components is from tier 1 and tier 2 operations.

TABLE 2: THE EXTENT OF LOCALISATION IN THE AUTOMOTIVE COMPONENT INDUSTRY (N=47)

Statements	Response (%)			
	No value	Low value	Medium value	High value
Volume of locally manufactured components used in the assembly process	2.2%	40.4%	23.4%	34.0%
The percentage of imported components used in the production process	27.7%	21.3%	19.1%	31.9%
Percentage of product made from local content	27.7%	17.0%	34.0%	21.3%
Rand value of local content used per month	10.6%	19.1%	10.6%	59.6%
Local suppliers that form part of the supplier data base	10.6%	23.4%	27.7%	38.3%

Source: Data from the present study

The results of this finding agree with the research of South African Automotive Benchmarking Club (2006:4) which stated that affiliates of multinationals imported 53.7% of their requirement compared to only 29.4% by local firms. Damoense and Simon (2004) stated that the South African automotive component industry sees itself linked into the global automotive value chain exposes it directly to global competition.

Substantial performance upgrades in the South African automotive industry is due to competitive forces, which limits the opportunities for increases in value addition and output. Black and Bhanisi (2006:23) emphasises that it is clearly evident that there is a decline in local content in domestically assembled vehicles, as only 35% of the vehicle is manufactured using local parts, while 65% are imported parts. Barnes and Morris (2008) argued that the benefits of the South African automotive component industry of engaging in global value chains are clear, but the long term sustainability and development of the industry remains in question.

Results showed that 31.9% of locally owned component manufacturers products have a local content of greater than 50%, however only 6.4% of joint venture between multinationals and locally owned companies have a local content of greater than 50%. The results of the findings support the estimation of Pitot (2011:Internet), where he estimated that the average local content was between 30 and 40% by South African owned component manufacturers and have not changed over the years.

The arguments of Barnes and Black (2011:5) are supported by the findings that multinationals are mostly 'system integrators', where they operate as assemblers of imported components and use minimal local content in their assembly processes. The findings revealed that 59.6% respondents indicated that the rand value of local content used is above R1 million per month. This is in line with NAAMSA (2011:6) report, which stated that R100.2 billion of components were imported in 2010, which is expected to increase in 2011 due to the increase in vehicle imports.

The results further indicated that 27.7% responses indicated that local suppliers form part of the supplier data base of which 12.8% are internationally owned suppliers and 10.6% are locally owned suppliers. The results of this finding reveals that sourcing of components in domestic markets are not a priority of internationally owned suppliers and joint venture suppliers, therefore the AIEC (2011:Internet), state that OEM's perceive increasing local

sourcing levels in South African manufactured vehicles as a pre-requisite for establishing a more sustainable productive base.

Comrie (2002:4) stated that South African components industry faces challenges of continuously improving their competitiveness to keep foreign components out of South Africa. Due to the advent of rationalised models across the world, and the interchangeability of parts, OEM's are not restricted to source from local suppliers. Chiaberta (2004) argued that the ability of the domestic manufacturers to achieve the economies of scales required to produce automotive components at a competitive price was constrained due to the diversity of vehicles assembled in SA.

4.2 Challenges of optimising local content

Table 3 shows participants' views regarding the challenges of optimising local content in domestically assembled vehicles.

TABLE 3: The challenges of optimising local content in domestically assembled vehicles

Statements	Response (%)			
	No impact	Low impact	Medium impact	High impact
Impact of import tariffs on increasing localisation within the manufacturing process	2.1%	34.0%	40.4%	23.5%
Rating of skills capabilities of component manufacturers	4.3%	46.8%	29.8%	19.1%
Pricing of domestic component manufacturers in comparison to global manufacturers	25.5%	46.8%	23.4%	4.3%
Component manufacturer's dependence on foreign licences to increase supplier capacity and regulate exports	6.7%	8.9%	42.2%	42.2%
SA's comparative advantages with regard to raw material availability, emerging markets and cost advantages	34.0%	36.2%	27.7%	2.1%

Source: Data from the current study

The results indicated that the majority (74.4%) of the participants mentioned that the impact of import tariffs on increasing localisation is between low and medium. These findings agree with the argument of Black (2011:179) that reduced import tariffs present a huge threat to local suppliers, as their comparative cost advantage against global suppliers is reduced.

Regarding pricing, in comparison to global markets, are average between 0-15%, while 25.5% respondents from tier 1 and tier 2 stated that their pricing is non-competitive, which is below 0%. This may be due to numerous reasons such as uplifting import tariffs on automotive components, removal of all local content provisions and import-export complementation at OEM level.

More than a third (34%) of respondents from tier 1 and tier 2 module assemblers and component suppliers rated South Africa comparative advantage of raw material availability and cost advantage as below average between 0 - 25%.

Black (2009:503) stated that raw materials for interior components have a higher value, which has a competitive cost factor due to global demand and economies of scale in the international markets.

Joint venture and international suppliers rated South Africa's raw material comparative advantage and availability as below average, which can be attributed to more specialised raw materials being supplied by the international markets and standardised raw materials that are produced locally being supplied by the local markets.

NAAMSA (2011:Internet) explains that automotive components remained the key driver behind the automotive industry's trade balance; therefore the overall picture in respect of the domestic automotive industry's trade balance under the MIDP reflects that exports have increased very rapidly but imports have expanded rapidly also, widening the trade deficit.

Black (2009:492) emphasises that to achieve higher production volumes from a much smaller range of products, automotive manufacturers need to rationalise the vehicles and components manufactured, to achieve economies of scale, hence increase the volume of local content used in the manufacturing process.

4.3 Economic impact of localisation in South African automotive industry

Results regarding the economic impact of localisation on the growth potential of the automotive component industry in KwaZulu-Natal are shown in Table 4. It was found that more than half (61.7%) of respondents indicated that localisation will have a high influences on economic growth in the automotive component industry.

This result reinforces the fact that respondents in all tiers of operation and in every classification of the supply chain view localisation as a high influencing factor in the growth of the automotive component industry. Black (2011:175) also stated that pooling local

content to achieve economies of scale will influence the growth of local content and have positive impact on the future growth of the industry.

TABLE 4: The economic impact of localisation on the growth potential of the automotive component industry in KZN

Statements	Response (%)			
	No influence	Low influence	Medium influence	High influence
Level of influence localisation will have on economic growth of the component industry	2.1%	8.5%	27.7%	61.7%
Influence of localisation on growth potential in the export market	0.0%	8.5%	31.9%	59.6%
Influence of localisation on future trends of employment in the component industry	0.0%	8.5%	31.9%	59.6%
Level of influence localisation will have on the component industry turnover	4.3%	4.3%	29.8%	61.7%
Level of influence localisation will have on the growth of research and development	10.6%	25.5%	31.9%	31.9%

Source: Data from the present study

In line with the previous study, this study found that 59.6% believed that localisation in the automotive component industry has high influence on the growth potential in the export market. In the previous study, Pitot (2011:Internet) concluded that localisation can certainly be considered as one of the main driving forces behind the successful integration of the South African component industry into the global market.

Results also revealed that about a third (31.9%) of the respondents indicated that localisation will have high influence of greater than 51% on the growth of research and development. This finding agrees with the arguments of Barnes (2010:14), who argued that by no means were local firms lacking in capacity, however companies spent little or nothing on research and development because of their dependence on foreign partnership and licences.

Cokayne (2011), stated that government incentives like the APDP and AIS have been instrumental in securing R14 billion in investments from component manufacturers. Barnes (2010), further stated that government's key focus is to encourage local assembly, by identifying how the existing support mechanism could be strengthened to increase localisation and competitiveness within the sector, to achieve ambitious targets for annual vehicle production of 1.2 million units by 2020. Results highlighted that 42.6% of the respondents stated that component manufacturers have low dependence between 1 - 25% on government incentives to optimise local content in the automotive component industry.

The results indicate that not all component manufacturers benefit from government incentives. An explanation could be that these companies are not aware of the incentives offered by government or the companies do not apply for the incentives. More than a third (38.3%) respondents indicated that government incentive as having high impact on sustaining growth of local content. Lamprecht (2004:24) states that the European markets have initiated incentives for European sourced parts by introducing import free tariffs, which attracted South African OEMs, but presented a huge threat to local South African suppliers, as this reduced the comparative cost advantage. Therefore this finding indicate that government incentives will have a high impact on sustaining growth of local content thus enabling local manufacturers to be globally competitive.

Over half (51.1%) of the respondents indicated that tariffs will have a medium influence on the growth of the local content. This finding is in agreement with Barnes (2010:14) who stated that low import tariffs have put considerable pressure on the competitiveness of the South African automotive component manufacturing industry. Thus, implementation of tariffs will help reduce the trade deficit that the South African automotive industry seen over the past years.

4.4 The role of government in optimising local content in the automotive industry

Table 5 summarises managers' views regarding the role of government in optimising local content in the automotive sector

TABLE 5: To establish the role of government in optimising local content in the automotive sector

Statements	Response (%)			
	No influence	Low influence	Medium influence	High influence

Statements	Response (%)			
	No influence	Low influence	Medium influence	High influence
Component manufacturer's dependence on government incentives to optimise local content	8.5%	42.6%	25.5%	23.4%
The impact of government incentives on sustaining growth of local content	0.0%	34.0%	27.7%	38.3%
The influence of tariffs on the growth of local content	4.3%	21.3%	51.1%	23.4%
The impact of government support and intervention in enhancing optimisation of local content	0.0%	12.8%	17.0%	72.8%
The influence of government policy in determining level of local content	4.3%	12.8%	27.7%	55.3%

Source: Data from the present study

The majority of the respondents were in agreement that government support and intervention will have a high impact in enhancing optimisation of local content in the automotive component industry. This finding agree with Flatters (2002:10) who stated that government intervention, support and attractive incentives have been identified as the most important factors impacting on the growth of the automotive industry.

More than half (55.3%) of the respondents support the view that government policy has a high influence in determining the level of localisation. This finding is similar to that of other studies. For example, Ellis (2008:13), stated that the key focus of government policies like the APDP are to encourage local assembly that has economies of scale in order to increase the depth of local component manufacturing to international output levels.

5. RECOMMENDATIONS

The below recommendations put forward are based on the findings of this study:

- i) The automotive component industry must continue to pursue options of restructuring and rationalisation. Issues such as high scrap rates, low productivity and poor staff attendance have to be addressed as part of low-cost provider strategies in order to achieve cost advantage.
- ii) To successfully take the automotive component industry into the next decade of global competitiveness, it is critical that in addition to government support, firms also have a

role to play in upgrading their own capabilities. The ability of a firm to upgrade its competitiveness is dependent on its absorptive capacity and it is up to the leaders of the component manufacturers to promote development of knowledge conversion mechanisms, so that knowledge obtained from participation in the global arena can be effectively internalised, resulting in improved skills capabilities within the component manufacturing industry.

- iii) It is clear that the automotive industry is in need of an efficient automotive component manufacturing industry, to grow the volume of local content in South African assembled vehicles. It is therefore recommended that OEM's develop local component manufacturing base, as this sector of the industry is not privileged to all incentives offered to OEM's. The goal of continuously developing a competitive local supply base will ensure continuous growth resulting in an increase in global competitiveness in regard to research and development, skills capabilities and unit price per component.
- iv) The OEM's investment decisions impacts on their sourcing decisions, and consequently on the component manufacturers in the automotive value chain. The developments by the OEM's determine the developments of the automotive component manufacturers; hence the growth of local content in the automotive component sector is dependent on the OEM's sourcing decisions. The key recommendation is that government support packages like the APDP be announced immediately, as policy certainty and government incentives are imperative to influence the decision of OEM's, to sustain future production of new models in the country.

6. LIMITATIONS TO THIS STUDY

The participants that were included in the study were from one company only (TSA) and other companies were not incorporated in this study. Research results therefore are limited to this particular company and cannot be generalised to other companies in South Africa. Even though there were limitations to this study, the outcomes of this study are beneficial to the automotive component suppliers, TSA and as well as local and provincial government. It is believed that the findings of this study will contribute to the body of knowledge on this current subject of localisation and add to the information available to stakeholders with which they can judge the impact localisation will have on the growth of the automotive component industry. The study has also shown that government support, intervention and policy will have a high influence in enhancing optimisation of local content.

7. CONCLUSION

Results' from the study indicate that South African based automotive component manufacturers are struggling to compete in increasingly demanding domestic automotive markets due to competitiveness in pricing, availability of raw material and low cost imports. The key interlinked findings emerged from the research indicate that OEM's are increasingly sourcing their major components from multinational owned component manufacturers, who utilise more than 50% imported components in their production process, which impacts negatively on localisation.

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